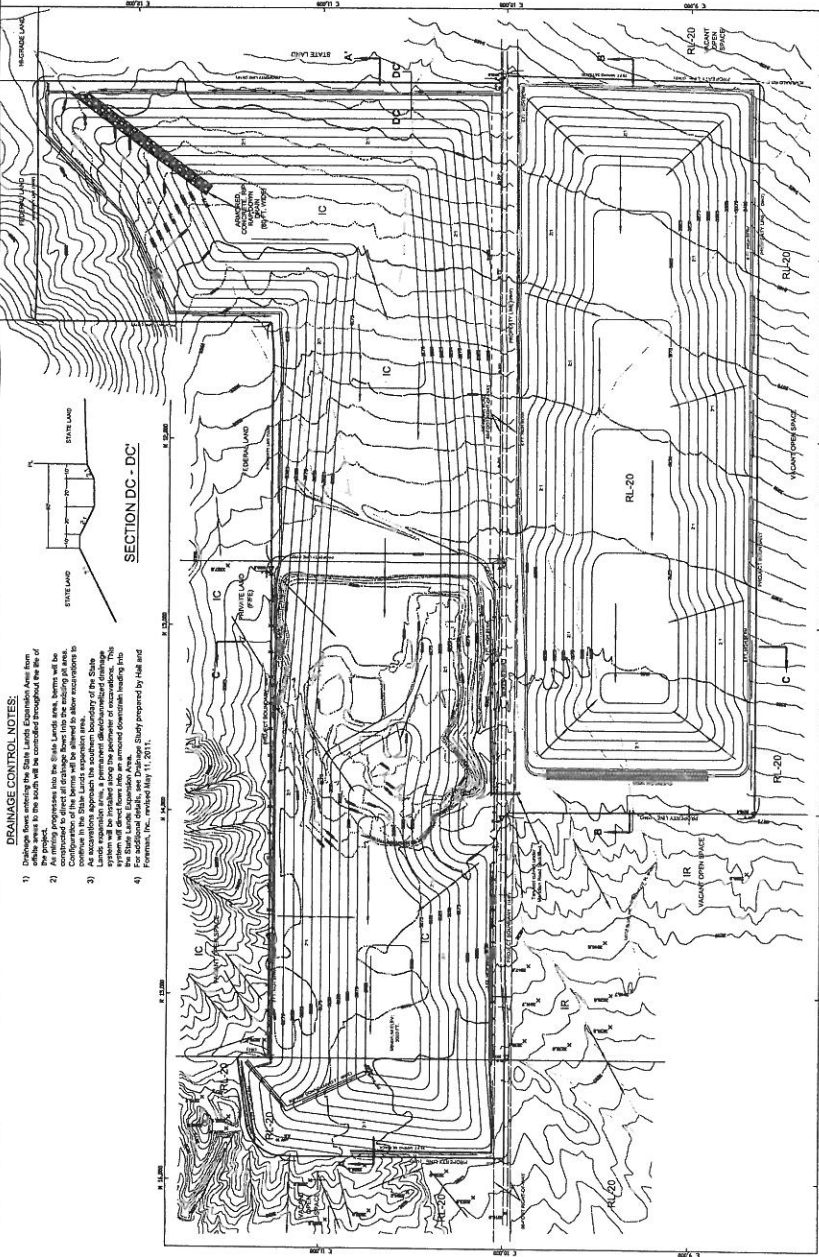


EXHIBIT A

Plot Plans



- DRAINAGE CONTROL NOTES:**
- 1) Drainage flows entering the State Lands Expansion Area from the north will be controlled throughout the life of the project.
 - 2) All stormwater runoff from the State Lands Expansion Area will be collected and conveyed to the existing drainage system.
 - 3) All stormwater runoff from the State Lands Expansion Area will be collected and conveyed to the existing drainage system.
 - 4) For additional details, see Drainage Study prepared by Hal and Forester, Inc. on May 11, 2011.

RECLAMATION PLAN NOTES

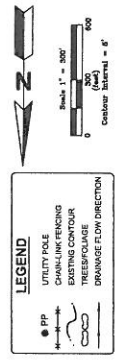
- 1) Total area presently permitted: 215.0 Acres
Proposed expansion of operations: 113.0 Acres
Total area to be reclaimed: 328.0 Acres
- 2) Quarry reclamation will not provide access to, or mining of, significant sand and gravel resources. Quarry reclamation will occur upon completion of the Mining Plan.
- 3) **RECLAMATION SCHEDULE:**
 - Fall 2013 - Establish and maintain within the initial reclamation area as shown
 - 2014 - 2016 - Exclude initial reclamation activities and make adjustments, if
 - Fall 2017 - Re-plant and place growth media soil blends on 25% of any rippled pit
 - 2017 - 2020 - Re-plant and place growth media soil blends on 25% of any rippled pit
 - 2020 - 2023 - Re-plant and place growth media soil blends on 25% of any rippled pit
 - 2023 - 2026 - Re-plant and place growth media soil blends on 25% of any rippled pit
 - 2026 - 2029 - Re-plant and place growth media soil blends on 25% of any rippled pit
 - 2029 - 2032 - Re-plant and place growth media soil blends on 25% of any rippled pit
 - 2032 - 2035 - Re-plant and place growth media soil blends on 25% of any rippled pit
 - 2035 - 2038 - Re-plant and place growth media soil blends on 25% of any rippled pit
 - 2038 - 2041 - Re-plant and place growth media soil blends on 25% of any rippled pit
 - 2041 - 2044 - Re-plant and place growth media soil blends on 25% of any rippled pit
- 4) All existing pit area slopes that are steeper than 2:1 (horizontal:vertical) will be reconstructed pursuant to the plan stipulated in the written Reclamation Plan (Section 8 - Reclamation Activities) and the plan stipulated in the written Reclamation Plan (Section 8 - Reclamation Activities). All new pit area slopes will be reconstructed to a maximum of 2:1. All new pit area slopes will be reconstructed to a maximum of 2:1.
- 5) Reclamation efforts will occur under the direction of a qualified person knowledgeable in reclamation activities.
- 6) In the year 2038, excavations will cease.
- 7) Erosion control measures will be implemented and will be maintained throughout the life of the project.
- 8) Officials of the State Lands Commission will be responsible for the maintenance and monitoring program in coordination with the San Bernardino County Land Use Services Department responsible for reviewing mine reclamation activities.
- 9) Public access to the pits will remain restricted upon completion of reclamation activities.
- 10) Proposed final use of the reclaimed site will be Visual Open Space managed by the legal owner(s).

HI-GRADE MATERIALS

**LUCERNE VALLEY PIT
2011
RECLAMATION PLAN**

| | |
|--|--|
| MINERAL: Sand and Gravel | APPLICANT: Hi-Grade Materials, Inc. |
| OPERATOR: Hi-Grade Materials, Inc. | OPERATOR: Hi-Grade Materials, Inc. |
| LANDOWNER: Hi-Grade Materials, Inc. | LANDOWNER: Hi-Grade Materials, Inc. |
| REPRESENTATIVE: Webber & Webber Consulting, Inc. | REPRESENTATIVE: Webber & Webber Consulting, Inc. |
| MINING ENGINEER: L. Richter | MINING ENGINEER: L. Richter |
| MAP PREPARED: Webber & Webber Consulting, Inc. | MAP PREPARED: Webber & Webber Consulting, Inc. |
| CONTOUR INTERVAL: 10 Feet | CONTOUR INTERVAL: 10 Feet |
| Scale: 1" = 300' | Scale: 1" = 300' |
| Date: July 18, 2011 | Date: July 18, 2011 |
| Drawn by: L. Richter | Drawn by: L. Richter |
| Checked by: C. Webber | Checked by: C. Webber |

- UTILITIES**
- Electricity - Southern California Edison Co.
 - Gas - Propane Tank
 - Water - Onsite Well
 - Sewer - Septic System & Portable Toilets
 - Telephone - Verizon



REVEGETATION PLAN

| Plant Species | Scientific Name | Common Name | Seeding Rate (pounds per Acre) |
|---------------|-------------------------------|----------------------|--------------------------------|
| | <i>Acacia greggii</i> | Chamise | 2 |
| | <i>Eucalyptus fasciculata</i> | California Buckbrush | 2 |
| | <i>Quercus agrifolia</i> | California Oak | 2 |
| | <i>Salvia roemeriana</i> | Bladder Sage | 2 |
| | <i>Larrea tridentata</i> | Creosote Bush | 2 |
| | <i>Artemisia canescens</i> | Burnbush | 2 |
| | <i>Prosopis juliflora</i> | Black Locust | 2 |
| | <i>Acacia greggii</i> | Chamise | 1 |
| | <i>Eucalyptus fasciculata</i> | California Buckbrush | 1 |
| | <i>Quercus agrifolia</i> | California Oak | 0.5 |
| | <i>Salvia roemeriana</i> | Bladder Sage | 0.5 |
| | <i>Larrea tridentata</i> | Creosote Bush | 0.5 |
| | <i>Artemisia canescens</i> | Burnbush | 0.5 |
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| | <i>Prosopis juliflora</i> | Black Locust | 0.5 |
| | <i>Acacia greggii</i> | Chamise | 0.5 |
| | <i>Eucalyptus fasciculata</i> | California Buckbrush | 0.5 |
| | <i>Quercus agrifolia</i> | California Oak | 0.5 |
| | <i>Salvia roemeriana</i> | Bladder Sage | 0.5 |
| | <i>Larrea tridentata</i> | Creosote Bush | 0.5 |
| | <i>Artemisia canescens</i> | Burnbush | 0.5 |
| | <i>Prosopis juliflora</i> | Black Locust | 0.5 |
| | <i>Acacia greggii</i> | Chamise | 0.5 |
| | <i>Eucalyptus fasciculata</i> | California Buckbrush | 0.5 |
| | <i>Quercus agrifolia</i> | California Oak | 0.5 |
| | <i>Salvia roemeriana</i> | Bladder Sage | 0.5 |
| | <i>Larrea tridentata</i> | Creosote Bush | 0.5 |
| | <i>Artemisia canescens</i> | Burnbush | 0.5 |
| | <i>Prosopis juliflora</i> | Black Locust | 0.5 |
| | <i>Acacia greggii</i> | Chamise | 0.5 |
| | <i>Eucalyptus fasciculata</i> | California Buckbrush | 0.5 |
| | <i>Quercus agrifolia</i> | California Oak | 0.5 |
| | <i>Salvia roemeriana</i> | Bladder Sage | 0.5 |
| | <i>Larrea tridentata</i> | Creosote Bush | 0.5 |
| | <i>Artemisia canescens</i> | Burnbush | 0.5 |
| | <i>Prosopis juliflora</i> | Black Locust | 0.5 |
| | <i>Acacia greggii</i> | Chamise | 0.5 |
| | <i>Eucalyptus fasciculata</i> | California Buckbrush | 0.5 |
| | <i>Quercus agrifolia</i> | California Oak | 0.5 |
| | <i>Salvia roemeriana</i> | Bladder Sage | 0.5 |
| | <i>Larrea tridentata</i> | Creosote Bush | 0.5 |
| | <i>Artemisia canescens</i> | Burnbush | 0.5 |
| | <i>Prosopis juliflora</i> | Black Locust | 0.5 |
| | <i>Acacia greggii</i> | Chamise | 0.5 |
| | <i>Eucalyptus fasciculata</i> | California Buckbrush | 0.5 |
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| | <i>Quercus agrifolia</i> | California Oak | 0.5 |
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EXHIBIT B

Findings

FINDINGS for approval of a Conditional Use Permit to permit the 108 acre expansion of the existing east pit area through mining southward into land owned by the State Lands Commission to a depth of 200 feet and permit the installation of an asphalt batch plant for a period of twenty-five (25) years from the date of approval, or until December 31, 2038.

1. The site for the proposed use is adequate in terms of shape and size to accommodate the proposed use and all landscaping, loading areas, open spaces, parking areas, setbacks, walls and fences, yards and other required features pertaining to the application. The 108 acre mining expansion will be excavated through a phased plan intended to minimize impacts to undisturbed surfaces as mining and reclamation activities occurs. The site is sufficient large to accommodate the asphalt batch plant and stockpiling of aggregate and asphalt materials. The project conforms to all the requirements of the Development Code for the proposed use and incorporates the necessary conditions to safe guard the public health, safety and welfare, including biological, hydrology and reclamation conditioning to ensure the site is reclaimed in accordance with the adopted reclamation plan.

General Plan Goal LU 9: Development will occur in a phased sequence to ensure that the operator is able to maximize the site's mining potential while concurrently commencing reclamation efforts in areas where deposits are depleted or the approved depth reached in accordance with the approved reclamation plan

2. The site for the proposed use has adequate access, which means that the site design incorporates appropriate street and highway characteristics to serve the proposed use. The project site has adequate access from Meridian Road south from Highway 18. It is not anticipated that Meridian Road will be impacted or Highway 18 by the 72-170 truck trips per day that is projected to occur, which has remained constant since approval of the West Pit expansion. The Applicant proposes to implement a phased onsite drainage control system that will direct storm flows into the project excavation area for retention to eliminate the erratic sheet flow over Meridian Road. In that the project is located in a remote area surrounded by vacant land, there are no conflicts with access to surrounding properties.
3. The proposed use will not have a substantial adverse effect on abutting property or the allowed use of the abutting property, which means that the use will not generate excessive noise, traffic, vibration, or other disturbance. In addition, the use will not substantially interfere with the present or future ability to use solar energy systems. The proposed mining operation and project improvements have been designed to incorporate the necessary mitigation and improvement to comply with the County's SMARA Ordinance and recommendations by the State Office of Mining and Reclamation (OMR).
4. The proposed use and manner of development are consistent with the goals, maps, policies and standards of the General Plan and any applicable community or specific plan. The proposed site plan together with the provisions for the mine's phased expansion, excavation and reclamation are consistent with the County General Plan and Rural Living (RL) land use designation. The Project specifically implements the following goals:

General Plan Goal ED 7: The County will conserve mineral resources for extractive industries.

General Plan Goal CO 7: The County will protect the current and future extraction of mineral resources that are important to the County's economy while minimizing impacts of this use on the public and the environment.

5. There is supporting infrastructure, existing or available, consistent with the intensity of development, to accommodate the proposed development without significantly lowering service levels. The site is in a remote location rural location significantly isolated from residential and commercial uses and where mining has operated for over sixty years. The Project would permit mining to transition from an adjacent 90 acre mining site where it has operated for over 60 years and for the operator to phase in mining excavation without burdening the existing road and other infrastructure serving the existing uses. In that existing mining and proposed mining sites are coincident with each other, no additional supporting infrastructure is required to extend mining into the proposed site.
6. The lawful conditions stated in the approval are deemed reasonable and necessary to protect the overall public health, safety and general welfare because the conditions of approval include measures to mitigate biological impacts, air quality impacts, cultural resources impacts, green house gas impacts hydrology and water impacts while enforcing performance standards
7. The design of the site has considered the potential for the use of solar energy systems and passive or natural heating and cooling opportunities by providing the natural resource in the form of aggregate to construct solar power plants within the Mojave Desert region.
8. The Initial Study and the related Mitigated Negative Declaration have been prepared in compliance with the California Environmental Quality Act (CEQA) and represent the independent judgment of the County acting as lead agency for the project. Therefore, if approved, a Notice of Determination will be filed.

FINDINGS for Lucerne Valley Pit Amended Mining Reclamation Plan (Reclamation Plan) on 108 acres (APN: 0449-111-23)

Pursuant to Development Code Section 88.03.060(k)(2), the following findings must be made in the affirmative in order to approve the project's mining reclamation plan:

1. The Reclamation Plan No. 2006M-01 as conditioned complies with SMARA (Public Resources Code Sections 2772-2773 and any other applicable provisions).
2. The Reclamation Plan as conditioned complies with applicable requirements of State regulations (California Code of Regulations Sections 3500-3505 and 3700-3713).\
3. The Reclamation Plan and potential end use of land reclaimed as conditioned is in compliance with the Reclamation Plan and are consistent with the Development Code, General Plan and any applicable resource plan or element.
4. The Reclamation Plan has been reviewed in compliance with CEQA and the County's environmental review guidelines, and all significant adverse impacts from reclamation of the surface mining operations are mitigated below a level of significance or to the maximum extent feasible.
5. The land and/or resources, such as water will be reclaimed to a condition that is compatible with, and blends in with, the surrounding natural environment, topography, and other resources.
6. The Reclamation Plan as conditioned will reclaim the mined lands to a usable condition which is readily adaptable for alternative land uses consistent with the General Plan and applicable resource plan. With regard to this project, open space.
7. The County has responded to comments and recommendations raised by the State Department of Conservation (DOC) in their review of the project's Reclamation Plan. In a letter dated October 4, 2013, DOC informed the County that with the exception of two comments which the County has incorporated as part of the project's conditions of approval, many of comments raised by the DOC's Office of Mine Reclamation have been addressed.

EXHIBIT C

Conditions of Approval

CONDITIONS OF APPROVAL

GENERAL REQUIREMENTS: PROCEDURAL CONDITIONS OF APPROVAL

LAND USE SERVICES DEPARTMENT - (909) 387-4105

1. This conditional approval is for Mining Reclamation Plan No. 2006M-01 for the **Lucerne Valley Pit**: to approve an amended mining and reclamation to allow a 108-acre expansion onto property owned and managed by the State of California. The site is located southeast of Lucerne Valley, approximately one mile south of Highway 18 at 8701 Meridian Road. The current project site consists of the existing pit area 0449-111-23, the west pit expansion area, and a small State Lands incursion area totaling 215 acres. The total expansion area southward into State Lands, APN 0449-111-33, will cover an additional 108 acres (5 acres of State Lands previously permitted) which will increase the total project area from 215 acres to 328 acres. A copy of Mining Reclamation Plan No. 2016M-01 shall be kept on site during operations at all times. Any alteration or expansion of these facilities or increase in the developed area of the site from that shown on the final approved plot plans may require submission of an additional application for review and approval.
 - a) Mining and processing equipment including a concrete batch plant within an existing quarry east of Meridian Road,
 - b) Drainage diversion and grading on State lands east of Meridian Road,
 - c) The Meridian Road right-of-way,
 - d) Proposed asphalt batch plant within an existing quarry east of Meridian Road,
 - e) Production rate for aggregate to be limited to 500,000 tons per year until east and west slopes of the East Pit have been remediated to an inclination of 2:1 (horizontal: vertical) and revegetation has been implemented on at least 30 percent on each slope. At said completion of remediated slopes, the production rate shall be limited to 1,000,000 tons per year.
2. Mining shall not incline final slopes steeper than 2:1 (horizontal: vertical). Fill slope remediation efforts shall be conducted and completed in accordance with the approved project plan and the CHJ Supplementary Slope Stability Analysis Report dated December 26, 2002. The East Pit slope stability testing program shall be established and employ methods as recommended in the CHJ report dated August 18, 2003 and as approved by the County Geologist. This will include submittal of a buttress fill slope stability report at least every 50 vertical feet of slope or annually,

whichever occurs first. Each report of slope stability shall include the approximate quantity of material placed on the slopes during the last review period, with annual and cumulative totals. A final Slope Stability Analysis shall be performed by the Project Geotechnical Consultant to certify compaction and stability of the final slopes.

3. The amended Mining Reclamation Plan No. 2006M-01 shall be effective for a period of **twenty-five (25) years** from the date of approval or until **December 31, 2038**. After the reclamation activities have been completed, the site will return to vacant open space managed by the legal owners.
4. The San Bernardino County Land Use Services Department shall be notified in writing, within 30 days, about any:
 - A) Change in operating procedures, or inactive periods of operation for one (1) year or more.
 - B) Changes of Company ownership, address, or telephone during the life of the Conditional Use Permit or Reclamation Plan.
 - C) Any changes to provisions in lease agreements or real property that will affect the approved Mining/Reclamation Plan.
5. The approved Reclamation Plan shall be bound in a 3-ring notebook and shall incorporate the approved mining expansion plans, Drainage Study dated January 10, 2013, General Biological Assessment, dated May 24, 2012, Revegetation Plan, dated May 2012, Geologic Hazards Letter, dated December 6, 2012, Ground Water Assessment, dated May 31, 2013 and Conditions of Approval. The Reclamation Plan shall be kept at the site at all times during operations and be presented to the inspector upon request.
6. The applicant/operator shall ascertain and comply with requirements of all Federal, State, County, and Local agencies as are applicable to the project areas. They include, but are not limited to: the San Bernardino County Departments of Planning, Environmental Health Services, Transportation/Flood Control, Fire Warden, Building and Safety, Bureau of Land Management, Mojave Desert Air Quality Management District, State Fire Marshall, Colorado River Basin Regional Water Quality Control Board, CalTrans District 8, California Department of Fish and Game, State Mining and Geology Board, U.S. Fish and Wildlife Service, Mine Safety and Health Administration (MSHA), the California Occupational Safety and Health Administration (Cal-OSHA), and California Highway Patrol.

7. In compliance with the County Development Code, Section 81.01.070, the applicant shall agree, to defend, indemnify, and hold harmless the County or its "indemnitees" (herein collectively the County's elected officials, appointed officials (including Planning Commissioners), Zoning Administrator, agents, officers, employees, volunteers, advisory agencies or committees, appeal boards or legislative body) from any claim, action, or proceeding against the County or its indemnitees to attack, set aside, void, or annul an approval of the County by an indemnitee concerning a map or permit or any other action relating to or arising out of County approval, including the acts, errors or omissions of any person and for any costs or expenses incurred by the indemnitees on account of any claim, except where such indemnification is prohibited by law. In the alternative, the applicant may agree to relinquish such approval.

Any condition of approval imposed in compliance with the County Development Code or County General Plan shall include a requirement that the County acts reasonably to promptly notify the applicant of any claim, action, or proceeding and that the County cooperates fully in the defense. The applicant shall reimburse the County and its indemnitees for all expenses resulting from such actions, including any court costs and attorney fees, which the County or its indemnitees may be required by a court to pay as a result of such action.

The County may, at its sole discretion, participate at its own expense in the defense of any such action, but such participation shall not relieve the applicant of their obligations under this condition to reimburse the County or its indemnitees for all such expenses.

This indemnification provision shall apply regardless of the existence or degree of fault of indemnitees. The applicant's indemnification obligation applies to the indemnitees' "passive" negligence but does not apply to the indemnitees' "sole" or "active" negligence or "willful misconduct" within the meaning of Civil Code Section 2782.

8. The applicant/operator shall maintain an acceptable form of financial assurance for the reclamation plan and conditions of approval. The financial assurance shall identify the County of San Bernardino as the beneficiary. Any withdrawals made by the County for reclamation shall be re-deposited by the applicant/operator within 30 days of notification.

The financial assurance shall be calculated based on a cost estimate submitted by the applicant/operator and approved by the County and the Department of

Conservation, Office of Mine Reclamation for the approved reclamation procedures. Each year, following the annual mine site inspection, the assurance amount shall be reviewed and, if necessary, adjusted to account for new lands disturbed by surface mining operations, inflation and reclamation of lands accomplished in accordance with the approved Reclamation Plan.

The financial assurance is not established to replace the applicant's/operator's responsibility for reclamation, but to assure adequate funding to complete reclamation per the Reclamation Plan and Conditions of Approval. Should the applicant/operator fail to perform or operate within all of the requirements of the approved Reclamation Plan, the County or Department of Conservation will follow the procedures outlined in Sections 2773.1 and 2774.1 of the Surface Mining and Reclamation Act (SMARA) regarding the encashment of the assurance and applicable administrative penalties, to bring the applicant/operator into compliance. The requirements for the assurance will terminate when reclamation of the site has been completed in compliance with the approved Reclamation Plan and accepted by the County and the Department of Conservation, Office of Mine Reclamation pursuant to California Code of Regulations, Section 3805.5.

9. This Reclamation Plan shall become null and void if the conditions applicable to the amended Reclamation Plan have not been complied with following due process and/or operation has not commenced within three (3) years of the date of approval. One extension of time, not to exceed three (3) years may be granted upon written request and submittal of the appropriate fee, not less than 30 days prior to the date of expiration. PLEASE NOTE: This will be the only notice given for the above specified expiration date. The applicant is responsible for the initiation of an extension request.
10. The applicant/operator shall submit a report summarizing the past year's mining and reclamation activity to the Department of Conservation, Office of Mine Reclamation and the Land Use Services Department each year. Mine site inspections will occur in conjunction with the annual report or at other times as appropriate.
11. As determined necessary on a case by case basis, the applicant shall deposit funds with the County necessary to compensate staff time and expenses for review of compliance monitoring reports and site inspections.
12. If the operation or Mine Reclamation Plan procedures change from those outlined in the Amended Reclamation Plan No. 2006M-01, the applicant/operator

shall file an amendment and secure approval 90 days before such changes can be made effective.

13. Per the proposed plan, blasting is NOT a part of this approval. As such, no explosives shall be stored on-site.
14. All conditions of this Amended Reclamation Plan are continuing conditions. Failure of the applicant/operator to comply with any or all of said conditions at any time could result in the revocation of the permit granted to use the property.
15. The Army Corp. of Engineers (COE) regulates discharge of dredged fill materials into Waters of the United States pursuant to Section 404 of the Clean Water Act. If the COE agrees that the delineated waters on the site are jurisdictional and the project will result in the discharge of materials into waters of the United States, a 404 permit may be required and will need to be obtained from the Los Angeles COE District Office. A pre-construction notification should be submitted to the COE District office early in the environmental process.
16. The Regional Water Quality Control Board (RWQCB) regulates discharge to surface waters under the Clean Water Act (CWA) and the California Porter-Cologne Water Quality Act; therefore, a Section 401 permit may be required in conjunction with the 404 permit, if the COE concurs that the site supports waters of the United States. Effective July 1, 2010, all dischargers are required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. A Section 401 water quality certification may be required as part of the approval by the COE if a 404 permit is deemed necessary by the COE.
17. The proposed mine expansion project will impact 21.5 acres of waters of the United States which would fall under the jurisdiction of the California Department of Fish and Game (CDFG) which regulates streambeds and banks. Therefore a streambed alteration permit (Section 1600-1616) will be required which will outline the various mitigation measures and avoidance measures that will be required as part of the proposed project. As part of the process, a "Notification of Lake or Streambed Alteration" form will need to be submitted to CDFG for review and comment.
18. The applicant/operator shall process a Condition Compliance Review through the County in accordance with the direction stated in the Conditional Approval letter, for verification of conditions for each phase of the project as approved in the Reclamation Plan. A minimum balance of \$1,200.00 must be in the project

account at the time the Condition Compliance Review is initiated. NOTE: Sufficient funds must remain in the account to cover the charges during the Compliance Review for each phase.

19. Prior to issuance of the approved Permits, all fees due under actual cost job No. *AP20120009* shall be paid in full.
20. Implementation of the mitigation measures required for this project shall be verified according to the methods identified in the Mitigation Monitoring and Compliance Program. Planning verification of compliance shall be requested through submittal of a Mitigation Monitoring and Compliance Application along with the required fee deposit. A qualified third party consultant with experience in mine operations shall do mitigation monitoring compliance verification to be funded by the applicant/operator. Annual reports shall be prepared by the operator that summarizes compliance with regulatory agency monitoring requirements and submitted to Land Use Services by Oct 1st of each year.
21. Deposit accounts with the County shall be funded prior to review of all required mitigation monitoring plans and reports, financial assurance estimates, and conduct of annual inspections.
22. This project is approved as a 24-hour operation. Operations include using rock crushing and grinding and conveying equipment, operation of motorized equipment such as loaders, haul trucks, and water trucks, with the sole exception of personal vehicles. In addition, operations include the maintenance and cleaning of any equipment that involves running a motor, generator, and/or conveyor belt. Should results of a noise study indicate that operations would not comply with the County noise ordinance; the Planning Director may require modification of such operations.

PRIOR TO LAND DISTURBANCE, THE FOLLOWING CONDITIONS SHALL BE MET:

LAND USE SERVICES DEPARTMENT, PLANNING - (909) 387- 4105

23. Prior to authorized expansion southward into State Lands, the Mine and Reclamation Plan text and maps shall be revised to reflect the project as approved by the Planning Commission including an interim means to manage stormwater consistent with the policies of the County and State for storm water management and long-term erosion control.
24. The revision and interim means to manage stormwater will undergo technical review by County staff and the Office of Mine Reclamation (OMR). The approval incorporates comments per Office of Mine Reclamation letter dated **October 4, 2013** to the extent stated in the County's response letter to OMR dated **January 17, 2014**.
25. Prior to new disturbance, the applicant/operator shall post a County-approved financial assurance mechanism for the amount necessary to assure that adequate funding is available to complete reclamation per the Reclamation Plan and Conditions of Approval. The financial assurance shall identify the County as the beneficiaries on approved forms.
26. Authorization for mine access and ground disturbance activities shall be provided from the California State Lands Commission prior to initiating new land disturbance activities affecting APN 0449-111-33.

PRIOR TO OPERATION, THE FOLLOWING CONDITIONS SHALL BE MET:

LAND USE SERVICES DEPARTMENT, PLANNING - (909) 387- 8311

27. *AQ-1. The project proponent shall ensure that any portion of the site to be graded shall be pre-watered prior to the onset of grading activities.*
28. *AQ-2. Project proponent shall ensure that watering of the site or other soil stabilization method shall be employed on an on-going basis after the initiation of any grading and mining activity on the site. Portions of the site that are actively being mined shall be watered to ensure that a crust is formed on the ground surface, and shall be watered at the end of each workday.*

29. *AQ-3. The Project proponent shall ensure that all disturbed areas are treated to prevent erosion.*
30. *AQ-4. The Project proponent shall ensure that all mining and processing activities are suspended when winds exceed 25 miles per hour.*
31. *AQ-5. During operation, street sweeping will be conducted as needed along site access roadways to remove dirt dropped by vehicles. Site access driveways and adjacent streets will be washed if there are visible signs of any dirt track-out.*
32. *AQ-6. All equipment used for mining and construction must be tuned and maintained to the manufacture's specification to maximize efficient burning of vehicle fuel.*
33. *AQ-7. The operator shall maintain and effectively utilize and schedule on-site equipment and on-site and off-site haul trucks in order to minimize exhaust emissions from vehicle idling.*
34. *AQ-8. The operator shall comply with all existing and future CARB and MDAQMD regulations related to diesel-fueled trucks, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.*
35. *AQ-9. The aggregate crusher must obtain permits to construct and annually renew permits to operate from the MDAQMD and be in compliance with such permits.*
36. *AQ-10. This facility must handle all material (raw, byproducts, and finish materials) so as not to cause a Nuisance (odors) per District Rule 402.*
37. *AQ-11. A Blue Smoke Control filter cartridge will be used in this project to mitigate for the blue smoke.*
38. **BIO-1 Desert Tortoise:** *The following measures shall be implemented:*
 - g. *The Applicant shall provide an information sheet to all persons who work on-site during mining activities. The program shall consist of a brief presentation from a person knowledgeable about the biology of the Desert Tortoise,*

Federal Endangered Species Act (FESA), and California Endangered Species Act (CESA).

- h. A litter control program shall be instituted. The program includes the direction to all workers to eliminate food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area and to maintain covered trash containers that are regularly removed from the project site. All trash and food items should be promptly enclosed in raven proof containers (i.e. metal or solid plastic trash cans) and disposed of in a licensed disposal facility on a regular basis.*
 - i. Workers should inspect for desert tortoises under vehicles and equipment prior to moving them. If a desert tortoise is present, the worker should carefully move the vehicle or equipment only when necessary or should wait for the desert tortoise to move out from under the vehicle or equipment.*
 - j. Only an Authorized Biologist(s) shall be allowed to handle tortoises. The Authorized Biologist(s) shall have a Memorandum of Understanding (MOU) with the CDFW for handling tortoises.*
 - k. Upon discovery of a Desert Tortoise in a work area, all work in that area shall stop until the Desert Tortoise is relocated. An Authorized Biologist shall be on site or on call to relocate any desert tortoise found during work activities. The desert tortoise shall be monitored until the Authorized Biologist arrives.*
39. **BIO-2 Burrowing Owl:** *Utilizing accepted protocols, within 30 days prior to initiating mining activities, a pre-construction survey must be conducted for the Burrowing Owl by a qualified biologist.*
40. **BIO- 3 Riparian Habitat/Wetlands:** *Prior to commencing mining activities or earth disturbing activities within the area depicted in Figure 5 of the Jurisdictional Delineation for the Lucerne Valley Pit dated December 11, 2011 prepared by Agcon Inc., the project applicant shall obtain a Section 404 Permit from the USACE, a Section 1602 Streambed Alteration Agreement from the CDFW, and a Section 401 Water Quality Certification from the RWQCB for permanent impacts 21.5 acres of jurisdictional area that are regulated by the USACE, CDFW, and the RWQCB. Impacts shall be mitigated at a 2:1 ratio through an off-site mitigation bank or the contribution of in-lieu fee program acceptable to the County of San Bernardino and the USACE, CDFW, and RWQCB.*
41. **BIO-4 Joshua Trees:** *Plant species protected by state law and County ordinance; yucca, agave (Joshua tree) and cactus, will be transplanted during*

growth media salvage to areas which remain undisturbed until they are used in revegetation of the site.

42. **CR-1 Cultural Resources:** *The developer/property owner shall submit a letter to County Planning agreeing to adhere to the following requirements and shall include a note on the grading plans and in all construction contracts/subcontracts a provision that the project contractors shall also adhere to the following requirements:*
- In the event archaeological, paleontological and/or historical resources, including pottery, middens or human remains, are uncovered during earthmoving activities, all work in that area shall cease immediately and a qualified archeologist shall be retained to access the findings, and if necessary provide appropriate disposition of the resources. Earthmoving shall be diverted temporarily around the deposits until they have been evaluated, recorded, excavated, and/or recovered as necessary. Earthmoving shall be allowed to proceed on the site when the archaeologist, in consultation with the appropriate Native American Tribe(s) and the County of San Bernardino Museum, determines the resources are recovered to their satisfaction.*
 - If possible human remains are encountered during any earthmoving activities, all work shall stop in the area in which the find(s) are present, and the San Bernardino County Coroner must be notified. State law dictates that the Native American Heritage Commission (NAHC) shall be notified in the event that remains are determined to be human and of Native American decent, in accordance with California Public Resources Code Section 5097.98.*
43. The operator shall stockpile all available growth medium and vegetation from areas to be disturbed and maintain the stockpiled material with temporary erosion control methods. At the time of reclamation, areas being reclaimed shall have the stockpiled growth medium and vegetation spread over them. Re-vegetation areas shall be ripped to a depth of one-foot and shall be supplemented by broadcast seeding with native and locally adapted seed per the approved reclamation plan. Stockpiled growth medium shall be stored separately from silt and overburden material stockpiles and shall be stabilized through establishment of temporary vegetative cover or other acceptable means of surface treatment for prolonged storage periods.
44. Reclamation Plan shall be revised prior to recordation and issuance to identify location of stockpiled growth medium, clarify if symbol for “concrete foundation to be removed” refers to specific outlined foundation or all outlined structures, and include APN boundaries on reclamation site plan.

45. The applicant/operator shall obtain a National Pollutant Discharge Elimination System (NPDES) Permit for storm water discharges associated with operation activities. The NPDES permit shall be submitted to the Colorado River Basin Regional Water Quality Control Board (CRBRWQCB) and a copy shall be submitted to Planning, or provide evidence from the CRBRWQCB that the NPDES permit is not needed. For more information, contact CRBRWQCB at (760) 340-4521.
46. The Operator shall submit an Erosion Control Plan prior to any land disturbance or operations and shall construct adequate measures to control surface runoff to protect surrounding land and water resources in a manner commensurate with standard engineering practice. They may include, but not limited to, drainage ditches, sediment containment basins, and localized control and maintenance measures to intercept and control disturbed area drainage.
47. The operator shall prepare a Storm Water Pollution Prevention Program outlining how storm water shall be conveyed or directed on and off-site during operations to avoid impacts to groundwater and surface water quality. Within the SWPPP, the operator shall list Best Management Practices (BMPs) to be employed on-site to avoid water quality impacts. The SWPPP shall be submitted to the Colorado River Basin Regional Water Quality Control Board and a copy submitted to Planning or provide evidence from CRBRWQCB that the SWPPP is not needed. For more information, contact CRBRWQCB at (760) 340-4521.
48. The area of illumination from any lighting shall be confined to be within the site boundaries and to minimize impacts to night sky views from surrounding properties. The glare from any luminous source, including on-site lighting shall not exceed one-half (0.5) foot-candle at property line. On-site lighting shall be fully shielded, diffused, or directed in a manner to avoid glare directed at adjacent properties, roadways or any light spill into any wildland areas surrounding the site that might affect nocturnal animals. No light shall project onto adjacent roadways in a manner that interferes with on-coming traffic. All lighting shall be limited to that necessary for maintenance activities, security and safety purposes. All signs proposed by this project shall only be lit by steady, stationary, shielded light directed at the sign.
49. The applicant/operator shall maintain and annually renew existing permits to operate the processing plant, onsite generators, and any other applicable equipment from the MDAQMD and be in compliance with said permits.

50. Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures (Development Code, Section 83.01.040 (c)) including but not limited to:
- A. Equipment/vehicles shall not be left idling for period in excess of five minutes;
 - B. Engines shall be maintained in good working order to reduce emissions;
 - C. Onsite electrical power connections shall be made available where feasible;
 - D. Ultra low-sulfur diesel fuel shall be utilized;
 - E. Electric and gasoline powered equipment shall substituted for diesel powered equipment where feasible;
 - F. Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use;
 - G. In addition, all on-road diesel trucks shall not idle more than five minutes per truck trip or per day on the project site.
51. The “developer” shall submit for review and obtain approval from County Planning of a signed letter agreeing to include as a condition of all construction contracts/subcontracts requirements to reduce GHG emissions and submitting documentation of compliance. The developer/construction contractors shall do the following:
- a) Select construction equipment based on low GHG emissions factors and high-energy efficiency. All diesel/gasoline-powered construction equipment shall be replaced, where possible, with equivalent electric or CNG equipment.
 - b) All construction equipment engines shall be properly tuned and maintained in accordance with the manufacturers specifications prior to arriving on site and throughout construction duration.
 - c) All construction equipment (including electric generators) shall be shut off by work crews when not in use and shall not idle for more than 5 minutes.
52. The operator shall submit for review and obtain approval from County Planning of evidence that all air quality mitigation measures have been installed properly and that specified performance objectives are being met to the satisfaction of MDAQMD.
53. Prior to new ground disturbance, a Licensed Land Surveyor shall be employed to determine and permanently monument the property corners and limits of each

road right-of-way and project boundaries. For each corner, GPS coordinates (or other similar technology) shall be provided in a format acceptable to the County. A final report shall be provided to Land Use Services.

PUBLIC WORKS DEPARTMENT, Land Development Division – Drainage Section (909)
387-8311

54. The project is located within Flood Zone D according to FEMA Panel Number 6575H dated 08/28/2008. Flood hazards are undetermined in this area, but possible. Adequate provisions should be made to intercept and conduct the tributary off site - on site drainage flows around and through the site in a manner, which will not adversely affect adjacent or downstream properties at the time the site is developed.
55. A Registered Civil Engineer shall investigate and design adequate drainage facilities to intercept and conduct the off-site and on-site drainage flows around and through the site in a manner which will not adversely adjacent or downstream properties.
56. Prior to planned construction of any drainage control structures, the applicant shall submit engineered drawings to the San Bernardino County Building and Safety Department for review and approval. Construction of drainage structures may not commence until final Building Permits have been issued certifying the engineered design of structures meets all building codes in force at the time of application.
57. Prior to Grading Permits, the California Department of Fish and Wildlife must be notified if the drainage course of any streambed on the property is to be altered or encroached. A Streambed alteration agreement shall be provided prior to grading.

PUBLIC WORKS DEPARTMENT/Land Development Division – Road Section (909)
387-8311

58. The developer shall submit for review and obtain approval from the Land Use Services Department the following dedications, plans and permits for the listed required improvements, designed by a Registered Civil Engineer, licensed in the State of California. These shall be submitted to the Land Use Services Department, located at 385 N. Arrowhead Ave, San Bernardino CA 92415-0187. Phone (909) 252-5224.

Meridian Road (Secondary Highway – 88')

- Road Dedication. A four (4) foot grant of easement is required to provide a half-width right-of-way of 44 feet.
59. Transitional Improvements. Right-of-way and improvements (including off-site) to transition traffic and drainage flows from proposed to existing, shall be required as necessary.
60. A Land Development Division requirements shall be completed by the Applicant prior to occupancy.

COUNTY PUBLIC WORKS DEPARTMENT, Traffic Division - (909) 387-8186

61. The project falls within the Lucerne Valley Local Transportation Facilities Fee Plan. This fee shall be paid by a cashier's check to the Department of Public Works Business Office. Additional information can be found on the following website.
<http://www.sbcounty.gov/dpw/transportation/pdf/LUCERNE%20VALLEY.pdf>
62. Prior to occupancy, the applicant shall apply for one or more of the following: a Hazardous Materials Handler Permit, a Hazardous Waste Generator Permit, an Aboveground Storage Tank Permit, and/or an Underground Storage Tank Permit.

COUNTY PUBLIC WORKS DEPARTMENT – Surveyor – 909 387-8149

63. APN'S 0450-201-21, 25, 29, & 33 are not under the ownership of Hi-Grade Materials or the State of California. Prior to approving this project, verification shall be provided that the owner of these parcels, Robar Enterprises, Inc. consents to the expansion of this project onto their property.
64. If any activity on this project will disturb **any** land survey monumentation, including but not limited to vertical control points (benchmarks), said monumentation shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer authorized to practice land surveying **prior** to commencement of any activity with the potential to disturb said monumentation, and a corner record or record of survey of the references shall be filed with the County Surveyor (Section 8771(b) Business and Professions Code).

65. The following conditions are for the occasion where the monuments of record cannot be located and the boundary must be determined for construction purposes.

- A Record of Survey/Corner Record shall be filed in the following instances:
 - a) Legal descriptions or construction staking based upon a field survey of the boundary or building setbacks.
 - b) Monuments set to mark the property lines.
 - c) Pursuant to applicable sections of the Business and Professions Code.

GENERAL REQUIREMENTS: ON-GOING OPERATIONAL CONDITIONS

DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES (909) 387-4666

66. The Noise level shall be maintained at or below County Standards, Development Code Section 87.0905(b).
67. If a septic system is installed, it shall be maintained so as not to create a public nuisance and shall be serviced by a DEHS permitted pumper.
68. No land filling of wastes shall occur on-site without an approved Solid Waste Facilities Permit.
69. All refuse generated at the premises shall at all times be stored in approved containers and shall be placed in a manner so that visual or other impacts, and environmental public health nuisances are minimized and complies with the Development Code, Section 33.0830 et seq. For information, please call DEHS/Local Enforcement Agency (LEA) at: 909-387-4655.
70. All refuse containing garbage shall be removed from the premises at least one time per week to an approved solid waste facility in conformance with San Bernardino County Code Chapter 8, Section 33.0830 et seq. For information, please call DEHS/LEA at: 909-387-4655.
71. All refuse not containing garbage shall be removed from the premises at least one time every two weeks to an approved solid waste facility in conformance with San Bernardino County Code Chapter 8, Section 33.0830 et seq. For information, please call DEHS/LEA at: 909-387-4655.

COUNTY FIRE DEPARTMENT, Fire Warden (760) 843-4375

72. The primary access route shall comply with the minimum requirements for fire protection and/or emergency response with applicable local ordinances, codes, and/or fire protection standards.
73. Construction permits, including Fire Condition Letters, shall automatically expire and become invalid unless the work authorized by such permit is commence within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. Suspension or abandonment shall mean that no inspection by the Department has occurred within 180 days of any previous inspection. After a construction permit or Fire Condition Letter, becomes invalid and before such previously approved work recommences, a new permit shall be first obtained and the fee to recommence work shall be one-half the fee for the new permit for such work, provided no changes have been made or will be made in the original construction documents for such work, and provided further that such suspension or abandonment has not exceeded one year. A request to extend the Fire Condition Letter or Permit may be made in writing PRIOT TO the expiration date justifying the reason that the Fire Condition Letter should be extended.
74. The project is under the jurisdiction of the San Bernardino County Fire Dept. Prior to any construction on any parcel, the applicant shall contact the Fire Department for verification of current fire protection requirements. All new construction equipment shall comply with the current Uniform Fire Code requirements and all applicable statutes, codes, ordinances and standards of the Fire Department.
75. If expansion includes the addition of above ground storage tanks plans must be submitted to the County Fire Department for review and approval.

LAND USE SERVICES DEPARTMENT, PLANNING - (909) 387-4105

76. The applicant shall implement measures to stabilize and secure the site during periods of inactivity as per the approved Reclamation Plan. An Interim Management Plan (IMP) as required by SMARA, Section 2770(h) shall be submitted to Planning for review and approval within 90 days of the mining operation becoming idle.

77. The mining operation shall be conducted in a uniform manner, with exterior slopes and floors trimmed as the mining operation proceeds to facilitate implementing site reclamation. Excavations shall be conducted so as to leave them in a reasonably neat and trim manner. The final site shall be graded and revegetated as per the approved Reclamation Plan Plot Plan. Any changes to the approved plans shall require a Revision Application.
78. The applicant/operator shall maintain the premises in a neat and orderly manner at all times. No refuse shall be retained at any time in the work areas. All refuse shall be disposed of at an approved licensed disposal facility. Refuse storage shall be maintained in closed containers.
79. Material shall not be stockpiled adjacent to an active drainage unless adequate protective measures are implemented. Adequate measures shall consider the most adverse conditions the stockpile location will likely experience.
80. Reclamation shall be initiated at the earliest possible time on those portions of the mined lands that will not be subject to further disturbance by the surface mining operation.
81. Clearly legible signs denoting limits shall be posted along with fencing, berms, or rock barriers, as necessary, to protect against accidental entry to the site. Lettering shall be a minimum four (4) inches in height. As feasible, signs shall be placed every 300 feet around the perimeter of the project plan area where undisturbed ground adjoins the permit area. All signs shall be in place prior to the commencement of extraction activities.
82. The applicant/operator should regularly review the adequacy of the signs. Care should be taken to ensure that signs do not become blocked by vegetation or become illegible from dirt or deterioration. As new phases are developed, additional signs may be needed. In evaluating the adequacy of signs, they should be considered from the viewpoint of a first-time visitor on the property, such as a vendor or a contractor. Pay special attention to any areas where public roads intersect project roads. Other drivers may not be familiar with the operation of mining equipment, the mine's traffic patterns, and equipment blind spots. Ensure that the traffic and warning signs that are provided in these areas are adequate.
83. Any advertising or identifying sign shall be constructed in compliance with the designated Official Land Use District for this site.

84. The applicant shall install Company identification signs on all company owned and operated haulage trucks used on public roads. The signs shall be located on both sides and the rear of each truck. The information contained on the sign shall include:

On the rear of the truck:

- A. How am I driving?
- B. Truck number.
- C. Company phone number.

On the side of the truck:

- A. Company name.
- B. Truck number.
- C. Company phone number.

The signing shall be printed in a minimum of 3" high lettering. The applicant shall have a person or an answering machine available during operating hours to answer the phone that corresponds to the phone number on the truck. The persons answering the phone number shall be instructed as to how to take the calls, how to affect a solution, and be responsible for returning a call to the complainant with results of investigation. The applicant shall keep a log of all calls received and shall include documentation of response and/or resolution of complaints. The log shall be made available to the County upon request.

85. In the event of any soil contamination on-site, the applicant/operator shall remove to a licensed disposal site, any soils that become chemically contaminated so as to preclude any chemical leaching into the local ground water supply over time. State and Federal regulations require generators and transporters of hazardous waste to complete a manifest form for both inter- and intrastate transportation of hazardous waste.
86. In the event of any spill(s) on site, the applicant/operator shall remove any soils and or liquid in accordance with the approved Business Plan.
87. Any well, exploratory hole or test hole which is abandoned, out of service, or otherwise left unattended shall have a temporary cover over the well or opening which prevents the introduction of undesirable material into the well or hole, and ensures public and wildlife safety pursuant to California Health & Safety Code, Section 115700.
88. Non-portable plant equipment and structures are restricted to a maximum of 35 feet in height above natural grade level.
89. Test plots shall be indicated on the Mine Reclamation Plan and required to determine the suitability of growth media for revegetation purposes. Test plots

shall be conducted simultaneously with mining to determine the most appropriate planting procedures to be followed to ensure successful implementation of the Re-vegetation Plan.

90. Re-vegetation Monitoring will continue annually for at least five (5) years after reclamation has been completed. Following the first two years of qualitative monitoring, quantitative monitoring will be conducted. Monitoring will utilize methods appropriate to the areas under study. Beginning with the adoption of the final revision of the Reclamation Plan that encompasses all the needed changes to be consistent with the final conditions of project approval, and continuing until reclamation is completed, the applicant/operator will submit to Planning annual monitoring reports. The reports will:
- A. Describe re-vegetation actions undertaken in the reporting period;
 - B. Identify areas that have been disturbed;
 - C. Identify areas and acreage for which re-vegetation has been started;
 - D. Present results of investigations on species diversity and other measures of re-vegetation success in test and control or reference plots;
 - E. Describe successes and problems in the re-vegetation efforts for that year;
 - F. Describe steps taken to resolve problems or achieve re-vegetation success;
 - G. Describe disturbance and re-vegetation efforts planned for the next two years.
91. If re-vegetation is not successful, the applicant/operator shall undertake the following actions:
- A. If, during the first two years of qualitative monitoring, revegetation is clearly not successful, the applicant/operator will re-evaluate the revegetation methods and will discuss changes to these methods with the County representatives. The applicant/operator will revise the Re-vegetation Plan, secure concurrence from Planning for the changes, and begin implementing the new measures.
 - B. If the test plots do not meet the specified success criteria of the control plots after three years, the applicant/operator will make an assessment of the re-vegetation methods to identify any deficiencies contributing to planting failures. Corrective action shall be incorporated in follow-up testing.
 - C. If after five years, the re-vegetated areas (as measured by the results of the test plots) have not achieved these success criteria, the

applicant/operator will immediately begin to implement the measures identified in a contingency plan.

92. Re-vegetation in arid areas is tenuous at best and, therefore, the applicant shall provide in the Financial Assurance Cost Estimate the costs to monitor and report on revegetation, incidental disturbance and erosion control for a time period of five (5) years following the termination date of operation.
93. Pursuant to SMARA, Section 2772.7, Planning will prepare a "Notice of Reclamation Plan Approval" on a form to be approved by the County Records Office. The operator shall pay any and all review and recording fees.

PRIOR TO FINAL CLOSURE, THE FOLLOWING CONDITIONS SHALL BE MET:

94. Upon final reclamation, provisions shall be implemented to intercept and conduct off site tributary drainage flows around or through the site to minimize erosion in a manner which will not adversely affect adjacent or downstream properties shall be verified pursuant to conditions #55? and shall be maintained five (5) years following the termination date of operation.
95. At the time of termination of the operation for any reason, all equipment, structures and refuse associated with the operation shall be removed from the site, all hazards mitigated, and reclamation initiated within 90 days, as per the approved Reclamation Plan.
96. Upon final reclamation, evidence shall be provided that all wells, exploration holes or test holes, as defined by DWR Bulletin 74-81 as revised in 1988 or the latest revision are destroyed in accordance with DEHS regulations and in such a manner that will no longer be a hazard to the health and safety of people and wildlife.
97. All access roads on site, which will not be retained for post-operation uses, shall be reclaimed at the conclusion of mining/hauling activities.
98. The applicant/operator shall re-contour the site at the conclusion of operations (platforms, stockpiles, settling ponds, etc.). The site should resemble natural landforms where possible.
99. Each area reclaimed shall be identified on a map and labeled for identification. The final map shall be provided to Planning for review and approval.

CONCLUSION OF CONDITIONS

DRAFT

EXHIBIT D

Initial Study/ Mitigated Negative Declaration

SAN BERNARDINO COUNTY

INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM

This form and the descriptive information in the application package constitute the contents of Initial Study pursuant to County Guidelines under Ordinance 3040 and Section 15063 of the State CEQA Guidelines.

PROJECT LABEL:

| | |
|--------------------|--|
| APN: | 0449-111-23 |
| APPLICANT: | Hi-Grade Materials |
| COMMUNITY: | Lucerne Valley/3 rd Supervisorial District |
| LOCATION: | Emerald Road, North Side, Meridian Road, Both Sides (Figure 1). |
| PROJECT NO: | AP20120009 |
| STAFF: | Reuben J. Arceo |
| REP('S): | Webber & Webber Mining Consultants, Inc. |
| PROPOSAL: | Revision to Mining & Reclamation Plan by expanding 215-acre site to 328 acres over 25 years. |

USGS Quad: Lucerne Valley
T, R, Section: T: 4N R:1W,1E **Sec:** SE1/4,SW1/4,NE1/4, NW1/4 Section 30
Thomas Bros.: Page 4571, Grid: C-1
Planning Area: Lucerne Valley
Land Use Zoning: LV/RL-20 & LV/IR
Overlays: Fire Safety (FS 1 and 2) Airport Safety Review (AR4)

PROJECT CONTACT INFORMATION:

Lead agency: County of San Bernardino
Land Use Services Department - Current Planning
385 North Arrowhead Avenue
San Bernardino, CA 92415-0182

Contact person: Reuben J. Arceo
Phone No: (909) 677-9907 Fax No.: 909 387-3223
E-mail: rarceo56@gmail.com

Project Sponsor: Webber & Webber Mining Consultants, Inc.
101 E. Redlands Blvd. Suite 240
Redlands, CA 92373
Phone No: (909) 793-3416

BACKGROUND:

The Lucerne Valley Pit, which is located southeast of Lucerne Valley approximately one mile south of Highway 18 in the vicinity of the intersection of Emerald Road and Meridian Road. (See Exhibit 1).

Existing East Pit

The existing project site currently consists of the Existing East Pit Area and a small incursion into land owned by the State Lands Commission. (See Exhibit 1-A). Mining activities at the existing East Pit have been occurring for over 50 years under various County permits. Currently Lucerne Valley Pit operations are performed pursuant to San Bernardino County Mining/ Reclamation Permit #006M-001. Under this permit, approximately 90 acres have been disturbed with a recent annual production rate of 250,000 to 600,000 tons per year. Sand and gravel is mined at the site in direct support of concrete and aggregate sales in the region. An existing concrete batch plant on the site generates up to 1,200 cubic yards of concrete per day. The remaining sand and gravel that is mined is processed to various sizes and stockpiled for sale as general aggregate products. Periodically, a contract crusher moves onsite to crush asphalt and concrete, producing a recycled base material. This occurs three (3) to four (4) times per year and lasts one (1) to two (2) weeks per visit.

Existing West Pit Expansion Area: The West Pit Expansion Area is situated on private property totaling approximately 120 acres owned by Hi-Grade Materials Company. (See Exhibit 2). It is proposed to use the

entire 120 acres for phased expansion, except for the areas required for mining setbacks. This area is currently part of the existing Lucerne Valley Pit that is under San Bernardino County Mining/ Reclamation Permit #006M-001 but has not been subject to mining activities. The West Pit Expansion Area will be excavated down approximately 200 feet utilizing 2:1 slopes.

The total disturbance area approved for the existing East Pit and phased expansion of the West Pit area total is approximately 215 acres.

PROJECT DESCRIPTION:

The Amended Plan proposes the expansion of the Existing East Pit Area through mining southward into land owned by the State Lands Commission which would be opened for excavations to supplement sand and gravel production when warranted by market conditions. The proposed State Lands Expansion Area is situated entirely on land that is owned/managed by the State Lands Commission. It is proposed to expand into this area adding 113 to the 215 acre Lucerne Valley Pit. This area will be excavated down approximately 200 feet utilizing 2:1 slopes. The project also proposes the addition of an asphalt batch plant and revisions to the on-site drainage system.

Mining Activities

Mining will continue to utilize standard open pit sand and gravel techniques to accomplish mineral extraction. Mining will be accomplished via a dozer and front-end loader, or hydraulic excavator depositing the material directly into haul trucks or onto a conveyor system. A conveyor system will be constructed to transport material from the West Pit Expansion Area, under Meridian Road, to the processing plant. The conveyor tunnel under Meridian Road will be constructed prior to any excavations on the West Pit Expansion Area. Upon introduction to the processing plant, material is crushed, screened, washed, and then stockpiled for sale as aggregate, or diverted to either the concrete batch plant or the proposed asphalt batch plant.

Potentially, the project could operate up to seven (7) days per week, twelve (12) months per year, and twenty-four (24) hours per day. Currently fifteen (15) people are employed with the possibility of increasing to twenty (20) people at full production levels.

The Project proposes to include installation of an asphalt batch plant, which is a standard portable plant capable of producing up to 800 tons per day during normal operating hours.

Mining activities at the site produce "processing fines" (wet and dry), waste oils/solvents, and domestic garbage. "Processing fines" total approximately 250,000 tons per year. Waste oils/solvents generated by equipment are collected and transferred to a County approved hazardous waste handler for disposal. Domestic garbage is collected by the local trash hauler. Blasting, or storage of explosives, is not proposed throughout the life of the project.

Reclamation

Backfilling, recontouring, and revegetation activities shall be performed in clearly defined phases to the engineering and geologic standards required for the end use of the site as conditioned in the approved reclamation plan. All fills and fill slopes shall be designed to protect groundwater quality, to prevent surface water ponding, to facilitate revegetation, to convey runoff in a non-erosive manner, and to account for long term settlement.

In the West Pit Expansion Area and State Lands Expansion Area, topsoil and other suitable materials will be salvaged and stockpiled for eventual use as growth media in the reclamation process. This material will only be removed as mining progresses into undisturbed areas. Reclamation will be undertaken concurrently with the mining operations. Final reclamation will occur within five (5) years of the termination of the excavation activities which are anticipated to end in 2038 provided the performance standards for backfilling, recontouring,

drainage diversion and revegetation of the disturbed areas are in accordance with California Code of Regulations 3700 et seq. have been attained. All mobile equipment not required to complete final reclamation activities and maintain drainage systems will be removed from the site. Proposed final use of the reclaimed site will be vacant open space.

Mining Operations and Reclamation Phasing

Project phasing is described in Table 2.

Table 1. Phasing.

| Phase No. | Activities |
|---|--|
| I | <ul style="list-style-type: none"> • Mining in existing pit to excavate any limited remaining sand and gravel materials • Continue construction of Meridian Road slope to 2:1. • Remove dike located south of existing pit and install engineered diversions on State Land to direct any water flows into the existing pit area. |
| II | <ul style="list-style-type: none"> • Mining at south end of existing pit progresses southward into State Lands Expansion Area. • Continue construction of Meridian Road slope to 2:1. • Mining continues southward further into State Lands Expansion Area. Berms are relocated/reconfigured. • Construct natural drainage system in the northern forty (40) acres of the West Pit Expansion Area. • Commence construction of conveyor/tunnel system under Meridian Road in preparation of mining excavations into the West Pit Expansion Area. • Complete reclamation requirements on any disturbed areas of the Existing East Pit Area where any slope exceeds 2:1. • Complete reclamation requirements on any disturbed areas of the Existing East Pit Area where any disturbed areas will not be continued to be utilized for ongoing mining operations. |
| III | <ul style="list-style-type: none"> • Continue excavations south and east into the State Lands Expansion Area. When excavations approach the southern boundary of the State Lands Expansion Area, a permanent engineered dike/channel system will be installed to collect and direct flows to the central portion of the southern project boundary. • Construct a permanent 60-foot wide armored downdrain in the central portion of the southern extent of the State Lands Expansion Area to transition the collected flows into the excavation area. • Complete construction of the conveyor/tunnel system under Meridian Road. • Mining commences into north forty (40) acres of the West Pit Expansion Area concurrent with mining any remaining reserves in the Existing East Pit Area or State Lands Expansion Area. • Mining advances into the southern eighty (80) acres of the West Pit Expansion Area. |
| <p><i>Note: Time frames for reclamation are dependent on the fluctuation of product demand, aggregate reserves, and maximum equipment output.</i></p> | |

ENVIRONMENTAL/EXISTING SITE CONDITIONS:

| AREA | EXISTING LAND USE | LAND USE/OVERLAY DISTRICT |
|-------|---------------------------|--|
| Site | Sand & Gravel Mine/Vacant | LV/RL-20 (1 du/20ac) and LV/RC (Resource Conservation) |
| North | Vacant | LV/RL-20 (1 du/20ac) |
| South | Vacant | LV/RL-20 (1 du/20ac) |
| East | Vacant | LV/RL-20 (1 du/20ac) and LV/RC (Resource Conservation) |
| West | Vacant | LV/RL-20 (1 du/20ac) and LV/IR (Regional Industrial) |

The Existing East Pit Area is situated within a gently sloping alluvial fan deposit composed of cobbles, sand, gravel, and silt. Presently the Existing East Pit Area is mined-out in the south end where sedimentation ponds exist to accept “processing fines” from the sand washing operations. In the other areas of the Existing East Pit Area, the remaining quality sand and gravel reserves are very limited.

Both the West Pit Expansion Area and the State Lands Expansion Area are currently undisturbed. These areas are relatively flat with a slight gradient slope to the north and are located at elevations ranging from 3,260 to 3,700 MSL. Soils in these areas consist of gravelly/sandy loam. Numerous drainage channels are located in these areas. The primary plant community is “Cresote Bush Community” (i.e. woody shrubs).

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):

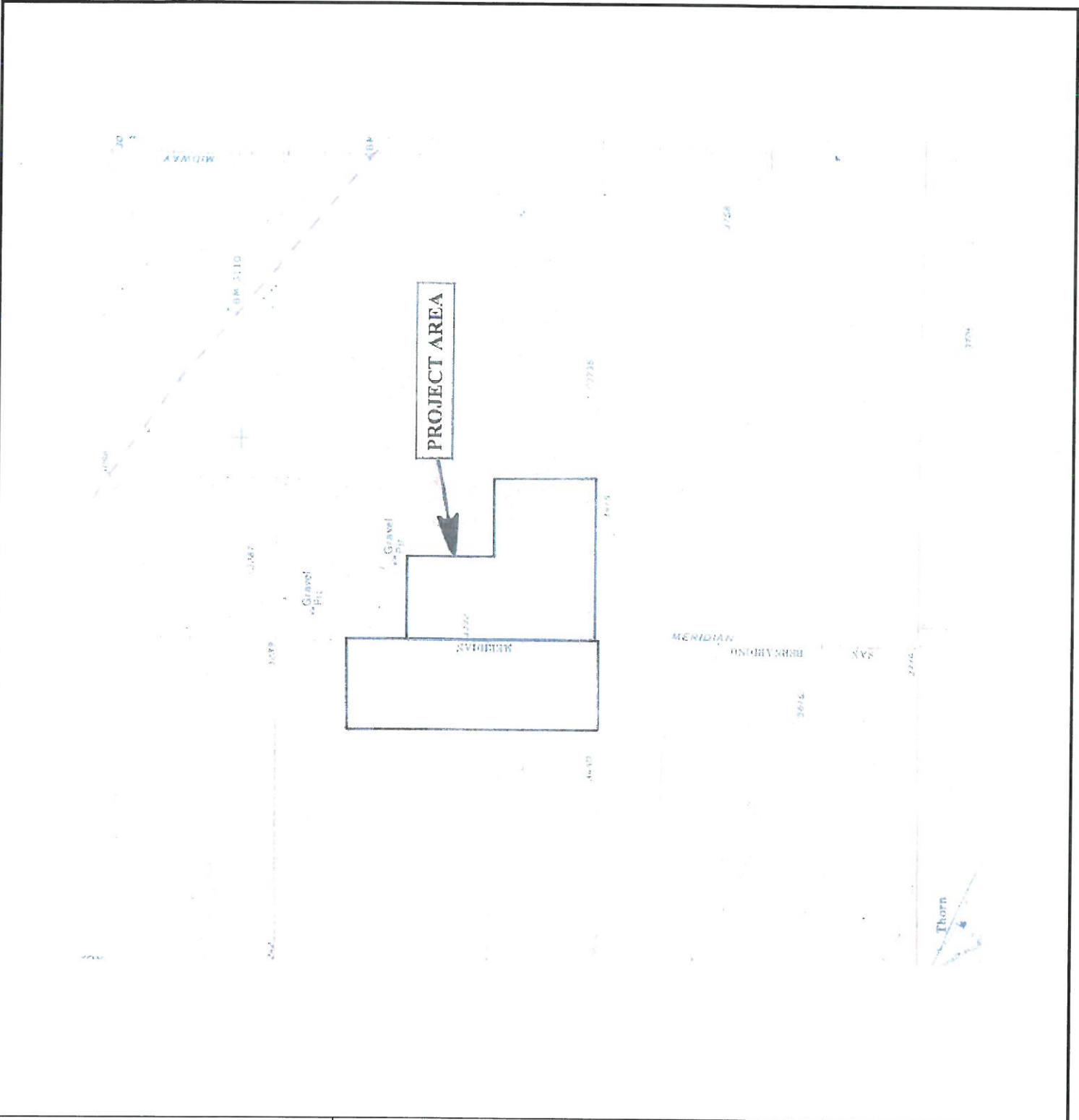
Federal: None.

State of California: State Lands Commission. California Department of Fish and Wildlife

County of San Bernardino: Land Use Services Department- Code Enforcement, Building and Safety, Public Health-Environmental Health Services, Special Districts, Public Works, and County Fire.

Regional: Mojave Desert Air Quality Management District (MDAQMD).

Local: None



Lucerne Valley Pit

Project Location

Exhibit 1

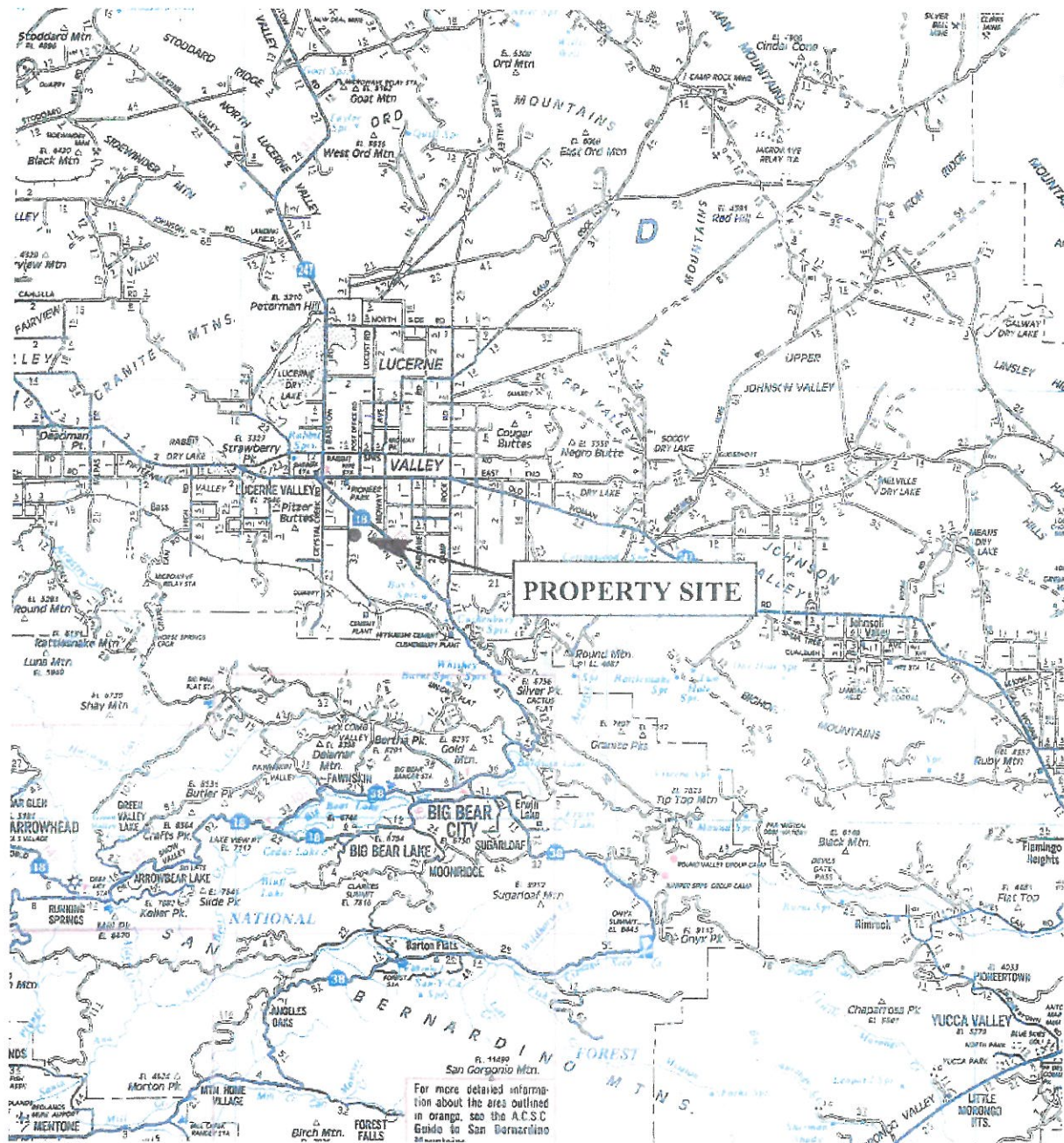
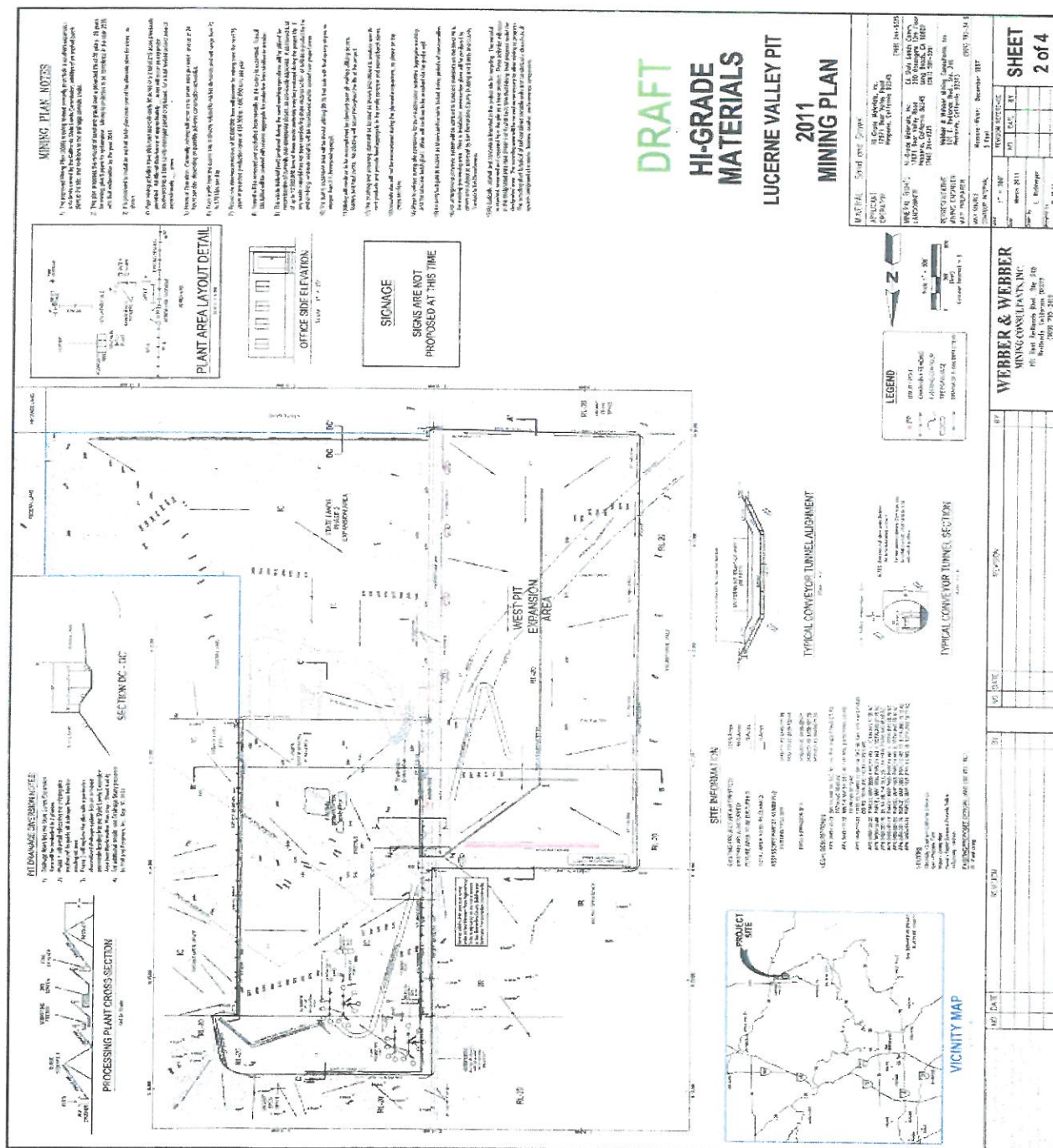


Exhibit 1-A
Vicinity Map



EVALUATION FORMAT

This initial study is prepared in compliance with the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21000, et seq. and the State CEQA Guidelines (California Code of Regulations Section 15000, et seq.). Specifically, the preparation of an Initial Study is guided by Section 15063 of the State CEQA Guidelines. This format of the study is presented as follows. The project is evaluated based upon its effect on seventeen (17) major categories of environmental factors. Each factor is reviewed by responding to a series of questions regarding the impact of the project on each element of the overall factor. The Initial Study Checklist provides a formatted analysis that provides a determination of the effect of the project on the factor and its elements. The effect of the project is categorized into one of the following four categories of possible determinations:

| | | | |
|--------------------------------|--|-----------------------|-----------|
| Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant | No Impact |
|--------------------------------|--|-----------------------|-----------|

Substantiation is then provided to justify each determination. One of the four following conclusions is then provided as a summary of the analysis for each of the major environmental factors.

1. **No Impact:** No impacts are identified or anticipated and no mitigation measures are required.
2. **Less than Significant Impact:** No significant adverse impacts are identified or anticipated and no mitigation measures are required.
3. **Less than Significant Impact with Mitigation Incorporated:** Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as a condition of project approval to reduce these impacts to a level below significant. The required mitigation measures are: (List of mitigation measures)
4. **Potentially Significant Impact:** Significant adverse impacts have been identified or anticipated. An Environmental Impact Report (EIR) is required to evaluate these impacts, which are (List of the impacts requiring analysis within the EIR).

At the end of the analysis the required mitigation measures are restated and categorized as being either self- monitoring or as requiring a Mitigation Monitoring and Reporting Program.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use/ Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

| | |
|-------------------------------------|--|
| <input type="checkbox"/> | The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION shall be prepared. |
| <input checked="" type="checkbox"/> | Although the proposed project could have a significant effect on the environment, there shall not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION shall be prepared. |
| <input type="checkbox"/> | The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. |
| <input type="checkbox"/> | The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. |
| <input type="checkbox"/> | Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. |

Prepared by: Ernest Perea, Contract Planner


Reuben Arceo, Contract Project Manager


Dave Prusch, Planning Supervisor

11/27/2013
Date

11/27/2013
Date

Appendices: (On Compact Disk)

- A. General Biological Resources Assessment – Lucerne Valley Pit, May 24, 2012 by RCA Associates
- B. Jurisdictional Waters Delineation for Lucerne Valley Pit, December 15, 2011 by Agcon Inc.

| Issues | | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|--|--|---|---|-------------------------------------|-------------------------------------|
| I. AESTHETICS - Would the project | | | | | |
| a) | Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) | Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) | Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SUBSTANTIATION | | (Check <input type="checkbox"/> if project is located within the view-shed of any Scenic Route listed in the General Plan): | | | |

I a) **No Impact.** The County General Plan Open Space Element, Policy OS 5.1. states that a feature or vista can be considered scenic if it:

- Provides a vista of undisturbed natural areas;
- Includes a unique or unusual feature that comprises an important or dominant portion of the viewshed; or,
- Offers a distant vista that provides relief from less attractive views of nearby features such as views of mountain backdrops from urban areas).

The Existing East Pit Area is being actively mined. Both the West Pit Expansion Area and the State Lands Expansion Area are currently undisturbed. These areas are relatively flat with a slight slope to the north and are located at elevations ranging from 3,260 to 3,700 MSL. The overall project site does not meet the criterion for a scenic vista pursuant to County General Plan Open Space Element Policy OS 5.1. Therefore, the project will have no impact on a scenic vista.

I b) **No Impact.** According to The San Bernardino County General Plan the project site is not within a scenic route (Ref. General Plan Pg. IV-16). Therefore, no impact is anticipated

I c) **Less than Significant.** The visual character of the site and surroundings is that of an existing mining operation surrounded by vacant desert land. The proposed use is an allowable use within the Resources Conservation Land Use Zoning District. The continued operation and expansion of mining activities will not significantly impact the existing visual character of the area. Therefore, a less than significant impact is anticipated.

I d) **No Impact.** The Proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. No new light sources are proposed and therefore no impacts are anticipated.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|--|--------------------------------------|---|--------------------------|-------------------------------------|
| II. AGRICULTURE and FORESTRY RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project: | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION (Check ☐ if project is located in the Important Farmlands Overlay):

- II a) **No Impact.** The proposed project will have no impact to agricultural resources, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. There are no agricultural land uses within the subject property or in the vicinity.
- II b) **No Impact.** The Project Site is not designated as agricultural land use or Williamson Act land. The Proposed Project would not conflict with current zoning. No impact is anticipated. Therefore, the project will not conflict with existing zoning for agricultural use, or a Williamson Act contract.
- II c/d) **No Impact.** The Project Site and surrounding area does not occur within forest land, timberland, or timberland zoned production. No impacts to these resource lands would result with implementation of the Proposed Project.

- II e) **No Impact.** The proposed project will not have any direct or indirect impacts to agricultural resources in the County including the conversion of Farmland to non-agricultural uses because no such lands exist in the vicinity of the project site.

| ISSUES | | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|---|---|--------------------------------------|---|-------------------------------------|-------------------------------------|
| III. | AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project: | | | | |
| a) | Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) | Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> <input type="checkbox"/> | | <input type="checkbox"/> |
| c) | Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) | Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SUBSTANTIATION (Discuss conformity with the Mojave Desert Air Quality Management Plan, if applicable): | | | | | |

The Project Site is located in the Mojave Desert Air Basin (MDAB). The Mojave Desert Air Quality Management District (MDAQMD) has jurisdiction over air quality issues and regulations within the MDAB. To assist local agencies to determine if a project's emissions could pose a significant threat to air quality, the MDAQMD has prepared *the California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, August 2011*. The air and dust emissions from the operational use of the Project were evaluated and compared to the MDAQMD standards and evaluated against the most recent thresholds applicable.

- III a) **Less than Significant.** The project site is within the MDAB and under the jurisdiction of the MDAQMD. The MDAQMD is responsible for updating the Air Quality Management Plan (AQMP). The AQMP was developed for the primary purpose of controlling emissions to maintain all federal and state ambient air standards for the district. A project is non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast.

The Project is consistent with the zoning and land use classifications that were used to prepare the

Mojave Desert AQMP (Resource Conservation/RC). In addition, based on Table 2, Project-generated emissions generated will not exceed emission thresholds. Therefore, the Project's emissions are in compliance with the thresholds established by the Mojave Desert Air Quality Management District. The project would not significantly increase local air emissions and therefore would not conflict with or obstruct implementation of the plan. Therefore, no impact is anticipated.

- III b) **Less than Significant With Mitigation Incorporated.** Mining activities for the State Lands Commission Expansion Area will continue to utilize standard open pit sand and gravel techniques to accomplish mineral extraction via dozers and front-end loaders, or hydraulic excavator depositing the material directly into haul trucks or onto the conveyor system. Upon introduction to the processing plant, material is crushed, screened, washed, and then stockpiled for sale as aggregate, or diverted to either the existing concrete batch plant or the proposed asphalt batch plant. The proposed asphalt batch plant is a standard portable plant capable of producing up to 800 tons per day during normal operating hours.

Emissions associated with the project are primarily a result of material mining and transport of materials to and from the existing concrete batch and/or proposed asphalt batch plant were screened for emissions generation using MDAQMD guidelines, and Off-Road Mobile Source Emissions Factors (2012 based on the following equipment as shown in Table 2 below.

Table 2. Estimated Typical Equipment List

| Quantity | Equipment Type |
|----------|----------------------------|
| 3 | Loaders |
| 1 | Dozer |
| 1 | Dump Truck (40 ton) |
| 1 | Water Truck (2000 gallons) |
| 1 | Bobcat |
| 2 | Pick-Up Trucks (1/2 ton) |

As shown in Table 3, Project emissions would not exceed MDAQMD thresholds for the types of emissions associated with mineral extraction and the transport of materials to and from the existing concrete batch and/or proposed asphalt batch plant.

**Table 3. State Lands Commission Expansion Area Emissions
(Pounds per Day)**

| Source ¹ | ROG | NO _x | CO | PM ₁₀ | PM _{2.5} |
|----------------------------|-------------|-----------------|--------------|------------------|-------------------|
| Water Truck | 1.74 | 14.29 | 5.09 | 0.51 | 0.19 |
| Rubber Tire Loader | 3.02 | 29.10 | 8.84 | 1.00 | 0.12 |
| Dozer | 1.34 | 10.02 | 5.96 | 0.57 | 0.01 |
| Dump | 0.08 | 0.48 | 0.26 | 0.51 | 0.24 |
| Bobcat | 0.71 | 2.31 | 2.95 | 0.19 | 0.07 |
| Totals (lbs/day) | 6.89 | 56.20 | 23.10 | 2.78 | 0.63 |
| MDAQMD Threshold (lbs/day) | 137 | 137 | 548 | 82 | 82 |
| Significant | No | No | No | No | No |

¹ Off-Road Mobile Source Emissions Factors (2012)

Emissions from the operation of the proposed asphalt batch plant would occur as a result of generators used to power the batch plant and the processing of the materials but given the size and capacity of the batch plant (292,000 tons annually) emissions are not anticipated to be significant. However, in order to ensure that impacts are less than significant, the following mitigation measures are required:

AQ-1: The Project proponent shall ensure that any portion of the site to be graded shall be pre-watered prior to the onset of grading activities.

AQ-2: Project proponent shall ensure that watering of the site or other soil stabilization method shall be employed on an on-going basis after the initiation of any grading and mining activity on the site. Portions of the site that are actively being mined shall be watered to ensure that a crust is formed on the ground surface, and shall be watered at the end of each workday.

AQ-3: The Project proponent shall ensure that all disturbed areas are treated to prevent erosion.

AQ-4: The Project proponent shall ensure that all mining and processing activities are suspended when winds exceed 25 miles per hour.

AQ-5: During operation, street sweeping will be conducted at least daily, and as needed, along site access roadways to remove dirt dropped by vehicles. Site access driveways and adjacent streets will be washed if there are visible signs of any dirt track-out at the conclusion of any work day.

AQ-6: All equipment used for mining and construction must be tuned and maintained to the manufacturer's specification to maximize efficient burning of vehicle fuel.

AQ-7: The operator shall maintain and effectively utilize and schedule on-site equipment and on-site and off-site haul trucks in order to minimize exhaust emissions from truck idling.

AQ-8: The operator shall comply with all existing and future CARB and MDAQMD regulations related to diesel-fueled trucks, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.

AQ-9: The aggregate crusher must obtain permits to construct and annually renew permits to operate from the MDAQMD and be in compliance with such permits.

AQ-10: This facility must handle all material (raw, byproducts, and finish materials) so as not to cause a Nuisance (odors) per District Rule 402.

AQ-11: A Blue Smoke Control filter cartridge will be used in this project to mitigate for the blue smoke.

- III c) **Less than Significant.** The Project is located in a region that has been identified as being in Non-Attainment for Ozone and PM10 (State) according to the California Air Resources Board Area Designation Maps. This means that the background concentration of these pollutants have historically been over the Federal and/or State Ambient Air Quality Standards. With respect to air quality, no individual project would by itself result in Non-Attainment of the Federal or State Ambient Air Quality Standards. However, a project's air pollution emissions although individually limited, may be cumulatively considerable when taken in combination with past, present, and future development projects. In order to be considered significant, a project's air pollutant emissions must exceed the emission thresholds established by the regional Air Quality Management District.

As shown in Table 3, the thresholds for the above referenced criteria pollutants would not be

exceeded by the Project. Therefore, impacts from the Project are not cumulatively considerable when included with other past, present, and future probable projects.

- III d) **No Impact.** The Proposed Project is located in a remote desert area of San Bernardino County. No sensitive receptors are located within the project vicinity. Therefore, no impacts are anticipated.
- III e) **No Impact.** The generation of objectionable odors is typically not associated with surface mining operations and there are no sensitive receptors within the project vicinity. Therefore, no impact is anticipated.

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|-------------------------------------|
| IV. BIOLOGICAL RESOURCES - Would the project: | | | | |
| a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc...) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION

(Check if project is located in the Biological Resources Overlay or contains habitat for any species listed in the California Natural Diversity Database): ☒

The following analysis is based in part on the *General Biological Resources Assessment – Lucerne Valley Pit, May 24, 2012* by RCA Associates, LLC and *Jurisdictional Waters Delineation for Lucerne Valley Pit, December 15, 2011* by Agcon, Inc.

- IV a) **Less Than Significant with Mitigation Incorporated.** Based on a literature review, a search of the USDWS and CDFW data bases, and a search of the California Natural Diversity Database, it was determined that there are three (3) sensitive wildlife and three (3) sensitive plant species that have been documented within 5 miles of the project site. These species include: *desert tortoise*, *Mohave ground squirrel*, *LeConte's thrasher*, *alkali mariposa lily*, *Parish's alkali grass*, and *salt*

spring checkerbloom. Based on field surveys, no sensitive wildlife or plant species were observed on the project site and no sensitive wildlife or plant species have occurred on the site since the surveys were conducted.

With respect to the *desert tortoise*, given the absence of *desert tortoise* in the area, the likelihood of encounters with *desert tortoise* is not expected. However, the mine operator shall implement the following Mitigation Measure in order to avoid potential impacts to the *desert tortoise*.

BIO-1-Desert Tortoise. The following measures shall be implemented:

- a. *The Applicant shall provide an information sheet to all persons who will work on-site during mining activities. The program shall consist of a brief presentation from a person knowledgeable about the biology of the Desert Tortoise, Federal Endangered Species Act (FESA), and California Endangered Species Act (CESA).*
- b. *A litter control program shall be instituted. The program includes the direction to all workers to eliminate food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area and to maintain covered trash containers that are regularly removed from the project site. All trash and food items should be promptly enclosed in raven proof containers (i.e. metal or solid plastic trash cans) and disposed of in a licensed disposal facility on a regular basis.*
- c. *Any desert tortoises observed during any phase of the project should be left to move out of the way on its own. Handling of desert tortoises is not authorized.*
- d. *Workers should inspect for desert tortoises under vehicles and equipment prior to moving them. If a desert tortoise is present, the worker should carefully move the vehicle or equipment only when necessary or should wait for the desert tortoise to move out from under the vehicle or equipment.*
- e. *Only an Authorized Biologist(s) shall be allowed to handle tortoises. The Authorized Biologist(s) shall have a Memorandum of Understanding (MOU) with the CDFW for handling tortoises.*
- f. *Upon discovery of a Desert Tortoise in a work area, all work in that area shall stop until the Desert Tortoise is relocated. An Authorized Biologist shall be on site or on call to relocate any desert tortoise found during work activities. The desert tortoise shall be monitored until the Authorized Biologist arrives.*

BIO-2-Burrowing Owl. *Utilizing accepted protocols, within 30 days prior to initiating mining activities, a pre-construction survey must be conducted for the Burrowing Owl by a qualified biologist.*

- IV b-c) **Less Than Significant with Mitigation Incorporated.** The project will result in a permanent impact to 21.5 acres of riparian/wetlands under the jurisdiction of the Army Corps of Engineers (USACOE), the California Department of Fish & Wildlife (CDFW), and the Colorado River Regional Water Quality Control Board (RWQCB). Mitigation Measure BIO-3 is required.

BIO-3- Riparian Habitat/Wetlands: *Prior to commencing mining activities or earth disturbing activities within the area depicted in Figure 5 of the Jurisdictional Delineation for the Lucerne Valley Pit dated December 11, 2011 prepared by Agcon Inc., the project applicant shall obtain a Section 404 Permit from the USACE, a Section 1602 Streambed Alteration*

Agreement from the CDFW, and a Section 401 Water Quality Certification from the RWQCB for permanent impacts 21.5 acres of jurisdictional area that are regulated by the USACE, CDFW, and the RWQCB. Impacts shall be mitigated at a 2:1 ratio through an off-site mitigation bank or the contribution of in-lieu fee program acceptable to the County of San Bernardino and the USACE, CDFW, and RWQCB.

IV d) **No Impact.** Based on the *General Biological Resources Assessment*, the project will substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites as none exist on the site.

IV e) **Less Than Significant Impact with Mitigation Incorporated:** The San Bernardino County Native Plant Protection policy (1989) provides protection for all trees greater than 6 inches diameter at breast height (dbh), smoke trees, mesquite, creosote rings, and all plants in the agave family, including Joshua trees. The project may impact Joshua Trees. Mitigation Measure BIO-4 is required.

BIO-4- Joshua Trees: Plant species protected by state law and County ordinance; yucca, agave (Joshua tree) and cactus, will be transplanted during growth media salvage to areas which remain undisturbed until they are used in revegetation of the site.

IV f) **Less Than Significant Impact.** The Project area is located in the Northern and Eastern Mojave planning area of the California Desert Conservation Area (CDCA). Compliance with Mitigation Measures BIO-1 through BIO-4 ensures that the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|---|--|---|-------------------------------------|--------------------------|
| V. CULTURAL RESOURCES - Would the project | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| SUBSTANTIATION | (Check if the project is located in the Cultural <input type="checkbox"/> or Paleontologic <input type="checkbox"/> Resources overlays or cite results of cultural resource review): | | | |

V a-d **Less Than Significant Impact with Mitigation Incorporated.** The project is not expected to have an impact on cultural or paleontological resources. However, the following Mitigation Measure shall be implemented in the event that potentially sensitive cultural resources are uncovered during earthmoving.

CR-1: The developer/property owner shall submit a letter to County Planning agreeing to adhere to the following requirements and shall include a note on the grading plans and in all construction contracts/subcontracts a provision that the project contractors shall also adhere to the following requirements:

- In the event archaeological, paleontological and/or historical resources, including pottery, middens or human remains, are uncovered during earthmoving activities, all work in that area shall cease immediately and a qualified archeologist shall be retained to access the findings, and if necessary provide appropriate disposition of the resources. Earthmoving shall be diverted temporarily around the deposits until they have been evaluated, recorded, excavated, and/or recovered as necessary. Earthmoving shall be allowed to proceed on the site when the archaeologist, in consultation with the appropriate Native American Tribe(s) and the County of San Bernardino Museum, determines the resources are recovered to their satisfaction.***
- If possible human remains are encountered during any earthmoving activities, all work shall stop in the area in which the find(s) are present, and the San Bernardino County Coroner must be notified. State law dictates that the Native American Heritage Commission (NAHC) shall be notified in the event that remains are determined to be human and of Native American decent, in accordance with California Public Resources Code Section 5097.98.***

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|---|--------------------------------------|---|-------------------------------------|-------------------------------------|
| VI. GEOLOGY AND SOILS - Would the project: | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map Issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii. Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii. Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv. Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 181-B of the California Building Code (2001) creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION

(Check ☐ if project is located in the Geologic Hazards Overlay District):

The following analysis is based in part on the *Geologic Hazards Letter – Lucerne Valley Pit, December 6, 2012* by CHJ Consultants and the *Drainage Study for HI-Grade Materials Lucerne Valley Pit Expansion, January 10, 2013* by Hall and Foreman Inc.

VI a) ai) **Less Than Significant Impact.** The northeast portion of the quarry is traversed by the active trace of the Helendale fault (Existing East Pit Area) but does not encroach into the State Lands Expansion Area according to information obtained from the County's GIS system and the USGS Fault Maps. Fault rupture can be a potential hazard to structures and infrastructure but are not generally considered to be hazardous to open-pit aggregate mines.

aii) **Less Than Significant Impact.** Seismic ground shaking is influenced by the proximity of the site to an earthquake fault, the intensity of the seismic event, and the underlying soil composition.

Although the State Lands Commission Expansion Area Is located in the vicinity of an earthquake fault and the project site is to be used for a mining operation are seismic ground shaking is not generally considered to be hazardous to open-pit aggregate mines.

aiii) **Less Than Significant Impact.** According to the County General Plan Hazards Overlay Map the site is not located in an area susceptible to liquefaction. As noted, the proposed project would not build permanent structures or construct facilities with foundations that could fail as a result of liquefaction during an earthquake. Therefore, this impact is considered less than significant.

aiv) **Less Than Significant Impact.** According to the County General Plan Hazards Overlay Map the site is not located in an area susceptible to landslides. The proposed project would involve excavation to depths no greater than 200 feet below the existing ground elevation. In addition, the side slopes of the excavated area would not be steeper than 2:1 (H: V). Therefore, the project site would not be exposed to landslide hazard, and this impact would be less than significant.

- VI b) **Less Than Significant Impact.** Run-off resulting from direct precipitation and uncontrolled run-off from surrounding areas have the potential to cause minor erosion and deposition. All storm water discharge is regulated by the Colorado River Basin Regional Water Quality Control Board pursuant to site specific Storm Water Pollution Prevention Plans to manage soil erosion.

Control of surface drainage, erosion, and sedimentation of planned operations involves the following typical components:

- Limiting surface disturbance to the minimum area required for active operations.
- Diverting run-off from undisturbed areas around the active mining area as necessary.
- Using berms, ditches, sediment basins, and localized control and maintenance measures to intercept and control disturbed area drainage as necessary.
- Stabilizing disturbed areas through grading or revegetation.

Due to the low precipitation, flat gradient of the topography, and sandy nature of the soil, drainage control does not present a significant impact. The revegetation program is designed to reestablish a self-sustaining native plant community upon the conclusion of mining. As excavations are finished they will be revegetated with a combination of transplanted plants, growth media and native plant seeds collected from adjacent areas or purchased from commercial suppliers. All disturbed area drainage would be retained within the basins and low-lying areas; therefore, impacts are anticipated to be less than significant.

- VI c) **Less Than Significant Impact.** Due to the structure and the coarse-grained lithologies, these materials have a very low susceptibility to deep-seated slope failure. No landslides were mapped on C.H.J.'s geologic map, and landsliding is not anticipated. Mudflows are uncommon in the desert environment and are not anticipated.
- VI d) **No Impact.** The Project Site is not located in an area which has been identified by the County Building and Safety Geologist as having the potential for expansive soils. The coarse-grained alluvial materials are expected to have a very low to non-existent potential for collapse or hydroconsolidation. They are considered to be non-expansive. No impact is anticipated.
- VI e) **No Impact.** Septic tanks and/or alternative water supply systems are not proposed as part of the proposed project. Therefore, no impacts are anticipated.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|--------------------------|
| VII GREENHOUSE GAS EMISSIONS - Would the project: | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION

- VII a) **Less Than Significant Impact.** In December September 2011, the County of San Bernardino adopted the "Greenhouse Gas Emissions Reduction Plan" ("GHG Plan"). The purpose of the GHG Plan is to reduce the County's internal and external GHG emissions by 15 percent below current (2011) levels by year 2020 in consistency with State climate change goals pursuant to AB32. The GHG Plan has been designed in accordance with Section 15183.5 of the State CEQA Guidelines which provides for streamline review of climate change issues related to development projects when found consistent with an applicable greenhouse gas emissions reduction plan.

Section 5.6 of the GHG Plan identifies the procedures for reviewing development projects for consistency with the GHG Plan. The GHG Plan includes a two-tiered development review procedure to determine if a project could result in a significant impact related greenhouse gas emissions or otherwise comply with the Plan pursuant to Section 15183.5 of the State CEQA Guidelines. The initial screening procedure is to determine if a project will emit 3,000 metric tons of carbon dioxide equivalent (MTCO₂E) per year or more. Projects that do not exceed this threshold require no further climate change analysis but are required to implement mandatory reducing measures in the project's conditions of approval.

Projects exceeding this threshold must meet a minimum 31 percent emissions reduction in order to garner a less than significant determination. This can be met by either (1) achieving 100 points from a menu of mitigation options provided in the GHG Plan or (2) quantifying proposed reduction measures. Projects failing to meet the 31 percent reduction threshold would have a potentially significant impact related to climate change and greenhouse gas emissions.

According to CEQA Guidelines section 15064.4, when making a determination of the significance of greenhouse gas emissions, the "lead agency shall have discretion to determine, in the context of a particular project, whether to (1) use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use." Moreover, CEQA Guidelines section 15064.7(c) provides that "a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts" on the condition that "the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

A GHG emissions inventory was conducted for the project utilizing the California Emissions Estimator Model (CalEEMod) based on the equipment mix and number of haul trips associated with mining activities. GHG emissions will be released by equipment used for loading, grading, and compacting activities. CalEEMod estimates that the estimated annual emissions from mining activities would be 1,791.67 metric tons of carbon dioxide equivalent (MTCO₂E) per year which is less than the initial screening threshold of 3,000 MTCO₂E per year. Projects that do not exceed this

threshold require no further climate change analysis.

The following Performance Standards apply to all Projects, including those that emit less than 3,000 MTCO₂E/YR, and will be included as Conditions of Approval for the Project.

The following are the Performance Standards (Conditions of Approval) that are applicable to the Project:

1. *The developer shall implement the following as greenhouse gas (GHG) mitigation during the operation of the approved project:*

a) Waste Stream Reduction. The "developer" shall provide to all project employees County-approved informational materials about methods and need to reduce the solid waste stream and listing available recycling services.

b) Vehicle Trip Reduction. The "developer" shall provide to all project employees County approved informational materials about the need to reduce vehicle trips and the program elements this project is implementing. Such elements may include: participation in established ride-sharing programs, creating a new ride-share employee vanpool, designating preferred parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles with benches in waiting areas, and/or providing a web site or message board for coordinating rides.

c) Select construction equipment based on low-emissions factors and high-energy efficiency. All diesel/gasoline-powered construction equipment shall be replaced, where possible, with equivalent electric or CNG equipment.

d) All construction equipment engines shall be properly tuned and maintained in accordance with the manufacturers specifications prior to arriving on site and throughout construction duration.

- VII b) **Less Than Significant Impact.** The state and local regulatory programs for GHG emissions and climate change are described in the response to Question VIIa above. The Performance Standards described above will ensure that there would be no conflict with any applicable plan, policy, or regulation; therefore, impacts will be less than significant, and no mitigation would be required.

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|-------------------------------------|
| VIII. HAZARDS AND HAZARDOUS MATERIALS - Would the project: | | | | |
| a) Create a significant hazard to the public or the Environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION

- VII a-b) **Less Than Significant Impact with Mitigation Incorporated.** Mining and reclamation activities for the proposed project would involve the use of heavy equipment and vehicles containing fuel, oil, and grease. These fluids could leak from construction vehicles or be inadvertently released in the event of an accident, potentially releasing petroleum compounds and metals. Unless properly managed, such releases could result in adverse health effects, present an increased risk of fire or

explosion or contaminate exposed soil. This analysis assumes the routine use, storage, and disposal of hazardous materials during mining and reclamation would be in compliance with applicable regulations and codes.

Additional site-specific controls are recommended to ensure hazardous materials are not inadvertently released to the environment. This impact is considered less than significant with mitigation incorporated. Implementation of the following mitigation measure would reduce reclamation-related hazardous materials impacts to a less-than significant level:

HAZ 1. All spills or leakage of petroleum products during mining or reclamation activities shall be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste shall be collected and disposed of at an appropriately licensed disposal or treatment facility.

- VIII c) **Less Than Significant Impact.** The Proposed Project involves the use of materials common to the mining industry and includes the transport, storage and use of fuels, and lubricants. The operator would continue to comply with all applicable federal and state safety rules and regulations regarding hazardous materials. During operation, diesel exhaust would be generated by heavy construction equipment; however, no school facilities or proposed school facilities are located within one-quarter mile radius of the Project Site. Therefore, less than significant impact is anticipated.
- VIII d) **Less than significant impact.** The Project Site is not identified on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The operator would comply with all applicable federal and state safety rules and regulations regarding hazardous materials. Therefore, less than significant impact is anticipated.
- VIII e/f) **No Impact.** As shown on San Bernardino County General Plan, Hazards Overlay Map the Project Site is located within Airport Safety Review Area 4 (AR4). AR4 includes the low-altitude/high speed corridors designated for military aircraft use. Because the site is proposed for surface mining and will not contain structures in excess of FAA requirements, the Proposed Project would not result in safety hazard impacts to or from aircraft-related uses. No impact is anticipated.
- VIII g) **No Impact.** Activities associated with the Proposed Project would not impede existing emergency response plans for the Project Site and/or other land uses in the project vicinity. All vehicles and stationary equipment would be staged off public roads and would not block emergency access routes. Therefore, implementation of the Proposed Project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. No impact is anticipated.
- VIII h) **No Impact.** As shown on San Bernardino County General Plan, Hazards Overlay Map, the Project Site is located within Fire Safety Overlay Districts 1 and 2. Fire Safety Area 1 (FS1) includes areas within the mountains and valley foothills. It includes all the land generally within the San Bernardino National Forest boundary and is characterized by areas with moderate and steep terrain and moderate to heavy fuel loading contributing to high fire hazard conditions. Fire Safety Area 2 (FS2). Fire Safety Area 2 (FS2) includes those lands just to the north and east of the mountain FS1 area in the mountain-desert interface. These areas have gentle to moderate sloping terrain and contain light to moderate fuel loading. These areas are periodically subject to high wind conditions that have the potential of dramatically spreading wildland fires. Because the site is proposed for surface mining and will not contain permanent habitable structures, it would not result in any safety hazard impacts from wild fires. No impact is anticipated.

| ISSUES | | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|---|---|--------------------------------------|---|-------------------------------------|-------------------------------------|
| IX. HYDROLOGY AND WATER QUALITY - Would the project: | | | | | |
| a) | Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) | Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level, which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) | Create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) | Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) | Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) | Place within a 100-year flood hazard area structure that would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) | Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) | Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SUBSTANTIATION | | | | | |

The following analysis is based in part on the *Drainage Study for HI-Grade Materials Lucerne Valley Pit Expansion, January 10, 2013* by Hall and Foreman Inc. and the *Ground Water Resources Evaluation for the Proposed Pit Expansion 8701 Meridian Road, Lucerne Valley Area, May 31, 2013* by Ron Barto Ground Water Consultant.

- IX a) **Less Than Significant Impact.** Run-off resulting from direct precipitation and uncontrolled run-off from surrounding areas have the potential to cause minor erosion and deposition. All storm water discharge is regulated by the Colorado River Basin Regional Water Quality Control Board pursuant to site specific Storm Water Pollution Prevention Plans to manage soil erosion.

Control of surface drainage, erosion, and sedimentation of planned operations involves the following typical components:

- Limiting surface disturbance to the minimum area required for active operations.
- Diverting run-off from undisturbed areas around the active mining area as necessary.
- Using berms, ditches, sediment basins, and localized control and maintenance measures to intercept and control disturbed area drainage as necessary.
- Stabilizing disturbed areas through grading or revegetation.

Due to the low precipitation, flat gradient of the topography, and sandy nature of the soil, drainage control does not present a significant impact. The revegetation program is designed to reestablish a self-sustaining native plant community upon the conclusion of mining. As excavations are finished they will be revegetated with a combination of transplanted plants, growth media and native plant seeds collected from adjacent areas or purchased from commercial suppliers. All disturbed area drainage would be retained within the basins and low-lying areas; therefore, impacts are anticipated to be less than significant.

- IX b) **Less Than Significant Impact.** The site is served by an existing well approximately 200 feet deep. The applicant has a historic water right to pump from the Este Subarea and currently pumps less than 33% of their legally allowed extraction. Because groundwater levels in the vicinity show zero to minimal decline over the past 60 years, the Project is not forecast to substantially deplete groundwater supplies.

- IX c-f) **Less Than Significant Impact.** Drainage entering the site from the proposed State Lands Commission Expansion Area will be controlled and directed into the bottom of the excavation area by the construction of a permanent 60-foot wide armored downdrain in the central portion of the southern extent of the State Lands Expansion Area to transition the collected flows into the excavation area. The drainage control system will remain after reclamation of the site. All water will be retained within the boundaries of the project site and will not impact local roadways or downstream properties.

All storm water discharge is regulated by the Colorado River Basin Regional Water Quality Control Board pursuant to site specific Storm Water Pollution Prevention Plans. The County will approve the on-site drainage control system. Therefore, less than significant impact is anticipated.

- IX g/h) **No Impact.** The Proposed Project does not occur within a 100-year flood plain, nor does it include the construction of housing or would place housing within a flood plain. No impacts are anticipated.

- IX i) **No Impact.** The Project Site and surrounding area is located outside of any designated dam inundation area. The Proposed Project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, as no levee or dam is proposed as part of the this project. Therefore, no impacts are anticipated.

- IX j) **No Impact.** A seiche is an oscillating surface wave in a restricted or enclosed body of water generated by ground motion, usually during an earthquake. Inundation from a seiche can occur if the wave overflows a containment wall or the banks of a water body. As the Project Site is not located adjacent to any body of water that has the potential of seiche or tsunami, no impacts are anticipated.

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|---|--------------------------------------|---|-------------------------------------|-------------------------------------|
| X. LAND USE AND PLANNING - Would the project: | | | | |
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION

X a) **No Impact.** The Project Site is surrounded by vacant desert land. The Proposed Project is consistent with the County General Plan and would not physically divide an established community. No impact is anticipated.

X b) **Less Than Significant Impact with Mitigation Incorporated.** The analysis contained in this Initial Study Checklist addressed the potential conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted for the purpose of avoiding or mitigating an environmental effect. Based on this analysis, it was determined that the Project could potentially have significant impacts on the following:

Biological Resources (*desert tortoise and burrowing owl*) and Jurisdictional Waters under the jurisdiction of the ACOE, CDFW, and RWQCB. Mitigation Measures BIO-1 through BIO-4 are required to ensure that the Project impacts to these biological resources are less than significant.

Based on the above, it can be determined that the Project is not in conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted for the purpose of avoiding or mitigating an environmental effect.

X c) **Less Than Significant Impact.** The Project area is located in the Northern and Eastern Mojave planning area of the California Desert Conservation Area (CDCA). Compliance with mitigation measures BIO-1 through BIO-4, ensures that the proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

| ISSUES | | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|-----------------------|--|---|---|--------------------------|-------------------------------------|
| XI. | MINERAL RESOURCES - Would the project: | | | | |
| a) | Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SUBSTANTIATION | | (Check <input checked="" type="checkbox"/> if project is located within the Mineral Resource Zone Overlay): | | | |

XI a-b) **No Impact.** The California Department of Conservation Division of Mines and Geology has mapped the site as MRZ-1 and MRZ-2. MRZ-1 are areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence. MRZ-2 are areas where adequate information indicates significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence. Classification is based on geologic and economic factors without regard to existing land use and land ownership. Within the classifications, "MRZ-2" is defined as areas that contain identified mineral resources. The Proposed Project would supply aggregate to the region. Therefore, the Proposed Project would not result in the loss of availability of a mineral resource that would be of value to the region and the residents of the State. Therefore, no impacts are anticipated.

Once mined, a measurement of this resource will be depleted; however, the proposed project is consistent with the County's policy that protects the current and future availability of mineral resources. The primary goal in evaluating a land use that does not include mineral extraction activities is to ensure that the mineral potential of land is recognized and that decision-makers do not preclude the conservation, potential for development and use of the valuable mineral resources including water. Regulation and reclamation of the proposed project site as required by the Surface Mining and Reclamation Act of 1975 (SMARA) will permit the continued availability of the mineral resources and provide for the protection and subsequent beneficial use of those mineral resources while minimizing impacts on the public and the environment.

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|---|---|---|-------------------------------------|-------------------------------------|
| XII. NOISE - Would the project: | | | | |
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SUBSTANTIATION | (Check if the project is located in the Noise Hazard Overlay District <input type="checkbox"/> or is subject to severe noise levels according to the General Plan Noise Element <input type="checkbox"/>): | | | |

XII a,c,d) **No Impact.** Approval of the Project would require operations to conform to all applicable noise control regulations. There are no nearby noise sensitive land uses within the vicinity of the Project Site. Therefore, no impacts are anticipated.

XII b) **Less Than Significant.** Approval of the Project would require operations to conform to all applicable noise control regulations. There are no nearby noise sensitive land uses within the vicinity of the Project Site. Mining activities would not expose persons to or generation of excessive groundborne vibration or groundborne noise levels. Therefore, less than significant impact is anticipated.

XI e/f) **No Impact.** The Project Site is not located within an airport land use plan nor within two miles of a public airport or public use airport, or within the vicinity of a private airstrip, that would expose people at the Project Site to excessive noise levels. Therefore, impacts from airport-related noise are not anticipated.

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|---|--------------------------------------|---|--------------------------|-------------------------------------|
| XIII. POPULATION AND HOUSING - Would the project: | | | | |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION

- XIII a) **No Impact.** The Proposed Project would not induce substantial population growth in the area either directly or indirectly because the proposed project consists of a mining operation that will operate with an estimated 15 employees. In addition, the duration of the operation is approximately 25 years after which time the site will be reclaimed and returned to open space use. No impacts are anticipated.
- XIII b) **No Impact.** The proposed use would not displace substantial numbers of existing housing units, or require the construction of replacement housing, as no housing units exist on the site.
- XIII c) **No Impact.** Implementation of the Proposed Project would not displace substantial numbers of people necessitating the construction of replacement housing elsewhere, as no housing exists on the Project Site.

| ISSUES | <i>Potentially Significant Impact</i> | <i>Less than Significant with Mitigation Incorp.</i> | <i>Less than Significant</i> | <i>No Impact</i> |
|---|---|--|----------------------------------|-------------------------------------|
| XIV. PUBLIC SERVICES | | | | |
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| Fire Protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Police Protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other Public Facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION

- XIV a) **No Impact.** The Proposed Project would not result substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, or hinder acceptable service ratios, response times or other performance objectives for any of the public services, including fire and police protection, schools, parks or other public facilities because the Project consists of a mining operation with no permanent improvements proposed other than a drainage structure. After mining operations, the site would consist of vacant land. Therefore, no impacts are anticipated.

| <i>ISSUES</i> | | <i>Potentially Significant Impact</i> | <i>Less than Significant with Mitigation Incorp.</i> | <i>Less than Significant</i> | <i>No Impact</i> |
|-----------------------|---|---|--|----------------------------------|-------------------------------------|
| XV. RECREATION | | | | | |
| a) | Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SUBSTANTIATION | | | | | |

XVa/b) **No Impact.** Approval of the Proposed Project would not generate the need off new jobs or housing which would induce population growth in adjacent areas, and ultimately increase the use of park facilities or other recreational facilities in the region. No impacts are anticipated.

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|-------------------------------------|
| XVI. TRANSPORTATION/TRAFFIC - Would the project: | | | | |
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION

- XVI a-b) **Less Than Significant Impact.** Currently fifteen (15) people are employed with the possibility of increasing to twenty (20) people at full production levels. Truck traffic from the project site is directly related to market demand and will range from 72 to 170 trips per day. This amount of truck traffic on a daily basis is not substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections), or exceed, either individually or cumulatively, a level of service standard. Impacts would be less than significant.
- XVI c) **No Impact.** Mining activities would not affect air traffic patterns at any airport or airstrip. No impacts are anticipated.
- XVI d) **No Impact.** The Project does not involve any road improvements or design features that could substantially increase hazards on public roads. Primary access will remain off Meridian Road, therefore, less than significant impact is anticipated.
- XVIe/g) **No Impact.** Activities associated with the Proposed Project would not impede existing emergency response plans for the Project Site and/or other land uses in the project vicinity. All vehicles and

stationary equipment would be staged off public roads and would not block emergency access routes. In addition, no road closures would be required. The Proposed Project would not involve any long-term increase in traffic that would conflict with adopted policies, plans, or programs supporting alternative transportation. No impacts would result.

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|-------------------------------------|
| XVII. UTILITIES AND SERVICE SYSTEMS - Would the project: | | | | |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION

The following analysis is based in part on the *Ground Water Resources Evaluation for the Proposed Pit Expansion 8701 Meridian Road, Lucerne Valley Area, May 31, 2013* by Ron Barto Ground Water Consultant.

XVII a/e) **No Impact.** The Proposed Project would not require sewer collection or treatment services and therefore no off-site discharge of treated wastewater would occur. No impacts related to wastewater treatment are anticipated.

XVII b) **No Impact.** Water will be used for dust suppression, aggregate washing, and the concrete batch plant. Water will be continued to be acquired from the on-site well. Therefore, no impacts related to expanding a water treatment or distribution system would occur.

XVII c) **Less Than Significant Impact.** Drainage entering the site from the proposed State Lands Commission Expansion Area will be controlled and directed into the bottom of the excavation area by the construction of a permanent 60-foot wide armored down drain in the central portion of the southern extent of the State Lands Expansion Area to transition the collected flows into the

- excavation area. The drainage control system will remain after reclamation of the site. The drainage system cause significant environmental effects as shown in the analysis in this Initial Study Checklist.
- XVII d) **Less Than Significant Impact.** The site is served by an existing well approximately 200 feet deep. The applicant has a historic water right to pump from the Este Subarea and currently pumps less than 33% of their legally allowed extraction. Because groundwater levels in the vicinity show zero to minimal decline over the past 60 years and based on historic usage, there is adequate water to serve the Project site.
- XVII f, g) **Less Than Significant Impact.** Mining activities would result in waste generation of waste materials. These materials will be used to reconstruct slopes. Any waste material not used will be re-contoured and/or spread over the site as part of the reclamation process. Equipment maintenance will be done onsite. Waste oil, lubricants and solvents will be removed from the site and disposed of at permitted facilities. All solid refuse will be kept in closed containers and removed from the site to permitted facilities as needed. The amount of solid waste is minimal and is not forecast to impact nearby landfills.

| ISSUES | Potentially Significant Impact | Less than Significant with Mitigation Incorp. | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|--------------------------|
| XVIII. MANDATORY FINDINGS OF SIGNIFICANCE: | | | | |
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION

- a) **Less Than Significant Impact With Mitigation Incorporated.** Based on the analysis contained in this Initial Study, impacts to Aesthetics, Agriculture and Forestry Resources, Air Quality, Geology and Soils, Greenhouse Gas Emissions, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Transportation and Traffic, are considered as having a less than significant or no impact on the environment.

The results of the Initial Study show that there are potentially significant impacts to Biological Resources and Cultural Resources. These impacts will be reduced to less than significant after incorporation of mitigation measures.

Therefore the Project will not degrade the quality of the environment and no habitat, wildlife populations, or plant and animal communities would be impacted.

- b) **Less Than Significant Impact.** The analysis in this Initial Study Checklist demonstrated that the Project is in compliance with all applicable regional plans including but not limited to, water quality control plan, air quality maintenance plan, and plans or regulations for the reduction of greenhouse gas emissions. Compliance with these regional plans serves to reduce impacts on a regional basis so that the Project would not produce impacts, that considered with the effects of other past, present, and probable future projects, would be cumulatively considerable.

- c) **Less Than Significant Impact With Mitigation Incorporated.** As discussed this Initial Study Checklist, the Project would not expose persons to adverse impacts related to Air Quality, Greenhouse Gas

Emissions, Hazards and Hazardous Materials, Land Use and Planning, Population and Housing, or Transportation/Traffic hazards. These impacts were identified to have no impact or a less than significant impact.

The implementation of the Mitigation Measures identified in this Initial Study Checklist would result in a less than significant impact and there would be no substantial adverse effects on human beings, either directly or indirectly

XVIII MITIGATION MEASURES. Include mitigation measures here.

(Any mitigation measures which are not 'self-monitoring' shall have a Mitigation Monitoring and Reporting Program prepared and adopted at the time of project approval)

AQ-1: The Project proponent shall ensure that any portion of the site to be graded shall be pre-watered prior to the onset of grading activities.

AQ-2: Project proponent shall ensure that watering of the site or other soil stabilization method shall be employed on an on-going basis after the initiation of any grading and mining activity on the site. Portions of the site that are actively being mined shall be watered to ensure that a crust is formed on the ground surface, and shall be watered at the end of each workday.

AQ-3: The Project proponent shall ensure that all disturbed areas are treated to prevent erosion.

AQ-4: The Project proponent shall ensure that all mining and processing activities are suspended when winds exceed 25 miles per hour.

AQ-5: During operation, street sweeping will be conducted at least daily, and as needed, along site access roadways to remove dirt dropped by vehicles. Site access driveways and adjacent streets will be washed if there are visible signs of any dirt track-out at the conclusion of any work day.

AQ-6: All equipment used for mining and construction must be tuned and maintained to the manufacturer's specification to maximize efficient burning of vehicle fuel.

AQ-7: The operator shall maintain and effectively utilize and schedule on-site equipment and on-site and off-site haul trucks in order to minimize exhaust emissions from truck idling.

AQ-8: The operator shall comply with all existing and future CARB and MDAQMD regulations related to diesel-fueled trucks, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.

AQ-9: The aggregate crusher must obtain permits to construct and annually renew permits to operate from the MDAQMD and be in compliance with such permits.

AQ-10: This facility must handle all material (raw, byproducts, and finish materials) so as not to cause a Nuisance (odors) per District Rule 402.

AQ-11: A Blue Smoke Control filter cartridge will be used in this project to mitigate for the blue smoke.

BIO-1 Desert Tortoise: The following measures shall be implemented:

- g. The Applicant shall provide an information sheet to all persons who will work on-site during mining activities. The program shall consist of a brief presentation from a person knowledgeable about the biology of the Desert Tortoise, Federal Endangered Species Act (FESA), and California Endangered Species Act (CESA).
- h. A litter control program shall be instituted. The program includes the direction to all workers to eliminate food scraps, paper wrappers, food containers, cans, bottles, and other trash from the project area and to maintain covered trash containers that are regularly removed from the project site. All trash and food items should be promptly enclosed in raven proof containers (i.e. metal or solid plastic trash cans) and disposed of in a licensed disposal facility on a regular basis.
- i. Any desert tortoises observed during any phase of the project should be left to move out of the way on its own. Handling of desert tortoises is not authorized.
- j. Workers should inspect for desert tortoises under vehicles and equipment prior to moving them. If a desert tortoise is present, the worker should carefully move the vehicle or equipment only when necessary or should wait for the desert tortoise to move out from under the vehicle or equipment.
- k. Only an Authorized Biologist(s) shall be allowed to handle tortoises. The Authorized Biologist(s) shall have a Memorandum of Understanding (MOU) with the CDFW for handling tortoises.

Upon discovery of a Desert Tortoise in a work area, all work in that area shall stop until the Desert Tortoise is relocated. An Authorized Biologist shall be on site or on call to relocate any desert tortoise found during work activities. The desert tortoise shall be monitored until the Authorized Biologist arrives.

BIO-2 Burrowing Owl: Utilizing accepted protocols, within 30 days prior to initiating mining activities, a pre-construction survey must be conducted for the Burrowing Owl by a qualified biologist.

BIO-3 Riparian Habitat/Wetlands: Prior to commencing mining activities or earth disturbing activities within the area depicted in Figure 5 of the Jurisdictional Delineation for the Lucerne Valley Pit dated December 11, 2011 prepared by Agcon Inc., the project applicant shall obtain a Section 404 Permit from the USACE, a Section 1602 Streambed Alteration Agreement from the CDFW, and a Section 401 Water Quality Certification from the RWQCB for permanent impacts 21.5 acres of jurisdictional area that are regulated by the USACE, CDFW, and the RWQCB. Impacts shall be mitigated at a 2:1 ratio through an off-site mitigation bank or the contribution of in-lieu fee program acceptable to the County of San Bernardino and the USACE, CDFW, and RWQCB.

BIO- 4 Joshua Trees: Plant species protected by state law and County ordinance; yucca, agave (Joshua tree) and cactus, will be transplanted during growth media salvage to areas which remain undisturbed until they are used in revegetation of the site.

CR-1 Cultural Resources: The developer/property owner shall submit a letter to County Planning agreeing to adhere to the following requirements and shall include a note on the grading plans and in all construction contracts/subcontracts a provision that the project contractors shall also adhere to the following requirements:

- In the event archaeological, paleontological and/or historical resources, including pottery, middens or human remains, are uncovered during earthmoving activities, all work in that area shall cease immediately and a qualified archeologist shall be retained to access the findings, and if necessary provide appropriate disposition of the resources. Earthmoving shall be diverted temporarily around the deposits until they have

been evaluated, recorded, excavated, and/or recovered as necessary. Earthmoving shall be allowed to proceed on the site when the archaeologist, in consultation with the appropriate Native American Tribe(s) and the County of San Bernardino Museum, determines the resources are recovered to their satisfaction.

- If possible human remains are encountered during any earthmoving activities, all work shall stop in the area in which the find(s) are present, and the San Bernardino County Coroner must be notified. State law dictates that the Native American Heritage Commission (NAHC) shall be notified in the event that remains are determined to be human and of Native American decent, in accordance with California Public Resources Code Section 5097.98.*

GENERAL REFERENCES

CEQA Guidelines, Appendix G.

County of San Bernardino General Plan, 2007

County of san Bernardino Development Code, 2007

County of San Bernardino Greenhouse Gas Emissions Reduction Plan, September 2011

Mojave Desert Air Quality Management District California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, August 2011.

PROJECT SPECIFIC REFERENCES

- C. *General Biological Resources Assessment – Lucerne Valley Pit, May 24, 2012 by RCA Associates, LLC*
- D. *Jurisdictional Waters Delineation for Lucerne Valley Pit, December 15, 2011 by Agcon Inc.*



MITIGATED NEGATIVE DECLARATION

385 North Arrowhead Avenue, First Floor, San Bernardino, CA 92415-0182

Project Description

Vicinity Map ↑ N

APPLICANT: HI-GRADE MATERIALS

PROJECT DESCRIPTION

APN: 0449-111-23-0000

APPLICANT: HI-Grade Materials Company

COMMUNITY: Lucerne Valley/3rd Supervisorial Dist.

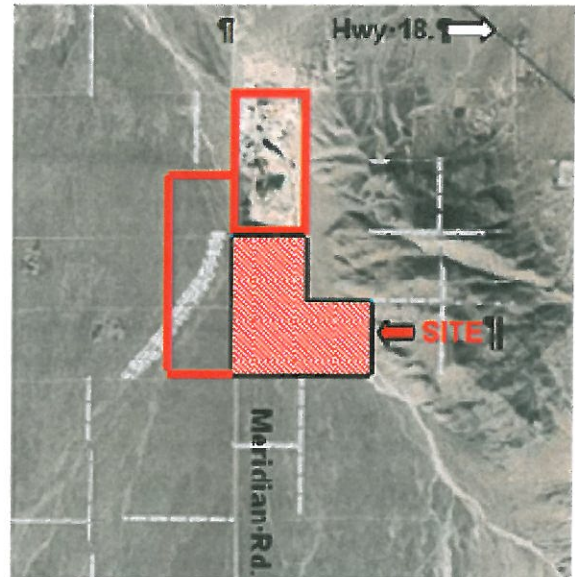
LOCATION: EMERALD ROAD, NORTH SIDE;
MERIDIAN ROAD BOTH SIDES

PROJECT NO.: AP20120009/RMC (LUCERNE VALLEY
PIT)

CONTRACT STAFF: REUBEN J. ARCEO

REP("S): WEBBER & WEBBER MINING
CONSULTANTS

PROPOSAL: AN AMENDED MINING CONDITIONAL
USE PERMIT AND RECLAMATION PLAN
TO PROVIDE FOR THE 113 ACRE
EXPANSION OF THE EXISTING EAST
PIT AREA ONTO LAND OWNED BY THE
STATES LANDS COMMISSION WITH
INSTALLATION OF AN ASPHALT BATCH
PLANT



March 4, 2014

Effective date of Mitigated Negative Declaration

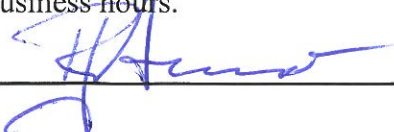
(After appeal period)

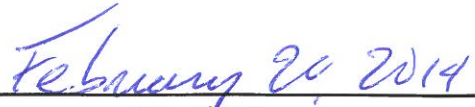
Plans and specifications for the referenced project are available for public inspection in the San Bernardino County Land Use Services Department, Planning Division.

Pursuant to provisions of the California Environmental Quality Act and the San Bernardino County Environmental Review Guidelines, the above referenced project has been determined not to have a significant effect upon the environment. An Environmental Impact Report will not be required.

Reasons to support this finding are included in the written Initial Study prepared by the San Bernardino County Land Use Services Department, Planning Division.

The decision may be appealed by any aggrieved person, organization or agency to the Board of Supervisors. Appeals shall be filed before the effective date of the Mitigated Negative Declaration listed above. The Notice of Appeal shall be in writing and shall be filed with the appropriate fee at the San Bernardino County Government Center Public Information Counter during normal business hours.





Date of Action

EXHIBIT E

Response to Comments

Exhibit E

RESPONSE to COMMENTS
for the
Lucerne Valley Pit Revision to Mining & Reclamation Plan
MITIGATED NEGATIVE DECLARATION
AP20120009

County of San Bernardino
Land Use Services Department

January 22, 2014

RESPONSES TO COMMENTS RECEIVED ON THE INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Comment letters that were received are identified as follows:

State Agencies

Native American Heritage Commission, December 9, 2013.

California Department of Transportation, December 27, 2013

California State Lands Commission, January 2, 2014.

California Department of Fish and Wildlife, January 22, 2014.

Local Agencies

None

Individuals

None

Responses to each comment are provided on the following pages. The County's responses to the comments immediately follow the comment letter and are identified as "**COUNTY RESPONSE.**"

Comment Letter from the Native American Heritage Commission

STATE OF CALIFORNIA

FISCAL ADMIN

Edmund G. Brown, Jr. Governor

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916) 373-3715
Fax (916) 373-5471
Web Site www.nahc.ca.gov
Ds_nahc@pacbell.net
e-mail: ds_nahc@pacbell.net

2013 DEC 13 AM 11:10



December 9,, 2013

Mr. Reuben J. Arceo, Land Use Planner

San Bernardino County Land Use Services Department

385 North Arrowhead Avenue
San Bernardino, CA 92415-0182

RE: SCH#2013121017; CEQA Notice of Completion; proposed Mitigate4d
Negative Declaration for the **"Lucerne Valley Mining Expansion Project;**
located in the Lucerne Valley; San Bernardino County, California

Dear Mr. Arceo:

The Native American Heritage Commission (NAHC) has reviewed the above-referenced environmental document. This project area is known to local Native American tribes to be very cultural sensitive.

The California Environmental Quality Act (CEQA) states that any project which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064.5(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

Contact the appropriate Information Center for a record search to determine :If a part or all of the area of project effect (APE) has been previously surveyed for cultural places(s), The NAHC recommends that known traditional cultural resources recorded on or adjacent to the APE be listed in the draft Environmental Impact Report (DEIR).

If an additional archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. We suggest that this be coordinated with the NAHC, if possible. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure pursuant to California Government Code Section 6254.10.

A list of appropriate Native American Contacts for consultation concerning the project site has been provided and is attached to this letter to determine if the

Comment Letter from the Native American Heritage Commission

proposed active might impinge on any cultural resources. Lack of surface evidence of archeological resources does not preclude their subsurface existence.

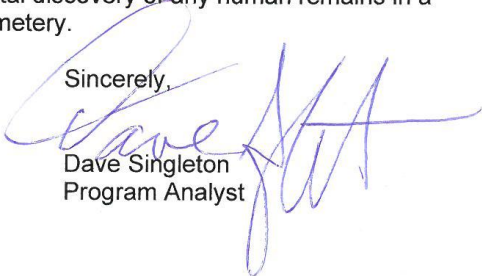
California Government Code Section 65040.12(e) defines "environmental justice" to provide "fair treatment of People...with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies" and Executive Order B-10-11 requires consultation with Native American tribes their elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, pursuant to California Health & Safety Code Section 7050.5 and California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities. Also, California Public Resources Code Section 21083.2 require documentation and analysis of archaeological items that meet the standard in Section 15064.5 (a)(b)(f).

Lead agencies should consider first, avoidance for sacred and/or historical sites, pursuant to CEQA Guidelines 15370(a). Then if the project goes ahead then, lead agencies include in their mitigation plan provisions for the analysis and disposition of recovered artifacts, pursuant to California Public Resources Code Section 21083.2 in consultation with culturally affiliated Native Americans.

Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,



Dave Singleton
Program Analyst

CC: State Clearinghouse

Attachment: Native American Contacts list

Comment Letter from Native American Heritage Commission

Native American Contacts San Bernardino County California December 9, 2013

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

San Manuel Band of Mission Indians
Carla Rodriguez, Chairwoman
26569 Community Center Drive Serrano
Highland , CA 92346
(909) 864-8933
(909) 864-3724 - FAX
(909) 864-3370 Fax

Chemehuevi Reservation
Edward Smith, Chairperson
P.O. Box 1976 Chemehuevi
Chemehuevi Valley CA 92363
chair1cit@yahoo.com
(760) 858-4301
(760) 858-5400 Fax

Fort Mojave Indian Tribe
Timothy Williams, Chairperson
500 Merriman Ave Mojave
Needles , CA 92363
(760) 629-4591
(760) 629-5767 Fax

Colorado River Indian Tribe
Wayne Patch, Sr., Chairman
26600 Mojave Road Mojave
Parker , AZ 85344 Chemehuevi
crit.museum@yahoo.com
(928) 669-9211-Tribal Office
(928) 669-8970 ext 21
(928) 669-1925 Fax

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838 Fernandeno
Newhall , CA 91322 Tataviam
tsen2u@hotmail.com Serrano
(661) 753-9833 Office Vanyume
(760) 885-0955 Cell Kitanemuk
(760) 949-1604 Fax

AhaMaKav Cultural Society, Fort Mojave Indian
Linda Otero, Director
P.O. Box 5990 Mojave
Mohave Valley AZ 86440
(928) 768-4475
LindaOtero@fortmojave.com
(928) 768-7996 Fax

Morongo Band of Mission Indians
William Madrigal, Jr., Cultural Resources Manager
12700 Pumarra Road Cahuilla
Banning , CA 92220 Serrano
(951) 201-1866 - cell
wmadrigal@morongo-nsn.
gov
(951) 572-6004 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2013121017; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the Lucerne Mine Expansion Project; located in the Lucerne Valley; San Bernardino County, California.

Comment Letter from Native American Heritage Commission

Native American Contacts
San Bernardino County California
December 9, 2013

San Manuel Band of Mission Indians
Daniel McCarthy, M.S., Director-CRM Dept.
26569 Community Center Drive Serrano
Highland, CA 92346
(909) 864-8933, Ext 3248
dmccarthy@sanmanuel-nsn.
gov
(909) 862-5152 Fax

Fort Mojave Indian Tribe
Nora McDowell, Aha Makav Society
P.O. Box 5990 Mojave
Needles, CA 92363
(928) 768-4475
noramcdowell-
antone@fortmojave.com
(760) 629-5767 Fax

Serrano Nation of Mission Indians
Goldie Walker, Chairwoman
P.O. Box 343 Serrano
Patton, CA 92369

(909) 528-9027 or
(909) 528-9032

Ernest H. Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road Serrano
Banning, CA 92220 Cahuilla
siva@dishmail.net
(951) 849-4676

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

his list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2013121017; CEQA Notice of Completion; proposed Mitigated Negative Declaration for the Lucern Mine Expansion Project; located in the Lucerne Valley; San Bernardino County, California.

Comment Letter from Native American Heritage Commission

COUNTY RESPONSE:

In order to mitigate to cultural resources to the maximum extent feasible, the following mitigation measure was included in the Initial Study/Mitigated Negative Declaration:

CR-1: The developer/property owner shall submit a letter to County Planning agreeing to adhere to the following requirements and shall include a note on the grading plans and in all construction contracts/subcontracts a provision that the project contractors shall also adhere to the following requirements:

- In the event archaeological, paleontological and/or historical resources, including pottery, middens or human remains, are uncovered during earthmoving activities, all work in that area shall cease immediately and a qualified archeologist shall be retained to access the findings, and if necessary provide appropriate disposition of the resources. Earthmoving shall be diverted temporarily around the deposits until they have been evaluated, recorded, excavated, and/or recovered as necessary. Earthmoving shall be allowed to proceed on the site when the archaeologist, in consultation with the appropriate Native American Tribe(s) and the County of San Bernardino Museum, determines the resources are recovered to their satisfaction.*
- If possible human remains are encountered during any earthmoving activities, all work shall stop in the area in which the find(s) are present, and the San Bernardino County Coroner must be notified. State law dictates that the Native American Heritage Commission (NAHC) shall be notified in the event that remains are determined to be human and of Native American decent, in accordance with California Public Resources Code Section 5097.98.*

With implementation of Mitigation Measure CR-1, the concerns expressed by the Native American Heritage Commission are addressed.

Finding: No revisions to the Initial Study/Mitigated Negative Declaration are required.

Comment Letter from California Department of Transportation

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION

DISTRICT 8

PLANNING (MS 725)

464 WEST 4th STREET, 6th FLOOR

SAN BERNARDINO, CA 92401-1400

PHONE (909) 383-4557

FAX (909) 383-5936

TTY 711

www.dot.ca.gov/dist8

2014 JAN -3 AM 10:26



*Flex your power!
Be energy efficient!*

December 27, 2013

County of San Bernardino
Land Services Department
Reuben J. Arceo
385 North Arrowhead Avenue
San Bernardino, CA 92415-0182

Subject: Lucerne Valley Mine Expansion-Highway 18 and Meridian Road (SBD18 PM 65.917)

Dear Mr. Arceo:

The Department of Transportation (Caltrans) has reviewed the above project for the proposed expansion area located one mile south of Highway 18 at 8701 Meridian Road, in the community of Lucerne Valley, and has the following comments:

Traffic Study

- A Traffic Impact Study (TIS) is necessary to determine this proposed project's near-term and long-term impacts to the State facilities and to propose appropriate mitigation measures. The study should be based on Caltrans' *Guide for the Preparation of Traffic Impact Studies (TIS)* which is located at the following website:

http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

Minimum contents of the traffic impact study are listed in Appendix "A" of the TIS guide.

- The data used in the TIS should not be more than 2 years old.
- The geographic area examined in the traffic study should include as a minimum all regionally significant arterial system segments and intersections, including State highway facilities where the project will add over 100 peak hour trips. State highway facilities that are experiencing noticeable delays should be analyzed in the scope of the traffic study for projects that add 50 to 100 peak hour trips.

"Caltrans improves mobility across California"

Comment Letter from California Department of Transportation

Mr. Reuben J. Arceo
December 27, 2013
Page 2

- Traffic Analysis Scenarios should clearly be exhibited as exiting, existing + project, existing + project + cumulative, and existing + project + cumulative + ambient growth.
- Caltrans endeavors that any direct and cumulative impacts to the State highway system be eliminated or reduced to a level of insignificance pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) standards.
- The LOS for operating State highway facilities is based upon Measures of Effectiveness (MOE) identified in the Highway Capacity Manual (HCM). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than this target LOS, the existing MOE should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways, roadway segments, and intersections is "D". For undeveloped or not densely developed locations, the goal may be to achieve LOS "C".
- Clearly indicate LOS with and without improvements.
- It is recommended that the Synchro Analysis includes all intersections from the Project site to the proposed study areas. A PHF of 0.92 in urban areas is recommended to be used in the Synchro Analysis.
- All freeway entrance and exit ramps where a proposed project will add a significant number of peak-hour trips that may cause any traffic queues to exceed storage capacities should be analyzed. If ramp metering is to occur, a ramp queue analysis for all nearby Caltrans metered on-ramps is required to identify the delay to motorists using the on-ramps and the storage necessary to accommodate the queuing. The effects of ramp metering should be analyzed in the traffic study. For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.
- Proposed improvements should be exhibited in preliminary drawings that indicate the LOS with improvements.

"Caltrans improves mobility across California"

Comment Letter from California Department of Transportation

Mr. Reuben J. Arceo
December 27, 2013
Page 3

- Submit a hard copy of all Traffic Impact Analysis documents and an electronic Synchro Analysis file.

We appreciate the opportunity to offer comments concerning this project. If you have any questions regarding this letter, please contact Dina Harrell at (909) 388-7139 or myself at (909) 383-4557 for assistance.

Sincerely,



DANIEL KOPULSKY
Office Chief
Community and Regional Planning

"Caltrans improves mobility across California"

Comment Letter from California Department of Transportation

COUNTY RESPONSE:

According to *Guide for the Preparation of Traffic Impact Studies*, State of California Department of Transportation, December 2002, a Traffic Impact Study (TIS) is required under the following circumstances:

“II A. Trip Generation Thresholds

The following criterion is a starting point in determining when a TIS is needed. When a project:

1. *Generates over 100 peak hour trips assigned to a State highway facility*
2. *Generates 50 to 100 peak hour trips assigned to a State highway facility – and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS “C” or “D”).*
3. *Generates 1 to 49 peak hour trips assigned to a State highway facility*⁴ – *the following are examples that may require a full TIS or some lesser analysis :*
 - a. *Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS “E” or “F”).*
 - b. *The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.).*
 - c. *Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).*

⁴ A “lesser analysis” may include obtaining traffic counts, preparing signal warrants, or a focused TIS, etc.”

The nearest State highway facility is SR 18 which is located approximately one (1) mile north of the Project site.

Based on information obtained from the Caltrans website, the segment of SR 18 in the vicinity of the project site (SR 18 @ Lucerne JCT RTE 247) is currently operating at LOS B with a total of 790 peak hour trips in both directions.

Comment Letter from California Department of Transportation

Currently fifteen (15) people are employed with the possibility of increasing to twenty (20) people at full production levels. Truck traffic from the Project site is directly related to market demand and will range from 72 to 170 trips per day. The Project will not result in peak hour trips in excess of 50 trips as the maximum number of daily trips (172) is dispersed over an eight hour period.

The Project does not involve any road improvements or design features that affects a State highway facility. Primary access will remain off Meridian Road which is improved to County standards. Based on the above, the requirement for a TIS (or lesser analysis) as identified in Criterion 1 through 3 above is not applicable.

Finding: The Final Initial Study/Mitigated Negative Declaration has been clarified with respect to trip generation and the requirement for a TIS. This clarification does not change the conclusions drawn by the Draft Initial Study/Mitigated Negative Declaration or provide any new substantive information related to the Project or a Project-related significant environmental effect. Recirculation of the Initial Study//Mitigated Negative Declaration is not required.

Comment Letter from California State Land Commission

STATE OF CALIFORNIA

EDMUND G. BROWN JR., Governor

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202



JENNIFER LUCCHESI, Executive Officer
(916) 574-1800 Fax (916) 574-1810
California Relay Service TDD Phone 1-800-735-2929
from Voice Phone 1-800-735-2922

Contact Phone: (916) 574-1900
Contact Fax: (916) 574-1885

January 2, 2014

File Ref: SCH #2013121017

Mr. Reuben Arceo
San Bernardino County Land Services Dept.
385 North Arrowhead Avenue
San Bernardino, CA 92415-0182

Subject: Mitigated Negative Declaration (MND) for the Lucerne Valley Mine Expansion, San Bernardino County

Dear Mr. Arceo:

The California State Lands Commission (CSLC) staff has reviewed the subject MND for the Lucerne Valley Mine Expansion (Project), which is being prepared by San Bernardino County (County). The County, as the public agency with primary authority over the Project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.). The CSLC will act as a responsible agency because of its duty as the trustee of school lands to monitor projects that could directly or indirectly impact these lands.

CSLC Jurisdiction

In 1853, the United States Congress granted to California nearly 5.5 million acres of land for the specific purpose of supporting public schools. In 1984, the State Legislature passed the School Land Bank Act (Act), which established the School Land Bank Fund and appointed the CSLC as its trustee (Pub. Resources Code § 8700 et seq.). The Act directed the CSLC to develop school lands into a permanent and productive resource base for revenue generating purposes. The CSLC manages approximately 469,000 acres of school lands still held in fee ownership by the State and the reserved mineral interests on an additional 790,000± acres where the surface estate has been sold. Revenue from school lands is deposited in the State Treasury for the benefit of the Teachers' Retirement Fund (Pub. Resources Code § 6217.5).

Hi-Grade Materials Company (Hi-Grade) holds a mineral extraction lease on 116 acres of State school lands (Leased Lands) within the Project area. The mineral extraction lease requires Hi-Grade to develop the Leased Lands in accordance with the Mining Conditional Use Permit (CUP) and Reclamation Plan (RP) No. 10507 SM1/06M-001 approved by the County Planning Commission on March 1, 2006. In July 2010, mining production began on a portion of the Leased Lands under the approved RP. Under the terms of the CSLC lease with Hi-Grade, Hi-Grade must "develop the Leased Lands

Comment Letter from California State Land Commission

Reuben Arceo

Page 2

January 2, 2014

according to the Mining CUP/RP, or any approved modifications of the Mining CUP/RP." On July 8, 2013, the Lucerne Valley Pit RP was amended to reflect the currently proposed Project.

Project Description

The Lucerne Valley Mine is located southeast of Lucerne Valley approximately one mile south of Highway 18 near the intersection of Emerald Road and Meridian Road. The existing mine site consists of the existing East Pit area and a West Pit expansion area totaling approximately 215 acres. The Project proposes: (1) expansion of the existing East Pit area southward into approximately 113 acres of land, owned by the State of California and managed by the CSLC, for sand and gravel excavations; (2) addition of an asphalt batch plant; and (3) revisions to the on-site drainage system. The expansion area will be excavated down approximately 200 feet using 2:1 slopes.

Environmental Review

1. Cultural Resources: Title to Resources - The MND should mention that the title to all archaeological sites and historic or cultural resources on school lands are vested in the State and under the jurisdiction of the CSLC. CSLC staff requests that the County consult with Senior Staff Counsel Pam Griggs (see contact information below) if any cultural resources on State lands are discovered during Project construction.

Thank you for the opportunity to comment on the MND for the Project. As a responsible and trustee Agency, the CSLC would need to rely on the Final MND for the issuance of any lease amendments, if required.

Please send copies of future Project-related documents, including electronic copies of the Final MND, Mitigation Monitoring and Reporting Program (MMRP), and Notice of Determination (NOD) when they become available, and refer questions concerning environmental review to Cynthia Herzog, Senior Environmental Scientist, at (916) 574-1310 or via e-mail at Cynthia.Herzog@slc.ca.gov. For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Senior Staff Counsel Pam Griggs at (916) 574-1854 or via email at Pamela.Griggs@slc.ca.gov. Please refer questions concerning CSLC jurisdiction and minerals to Greg Pelka at (562) 590-5227 or via e-mail at Greg.Pelka@slc.ca.gov.

Sincerely,



Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
Greg Pelka, MRMD, CSLC
Cynthia Herzog, DEPM, CSLC
Joe Fabel, Legal, CSLC

Comment Letter from California State Land Commission

COUNTY RESPONSE:

The following Mitigation Measure is added to the Mitigated Negative Declaration:

CR-2: The developer/property owner shall submit a letter to County Planning agreeing to adhere to the following requirements and shall include a note on the grading plans and in all construction contracts/subcontracts a provision that the project contractors shall also adhere to the following requirements:

- *Title to all archaeological or historic resources are vested in the State and under the jurisdiction of the California State Lands Commission (CSLC). In the event archaeological or historic resources are uncovered during earthmoving activities on lands vested in the State and under the jurisdiction of the California State Lands Commission, all work in that area shall cease immediately and the County shall consult with Senior Staff Counsel Pam Griggs by phone at (916) 574-1854 or by email at Pamela.Griggs@slc.ca.gov.*

Finding: The Final Initial Study/Mitigated Negative Declaration has been revised to add Mitigation Measure CR-2. This revision does not change the conclusions drawn by the Draft Initial Study/Mitigated Negative Declaration or provide any new substantive information related to the Project or a Project-related significant environmental effect and the addition of Mitigation Measure CR-2 in conjunction with Mitigation Measure CR-1 is considered to be equivalent or more effective with respect to preserving cultural resources. Recirculation of the Initial Study/Mitigated Negative Declaration is not required.

Comment Letter from California Department of Fish & Wildlife



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Blvd, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



January 22, 2014

Mr. Reuben K Arceo
County of San Bernardino
Land Use Services Department
385 North Arrowhead Ave
San Bernardino, CA 92415-0182

Re: General Biological Resources Assessment for the Lucerne Valley Mine
Expansion. SCH: 2013121017

Dear Mr. Arceo:

The California Department of Fish and Wildlife (CDFW) is providing comments on the General Biological Resources Assessment associated with the Lucerne Valley Mine Expansion. San Bernardino County (Lead Agency) proposes the expansion of the existing east pit area through mining extending to the southwest into land owned by the California State Lands Commission. This expansion would be opened for excavations to supplement sand and gravel production when warranted by market conditions. The expansion will add 113 acres to the Lucerne Valley Pit for a total operation of 215 acres (Project). The Project is located southwest of Lucerne Valley approximately one mile south of Highway 18 in San Bernardino County, California.

San Bernardino County circulated the Project's Initial Study/ Mitigated Negative Declaration (IS/MND) for public review in January 2014 and CDFW provided comments in a letter dated January 3, 2014. However, the General Biological Resources Assessment was not included in the package therefore, CDFW did not have the opportunity to comment or provide recommendations. CDFW is providing comments on the General Biological Recourse Assessment as the State agency which has statutory and common law responsibilities with regard to fish and wildlife resources and habitats. California's fish and wildlife resources, including their habitats, are held in trust for the people of the State by CDFW (Fish and Game Code §711.7). CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitats necessary for biologically sustainable populations of those species (Fish and Game Code §1802). CDFW's fish and wildlife management functions are implemented through its administration and enforcement of the Fish and Game Code (Fish and Game Code §702). CDFW is a trustee agency for fish and wildlife under the California Environmental Quality Act (CEQA; CEQA Guidelines, Title 14 California Code of Regulations §15386(a)). CDFW is providing these comments in furtherance of these statutory responsibilities, as well as its common law role as trustee for the public's fish and wildlife.

Comment Letter from California Department of Fish & Wildlife

Mr. Arceo
Lucerne Valley Mine Expansion Biological Resources Assessment
January 22, 2014
Page 2

Desert tortoise

According to the Project's General Biological Resource Assessment, state threatened desert tortoise (*Gopherus agassizi*) protocol level surveys were performed on May 18, 2012. Protocol level survey results are valid for one year during the calendar year they were conducted. Thus, CDFW recommends a qualified biologist perform updated surveys for presence of desert tortoise. If the surveys indicate the onsite presence of desert tortoise, a California Endangered Species Act (CESA) Incidental Take Permit (ITP) may be warranted to preclude unlawful take of a listed species along with consultation with the United States Fish and Wildlife Service.

Without the updated protocol survey results, CDFW cannot concur with the General Biological Resource Assessment Section 6.0 Proposed Mitigation Measure that states *"no sensitive species were observed nor are any sensitive species expected to occur on the site based on the results of the field investigations, results of the focused tortoise survey, and absence of any observations in the immediately adjacent areas. No mitigation measures are proposed at the present time for any sensitive wildlife species."*

Mohave Ground Squirrel

According to the California Natural Diversity Database, state threatened Mohave ground squirrel (*Spermophilus mohavensis*) has been documented within a five mile radius of the project site. CDFW recommends that potential Project impacts to Mohave ground squirrel be discussed and analyzed in the IS/MND and the General Biological Resource Assessment. If the analysis indicates suitable habitat for the Mohave ground squirrel is present on site, then surveys may be required to determine presence or absence of the species. If the survey results conclude presence of the species, then a CESA ITP may be warranted to preclude unlawful take of a listed species.

Thank you for this opportunity to comment. Please contact Heather Weiche, Environmental Scientist, at (909) 980-8706 or heather.weiche@wildlife.ca.gov, if you have any questions regarding this letter.

Sincerely,



Heidi A. Sickler
Senior Environmental Scientist

cc: Heather Weiche
Chron

Comment Letter from California Department of Fish & Wildlife

COUNTY RESPONSE:

The Biological Resources Assessment prepared for the project site dated May 24, 2012 found that none of the sensitive species (including Desert Tortoise and Mojave Ground Squirrel) that have been documented within five miles of the project site were observed during the general biological surveys as well as the focused Desert Tortoise surveys.

The project site was re-assessed on October 17, 2013 and it was determined that there have been no changes in the site conditions, and the results presented in the May 2013 Biological Resources Assessment are still valid. (See attached letter from RCA Associates, LLC).

Finding: The Final Initial Study/Mitigated Negative Declaration has been clarified to indicate that the Biological Resources Assessment was updated on October 17, 2013. This clarification does not change the conclusions drawn by the Draft Initial Study/Mitigated Negative Declaration or provide any new substantive information related to the Project or a Project-related significant environmental effect. Recirculation of the Initial Study//Mitigated Negative Declaration is not required.

Comment Letter from California Department of Fish & Wildlife



15555 Main Street, #D4-235
Hesperia, California 92345
(760) 956-9212 fax (760) 244-0791
rca123@aol.com
www.rcaassociatesllc.com

October 22, 2013

Mr. Reuben J. Arceo
Contract Planner
SB County Land Services Department

RE: General Biological Resources Assessment for Lucerne Valley Pit
APN 0449-111-33; Conditional Use Permit 10507SM1/DN3344-89
Subject: Updated evaluation RCA Project #2011-6

Dear Mr. Arceo:

RCA Associates LLC initially conducted biological surveys on the Lucerne Valley Pit on May 18, 2012 and focused desert tortoise surveys on May 21, 22, and 23, 2011 at the request of Hi-Grade Materials. A report dated May 24, 2012 was prepared for submittal to the County as part of the documents required for review of the proposed mining project. No sensitive wildlife species were observed during the general field investigations or during the desert tortoise surveys performed in May 2012.

At the request of Hi-Grade Materials, we re-evaluated the property to determine if there had been any significant changes since the original surveys performed in May 2012. Based on the additional assessment performed on October 17, 2013, it was determined that there have been no changes in the site conditions, and the results presented in the previous report dated May 24, 2012 are still valid, and no sensitive species are expected to be impacted by then proposed project.

If you have any questions, please contact me at (760) 956-9212.

Sincerely,

A handwritten signature in black ink, appearing to read "Randall C. Arnold, Jr.", is written over a printed name and title.

Randall C. Arnold, Jr.
Principal & Senior Biologist

HDFile:#RCAStat#9 (#2011-6)

EXHIBIT F

Revised Revegetation Plan For Lucerne Valley Pit Expansion Area

**REVISED
REVEGETATION PLAN
FOR
LUCERNE VALLEY PIT
EXPANSION AREA**

**CONDITIONAL UISE PERMIT
10507SM1/DN334-89
APN 0449-111-33**

SAN BERNARDINO, CALIFORNIA
(USGS Lucerne Valley, CA Quad.; Township 4 North, Range 1 East, Sections 25 & 30)

Prepared for:

**Hi-Grade Materials
17671 Bear Valley Road
Hesperia, CA 92345
(760) 244-9325**

Prepared by:

**RCA Associates, LLC
15555 Main Street, #D4-235
Hesperia, California 92345
Randall C. Arnold, Jr.
Principal Investigators: Randall C. Arnold, Jr. &
Patricia Moore
Report prepared by: P. Moore & R. Arnold
Project: #2012-45**

REPORT REVISED JANUARY 23, 2014

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EXECUTIVE SUMMARY

Hi-Grade Materials is applying for a Conditional Use Permit to expand an existing mine located in San Bernardino County (Figures 1 and 2). The proposed mine expansion encompasses approximately 328-acres in total size and encompasses a portion west of Meridian Road (West Pit Expansion Area) and a portion immediately south of the existing mine (State Lands Phase 2 Expansion Area) (Sections 25 and 30, Township 4 North, Range 1 East) (Figures 2 and 3). Therefore, re-vegetation of the expansion areas will need to be conducted following completion of all mine activities. To meet the requirements of the California State Mining and Reclamation Act, this plan has been prepared to outline the steps which will be undertaken to accomplish re-vegetation of the site. Baseline surveys were conducted May 17 and 18, 2012 to determine the botanical baseline which would be used to develop the re-vegetation plan. The proposed expansion areas support a relatively undisturbed creosote bush community typical of the area. Dominant species included creosote bush (*Larrea tridentata*), Joshua tree (*Yucca brevifolia*), ephedra (*Ephedra nevadensis*), and burrobush (*Ambrosia dumosa*). The total composition of the plant community is discussed below.

1.0 PROJECT AND PROPERTY DESCRIPTION

At the request of Hi-Grade Materials, baseline botanical surveys were conducted on May 17 and 18, 2012 on the 328-acre parcel located along Meridian Road about 1.3 miles south of State Highway 18 in San Bernardino County (Township 4 North, Range 1 East, Sections 25 and 30) (Figures 1 and 2). The proponent is proposing to expand an existing mine, which is located east of Meridian Road (Figure 3).

The expansion areas are relatively flat with a slight slope to the north and are located at elevations ranging from about 3,260 to 3,700 MSL. Soils on the site consisted of gravelly/sandy loam. The expansion areas are bordered on the west, north, and south by vacant lands and on the north and east by the existing mine (Figure 1). The Lucerne Valley quadrangle shows blue line channels bisecting the expansion areas in a north-south direction (Figure 2). Numerous channels were observed on the site during the field investigations corresponding to the channels shown on the USGS quadrangle.

Weather conditions during the May 17 and 18, 2012 survey consisted of winds of 0 to 5 mph, temperatures in the low 50's (°F) (AM) to high 80's (°F) (PM) with 0 to 5 percent cloud coverage. The site supports a creosote bush community (*Larrea tridentata*) with burrobush (*Ambrosia dumosa*), Joshua tree (*Yucca brevifolia*), ephedra (*Ephedra nevadensis*) and matchweed (*Gutierrezia sarothrae*) the dominant perennials (Figures 4). Section 3.0 provides a detailed discussion of the plant community.

The legal description is provided below:

BEING A PORTION OF A SUBDIVISION OF A PORTION OF SECTIONS 25 & 30,
TOWNSHIP 4 NORTH, RANGE 1 EAST, SBM, RECORDS OF SAN BERNARDINO
COUNTY, CALIFORNIA.

This re-vegetation plan was prepared to comply with the California State Mining and reclamation Act (SMARA) performance standards for re-vegetation (PRC Section 3705). The primary purpose of the plan is to develop a program that will re-establish vegetative conditions on the reclaimed portions of the site which are similar to those present on undisturbed portions of the Hi-Grade Lucerne Valley Pit expansion area. A second objective is to monitor, maintain and assess the results of the completed re-vegetated areas utilizing test plots and transects in order to compare the re-vegetation data with the baseline data. The re-vegetation data will also be compared to the success criteria. The first portion of the report will address reproducing the mixture of plant species now present on the undisturbed portions of the site. The second part will address monitoring, maintaining, and assessing the completed re-vegetated areas by utilizing test plots and/or transects compared to baseline data and the approved success criteria. Implementing remedial actions will also be addressed, as necessary.

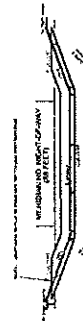
2. The approved Wiping Plan (2008) is being revised primarily to include a minimum requirement that brush created by fire California State Lands, California, addition of an integral brush pile to the site, and additions to the existing compost center.
3. The plan requires the removal of brush and gravel over a specified life of 20 years. 20 years for the pile, and 10 years for the gravel. The plan also requires that the brush pile be completed by the year 2026, with final stabilization by the year 2041.
4. It is proposed to install an asphalt brush pile near one of the alternate third baselines, as shown.



SIGNS ARE NOT
PROPOSED AT THIS TIME

| | | |
|--------------------------|---|--|
| MINERAL: Sand and Gravel | H-Gravel Industries, Inc. 17871 Bear Valley Road Hesperia, California 92345 | (760) 341-3125 |
| APPLICANT: | | |
| MINERAL RIGHTS: | H-Gravel Industries, Inc. 17871 Bear Valley Road Hesperia, California 92345 (760) 341-3125 | Cl. Title, Lease, Convey. 200 Ocmungwa 12th Tier 200 Ocmungwa CA 90087 1000 Ocmungwa CA 90087 (214) 477-7000 |
| LANDOWNER: | | |
| REPRESENTATIVE: | 107 S. Main Street Hesperia, California 92345 | (602) 935-3416 |
| NAMING ORIGINALLY: | | |
| WAP PROPOSER: | | |

| | | | | | |
|-------------------|--|---------------|--|----------------------|--|
| CONTOUR INTERVAL: | | 1" = 100' | | 5. REVISION | |
| DATE: | | March 2011 | | REVISION NO. DATE BY | |
| DRAWN BY: | | L. Suchtinger | | | |
| CHECKED BY: | | F. Markham | | | |
| APPROVED BY: | | | | | |
| SHEET | | 2 of 4 | | | |



TYPICAL CONVEYOR TUNNEL ALIGNMENT

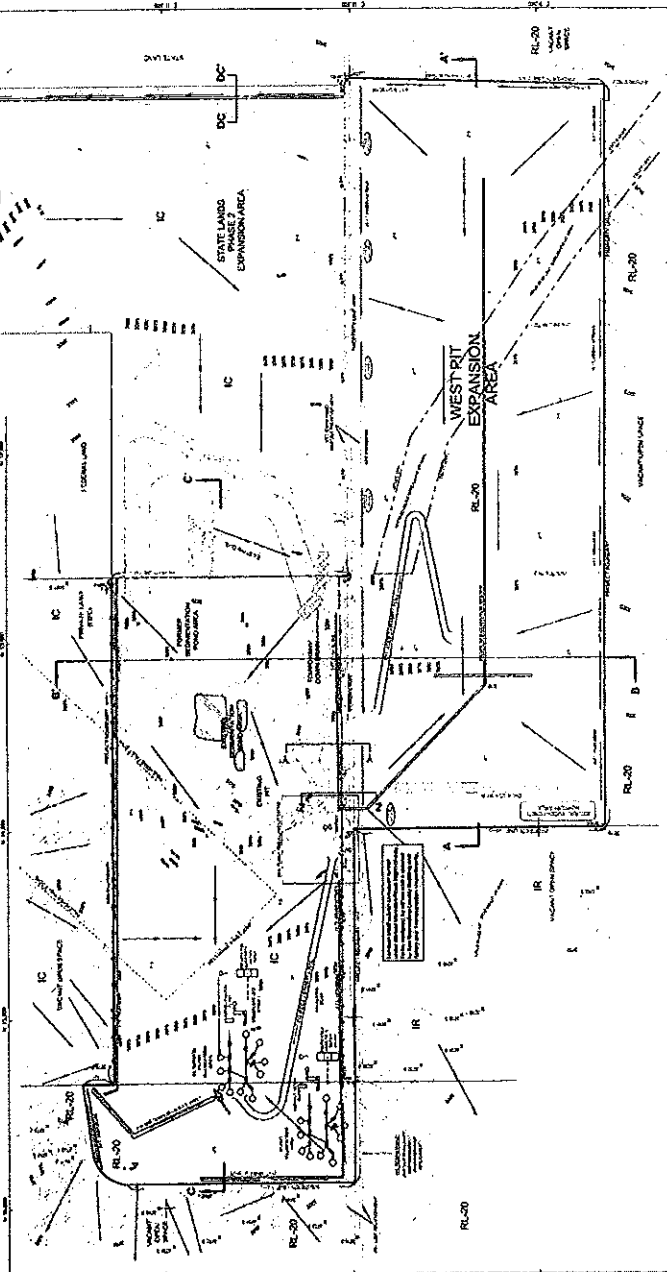


TYPICAL CONVEYOR TUNNEL SECTION

Overhang Runs Into the State Lands Dispute
Acrop will be sold in 2 to 3 years.
Phase 1 will consist of the existing site
southward, to provide an exchange from the
existing phase.
Phase 2 will replace the site with a jetty
channel and exchange system in a second
exchange leading into the State Lands Exchange
Area from the existing site (Sheet 4 of 4).
For additional details, see Overhang Study prepared
by Hill and Foreman, Inc., Sept. 10, 1970.



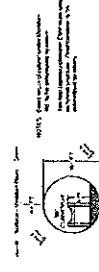
PROCESSING PLANT CROSS-SECTION



| | |
|--|-------------|
| EXISTING PROJECT AREA (PCB CONTAMINATED) | 215.0 Acres |
| EXISTING AREA DISTURBED | 0.0 Acres |
| FUTURE AREA TO BE DISTURBED | 0.0 Acres |
| TOTAL AREA TO BE RECLAIMED | 0.0 Acres |

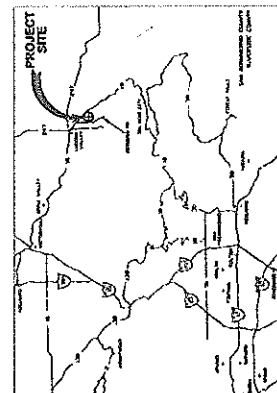
ISOL DISCONTINUITY

NAME: _____



TYPICAL CONVEYOR TUNNEL SECTION

VICINITY MAP

[illegible]

WEBBER & WEBBER
MINING CONSULTANTS, INC.
101 East Redlands Blvd., Ste. 240
Redlands, California 92373

SHEET
2 of 4

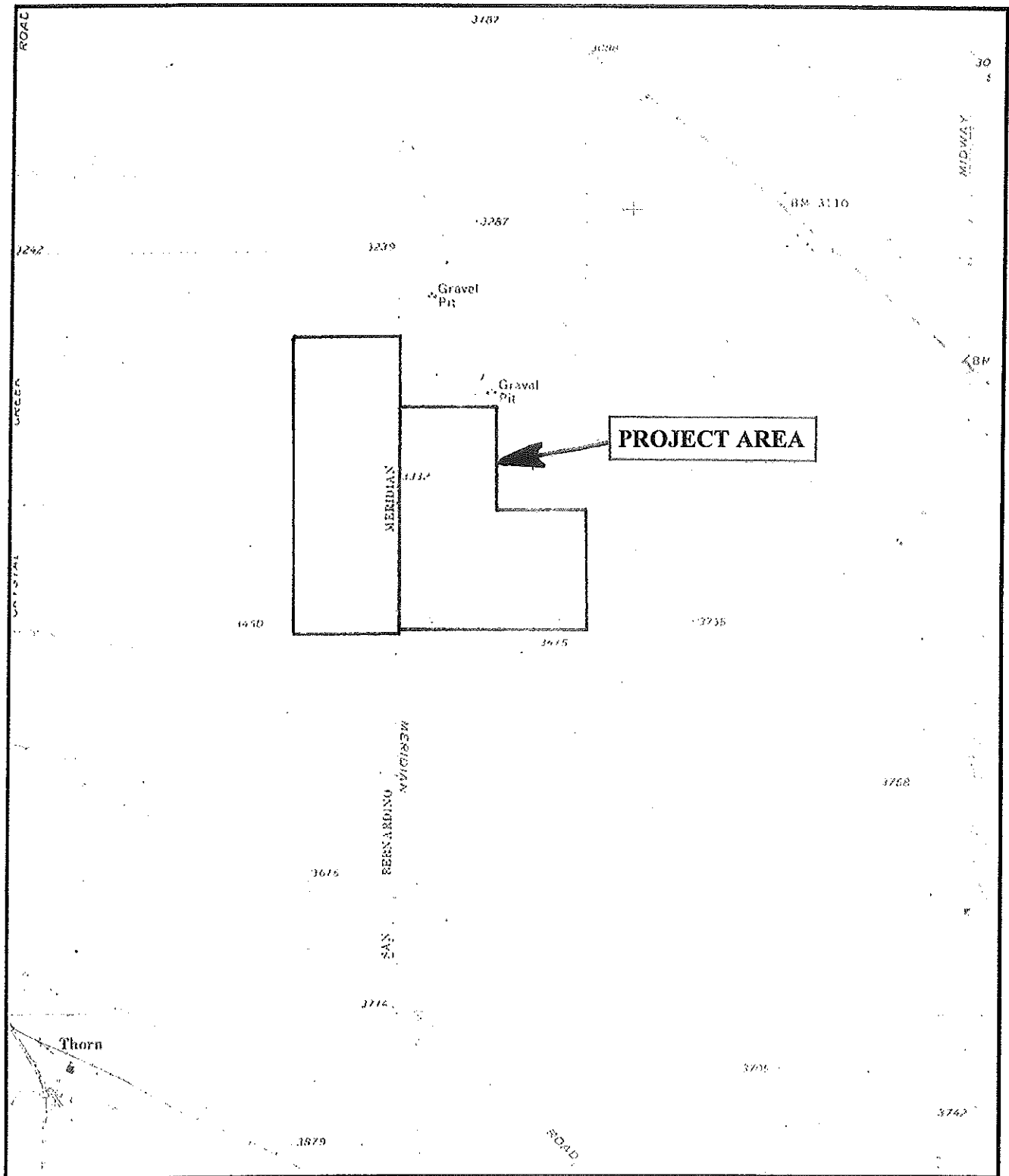
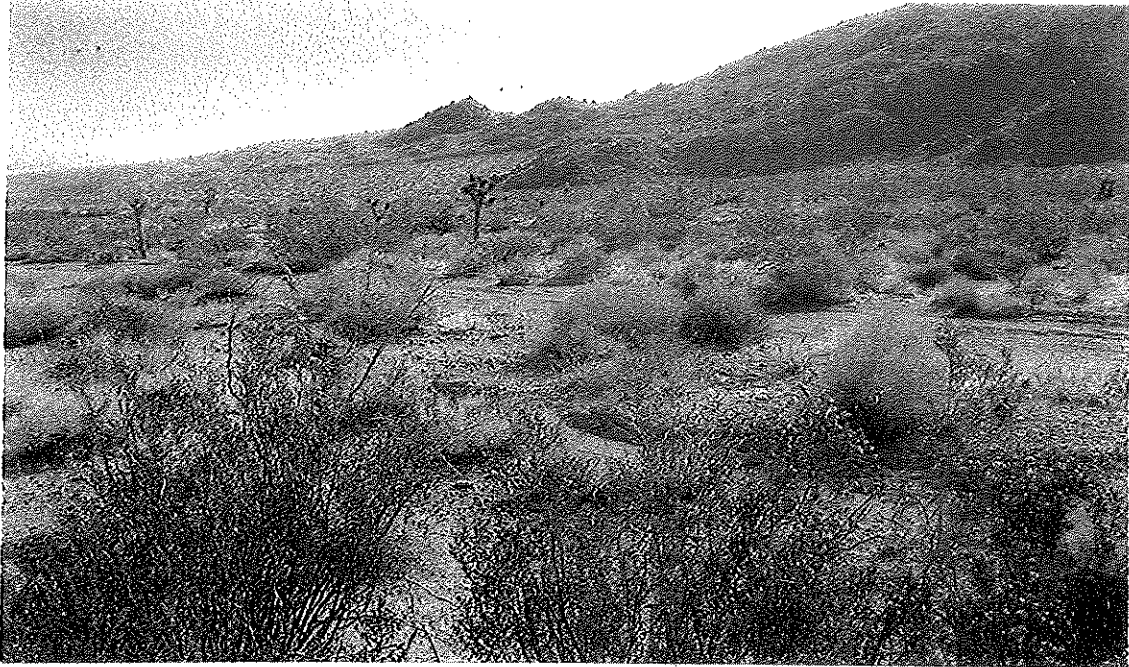


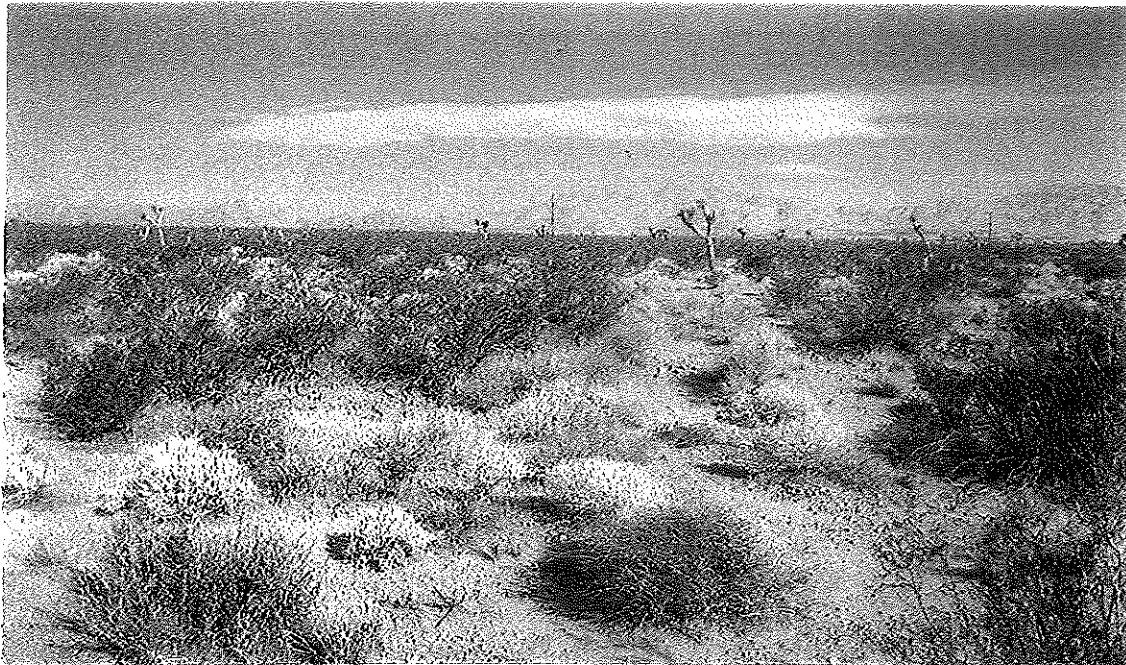
FIGURE 2

USGS Lucerne Valley, California Quadrangle (1971)
(CUP 10507SM1/DN334-89, APN 0449-111-33)





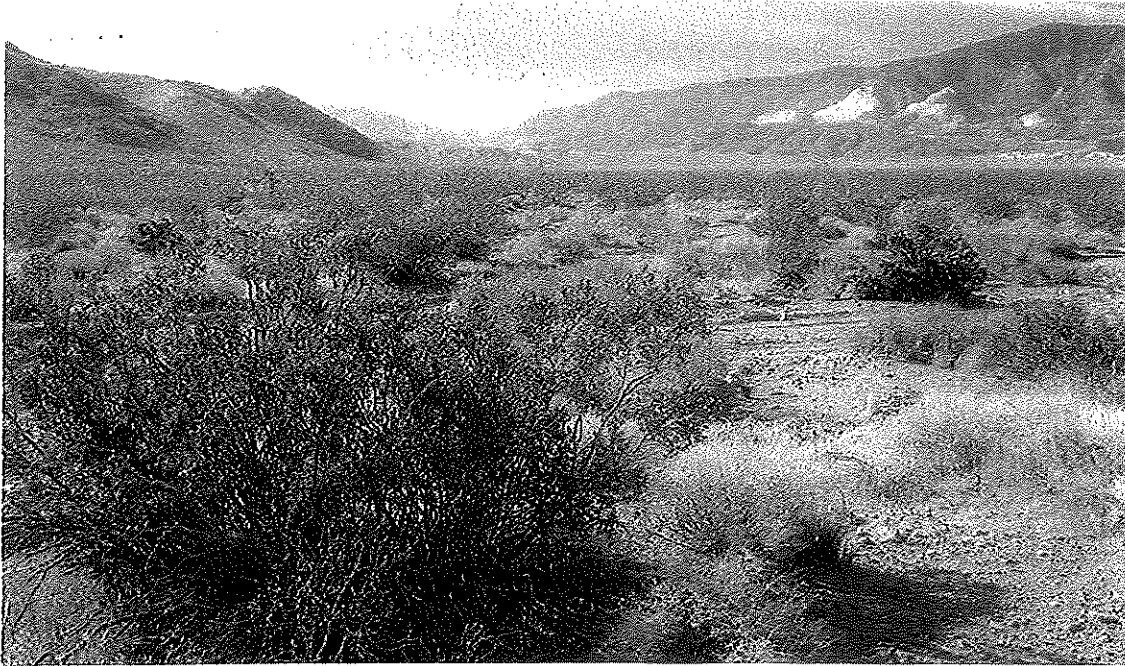
SW CORNER LOOKING NE



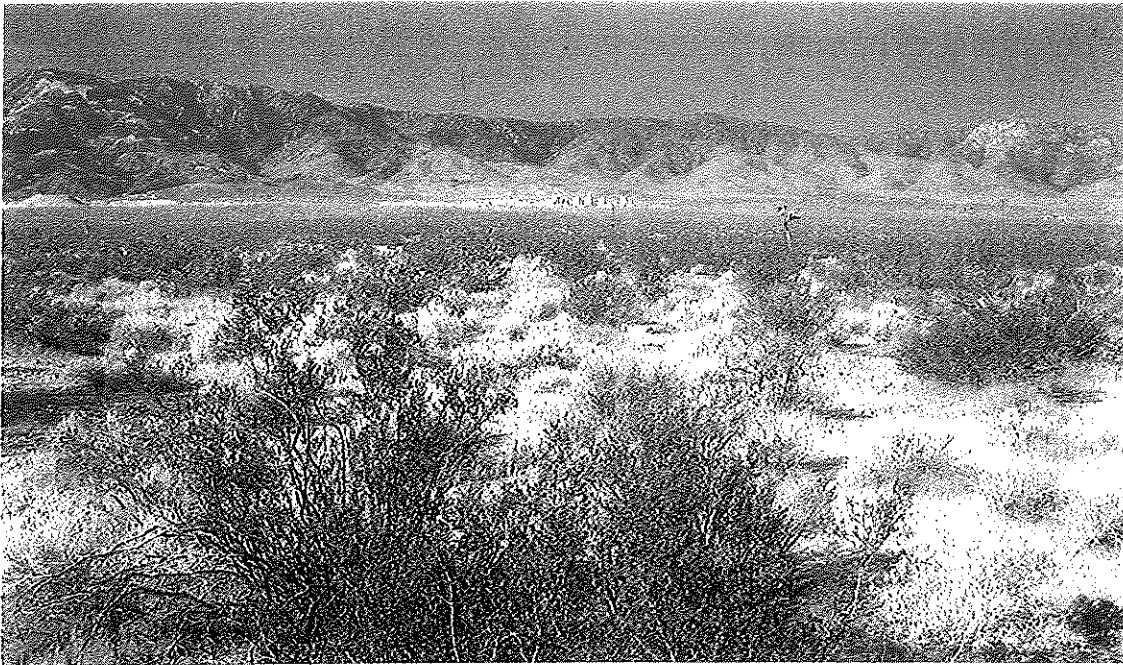
SE CORNER LOOKING NW

FIGURE 3

SITE PHOTOGRAPHS
(CUP 10507SM1/DN334-89, APN 0449-111-33)



NW CORNER LOOKING SE



NE CORNER LOOKING SW

FIGURE 3, cont.

SITE PHOTOGRAPHS
(CUP 10507SM1/DN334-89, APN 0449-111-33)

2.0 METHODOLOGY

Baseline biological surveys were conducted on May 17 and 18, 2012 during which biologists Randall C. Arnold, Jr. and Patricia Moore from RCA Associates, LLC established a total of 44-belt transects that were 50 meters by one meter. During the baseline investigations the perennial plant species were recorded along each transect. All transects were randomly placed at various locations throughout the proposed expansion areas in order to maximize the heterogeneity of the sample. Transects were utilized to establish the density and diversity of each species per unit area, and to provide baseline information on the site conditions prior to expansion of the existing mine. All the perennial species within the transects were counted and the length and width of each plant within the transects were measured and an estimated cover was generated using these two measurements. The transect data collected during the inventory provides baseline information in order to determine seed types and seeding rates, and is utilized to determine success criteria for future re-vegetation .

3.0 EXISTING BASELINE BOTANICAL CONDITIONS

The proposed expansion areas support a relatively undisturbed uniformly distributed creosote bush (*Larrea tridentata*) community. Co-dominants included co-dominants burrobush (*Franseria dumosa*), ephedra (*Ephedra nevadensis*), and matchweed (*Gutierrezia sarothrae*) (Figure 4). Other perennials that were observed throughout the site included Whipple's yucca (*Yucca whipplei*), Spanish dagger (*Yucca schidigera*), Joshua tree (*Yucca brevifolia*), cheesebush (*Hymenoclea salsola*), and cotton-thorn (*Tetradymia spinosa*). Annuals were relatively diverse with erodium (*Erodium texanum*), schismus (*Schismus barbatus*), California poppy (*Eschscholzia californica*), wild oats (*Avena fatua*), needle grass (*Stipa* sp.), and various grass species (Unidentified species). Other annuals noted included fiddleneck (*Amsinckia tessellata*) and buckwheat (*Eriogonum fasciculatum*) and desert trumpet (*E. inflatum*). A compendium of all of the plants that have been identified on the site is provided in back of the report.

The principal species recorded during the baseline surveys were: creosote bush (*Larrea tridentata*), approximately 40% of the relative ground cover and 294 individual plants; burrobush (*Ambrosia dumosa*), approximately 36% of the relative ground cover and 794 individual plants; ephedra (*Ephedra nevadensis*), approximately 12% of the relative ground cover and 178 individual plants; purple heather (*Krameria erecta*), approximately 9% of the relative ground cover and 148 individual plants; galleta grass (*Pleuraphis rigida*), approximately 3% of relative cover and 238 individual plants; and desert trumpet (*Eriogonum inflatum*), approximately 2% of the relative ground cover and 709 individual plants. These measurements were recorded over the total area of 2,200 square meters sampled. Table 1 summarizes the data collected during the baseline surveys.

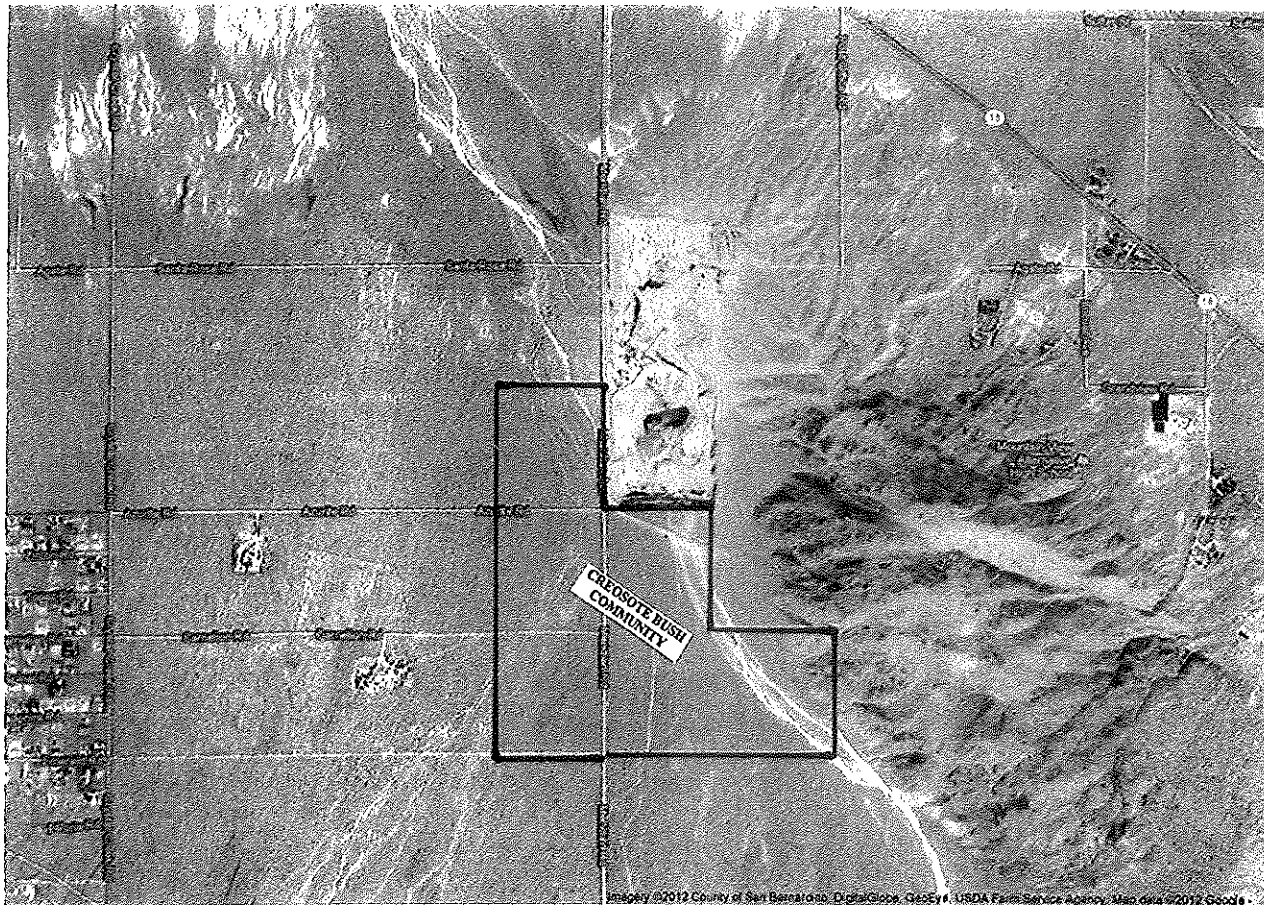


FIGURE 4

BIOLOGICAL RESOURCES MAP
(Source: Google Maps, 2012)
(CUP 10507SM1/DN334-89, APN 0449-111-33)



**TABLE 1: SUMMARY OF TRANSECT DATA FOR THE EXPANSION AREAS
FOR THE LUCERNE VALLEY PIT PROJECT.**

| SPECIES | Cover Area (Sq. meter) | Cover Area (%) | Relative Cover (%) | Cumulative Cover (%) | Density (#/Sq. meter |
|---|---------------------------|-------------------|-----------------------|-------------------------|-------------------------|
| Ephedra (<i>Ephedra nevadensis</i>) | 71.4 | 3.57 | 11.6 | 11 | 0.089 |
| Burrobush (<i>Ambrosia dumosa</i>) | 220.4 | 11.02 | 35.8 | 47.3 | 0.397 |
| Goldenhead (<i>Acamptopappus sphaerocephalus</i>) | 3.57 | 0.18 | 0.58 | 48.4 | 0.006 |
| Cooper's Goldenbush (<i>Ericameria cooperi</i>) | 5.69 | 0.29 | 0.92 | 48.4 | 0.011 |
| Cheesebush (<i>Hymenoclea salsola</i>) | 0.08 | T | T | 48 | 0.001 |
| Cotton-thorn (<i>Tetradymia</i> sp.) | 1.46 | T | T | 44 | 0.002 |
| Mojave Aster (<i>Xylorhiza tortifolia</i>) | 0.33 | T | T | 44 | 0.001 |
| Desert Alyssum (<i>Lepidium fremontii</i>) | 0.69 | T | T | 44.8 | 0.002 |
| Hedgehog Cactus (<i>Echinocereus engelmannii</i>) | 0.18 | T | T | 44 | 0.000 |
| Beavertail Cactus (<i>Opuntia basilaris</i>) | 0.12 | T | T | 44 | 0.000 |
| Golden Cholla (<i>Opuntia echinocarpa</i>) | 0.112 | T | T | 44 | 0.002 |
| Pencil Cholla (<i>Opuntia ramosissima</i>) | 0.70 | T | T | 44.8 | 0.002 |
| Spiny Hop-sage (<i>Grayia spinosa</i>) | 5.84 | T | T | 44 | 0.004 |
| Winterfat (<i>Krascheninnikovia lanata</i>) | 3.52 | 0.18 | 0.57 | 49.5 | 0.007 |
| Purple Heather (<i>Krameria erecta</i>) | 58.97 | 2.95 | 9.03 | 59.4 | 0.074 |
| Bladder Sage (<i>Salazaria mexicana</i>) | 1.82 | 0.08 | 0.28 | 59.4 | 0.002 |
| Wishbone Bush (<i>Mirabilis bigelovii</i>) | 3.78 | 0.19 | 0.61 | 55 | 0.01 |

| | | | | | |
|---|-------|-------|--------|--------|-------|
| California buckwheat (<i>Eriogonum fasciculatum</i>) | 4.52 | 0.23 | 0.73 | 60.5 | 0.012 |
| Desert Trumpet (<i>Eriogonum inflatum</i>) | 9.5 | 0.47 | 1.55 | 62.7 | 0.354 |
| Parish's Larkspur (<i>Delphinium parishii</i>) | 0.08 | T | T | 62.7 | 0.008 |
| Anderson's Thornbush (<i>Lycium andersonii</i>) | 0.52 | T | T | 62.7 | 0.002 |
| Peach-Thorn (<i>Lycium cooperi</i>) | 5.17 | T | T | 57 | 0.007 |
| Creosote Bush (<i>Larrea tridentata</i>) | 25.6 | 12.53 | 40.73 | 103.4 | 0.147 |
| Desert Mariposa (<i>Calochortus kennedyi</i>) | 0.01 | T | T | 94 | 0.000 |
| Joshua Tree (<i>Yucca brevifolia</i>) | 1.29 | T | T | 103.4 | 0.004 |
| Mojave Yucca (<i>Yucca schidigera</i>) | 5.84 | T | 0.95 | 94 | 0.002 |
| Indian Rice Grass (<i>Achnatherum hymenoides</i>) | 0.17 | T | T | 103.4 | 0.002 |
| Needle Grass (<i>Achnatherum speciosum</i>) | 0.09 | T | T | 103.4 | 0.001 |
| Galleta Grass (<i>Pleuraphis rigida</i>) | 20.48 | 102.3 | 3.33 | 106.7 | 0.002 |
| Total | 676.9 | 26.64 | 107.26 | 107.75 | 1.165 |

4.0 RE-VEGETATION

Site Preparation

Prior to the start of any mining activities, yucca and cacti species, where possible, will be salvaged and moved directly to a reclamation area or stockpiled for future re-vegetation. In addition, all surface material to a depth of six inches, where possible, will be removed from undisturbed areas and moved directly to an area ready for reclamation or stockpiled for future use during re-vegetation activities. Since the existing vegetation on site is very difficult to clear separately from the surface material, it will be removed along with the surface material and crushed, broken and shredded during the removal and storage process. The vegetation will later act as a "time-release" nitrogen source for growing plants. As portions of the proposed expansion areas are mined to the final limit, the areas will be prepared for re-vegetation as follows:

- (A) Each area will be re-contoured, if required, to reclamation specifications; and compacted areas will be ripped to a depth of one foot along the contour;
- (B) Accessible benches and pit bottoms will be ripped to leave a rough surface to aid in the natural accumulation of seeds and precipitation. Stockpiled surface material (i.e., natural seedbank) will be spread in preparation for seeding and/or replanting of salvaged plants.

The re-vegetation of the expansion areas will follow a series of steps that can be varied or modified over the life of the operation, but which will be designed to produce tangible results. They are proposed as guidelines that should be followed until new information or techniques become available which may enhance the success of the re-vegetation activities. However, seeds or plants collected adjacent to or directly within the expansion areas should be utilized during all aspects of the re-vegetation efforts. In addition, introduction of foreign vegetation which would contaminate the genetic material onsite should be discouraged. The undisturbed areas within the boundaries of the pit and the expansion areas to be disturbed will provide specimens for direct transplanting and a source of seeds and cuttings. As previously noted, native plant material growing within the expansion areas should be cleared and stored together with the six inches of surface material. When appropriate, this material will be spread on seeded areas or around container grown plants.

Comprehensive re-vegetation will include propagules of both climax community (undisturbed areas) as well as those species found in the disturbed portions of the site. The species from the disturbed areas will act as pioneer species and will establish first and begin the process of recovery. The climax species are the long-lived shrubs found in the undisturbed portions of the site and will be established following the pioneer species, when conditions are appropriate. As stated above, the site is dominated by a creosote bush community and the pioneer plants include cheesebush, California buckwheat, desert trumpet, and paperbag plant.

Seed Collection

Adjacent to the site and on re-vegetated portions of the expansion areas will be used as a seed source for plant materials. Seed collection should be monitored by a qualified botanist/biologist during the year prior to the start of the re-vegetation program, because, seed collecting is preferable to purchasing seeds from commercial sources. Seed collection on a site typically guarantees the seeds are derived from plants that are generally suited to the area. Seed collection would typically be conducted when the various species produce seeds in April-July, but could vary dependent upon unusual rainfall events. The seed should be tested and the percent of pure viable seed determined in order to ensure the correct amount of seed application is achieved.

Irrigation

The re-vegetation will utilize native seeds and plants collected on the site and from adjacent areas, and average precipitation for the area should be sufficient to provide seed germination and root establishment of native species. However, if seeding proves to be ineffective in producing the desired results, planting of individual plants on the site would be required and these plants should be initially watered. In addition, products (i.e., gel/cellulose, alum, and water) which will slowly release water to the roots will be applied around the base of the plants.

Fertilization

Fertilizing the re-vegetation areas is recommended since widespread use of fertilizers on desert sites appears to provide greater benefit to non-native undesirable weedy species (Clary, 1987). All re-vegetation will be dependent on the existing surface material and the tolerance of native seeds to existing soil conditions. The surface material of the excavated quarry and benches will generally consist of loosened material which will assist in germination. Soil testing is not required since the finished material will be similar to the surrounding area.

Weed Control

Undesirable non-native species, such as Russian thistle (*Salsola tragus*), which are present in the re-vegetation areas, will be removed manually for the first two years after each area has been seeded or planted. Weeding may be conducted monthly, if necessary. The consulting biologist should monitor weed control and will be responsible for communicating with the proponent regarding weed control.

Re-vegetation Methodology

The methods and species utilized may be revised following the analysis of the planting results and/or when updated desert re-vegetation information becomes available. At the

present time, recommendations are given as a guide for those areas which become available for re-vegetation. As portions of the site are mined to the final limit, these areas will be prepared for re-vegetation (i.e., graded, contoured, etc.). The prepared areas will be seeded with the recommended plant seed mix and seeding rates (Table 2). The seeded areas will be cultivated with harrow or dragged with a chain to achieve soil coverage of seeds. Available organic material (i.e., surface vegetation) will be incorporated into the growth media and spread over the site to act as mulch and as a time-release topical nitrogen source. Seeding will occur in the fall before the start of winter rains.

Cheesebush, desert trumpet, California buckwheat, and paperbag plant are pioneering species and will quickly establish in the re-vegetation areas. Therefore, these species will be seeded in large amounts to produce early cover but will be eventually displaced by climax species such as creosote bush, burrobush, purple heather, galleta grass, and goldenhead. All of the species of cactus with stems two inches or greater are protected by the San Bernardino County Desert Native Plant Ordinance; therefore, cacti deemed suitable for transplanting shall be identified by a qualified botanist, and where possible, transplanted to an adjacent area which will not be impacted by future quarry activities. Transplanting should be performed during the fall months prior to winter precipitation. Each specimen should be watered at the time of planting to consolidate the earth around the roots. No follow-up irrigation is recommended. The recommended density of planting should be ten randomly-spaced plants per acre.

In addition, selected cactus and Yucca species will be marked for transplanting, and will be excavated with a special loader/excavator and transplanted to an adjacent area which will not be impacted by mining activities. Transplanting these species should occur during the early spring (March through April) to maximize survival. Plants should be oriented to assure that the north-facing side is replanted to the north. As an alternative to seeding on some test areas, seedlings and/or cuttings would be planted in the late winter or very early spring to avoid freezing winter temperatures and watered thoroughly at the time of planting. Seedlings will be protected from rodent damage with cages, plant shields, or rocks during the first three years of growth.

Schedule for Re-vegetation

Approximately two months prior to the clearing of a vegetated area within the expansion areas, a qualified botanist/biologist shall survey the area to be mined, and mark all cacti and yucca species deemed suitable for removal and transplantation or as off-site nursery stock. In addition, seed collection should be undertaken in April-July, at least one year prior to the start of proposed re-vegetation activities which will assure that the seeds are tested and stored appropriately to maintain viability. The reclaimed areas will be initially seeded during the fall months with native seeds. If the surrounding seed sources are intact, it is expected that over time, the re-vegetation areas will receive additional seeds from these areas and produce a final re-vegetation similar to the surrounding areas. Natural reseeding of the site cannot be expected to produce the desired results without some initial seeding effort.

TABLE 2: SEEDING RATES FOR PERENNIAL SPECIES

| SPECIES | SEEDING RATE (LBS/ACRE) |
|--|-------------------------|
| Cheesebush (<i>Hymenoclea salsola</i>) | 2 |
| California Buckwheat (<i>Eriogonum fasciculatum</i>) | 2 |
| Desert Trumpet (<i>Eriogonum inflatum</i>) | 2 |
| Bladder Sage (<i>Salazaria mexicana</i>) | 2 |
| Creosote bush (<i>Larrea tridentata</i>) | 2 |
| Burrobush (<i>Ambrosia dumosa</i>) | 2 |
| Purple Heather (<i>Krameria erecta</i>) | 2 |
| Big Galleta Grass (<i>Pleuraphis rigida</i>) | 2 |
| Goldenhead (<i>Acamptopappus sphaerocephalus</i>) | 2 |
| Cooper's Goldenbush (<i>Ericameria cooperi</i>) | 2 |
| Peach-thorn (<i>Lycium cooperi</i>) | 0.5 |
| Spiny hop-sage (<i>Grayia spinosa</i>) | 0.5 |
| Wishbone Bush (<i>Mirabilis bigelovii</i>) | 0.5 |
| Winterfat (<i>Krascheninnikovia lanata</i>) | 0.5 |
| Desert Alyssum (<i>Lepidium fremontii</i>) | 0.5 |
| Mohave aster (<i>Xylorhiza tortifolia</i>) | 0.5 |
| Indian Rice & Desert Needle Grasses (<i>Achnatherum hymenoides</i> , <i>A. speciosum</i>) | 0.5 |
| Yucca transplants where possible (<i>Yucca brevifolia</i> , <i>Y. schidigera</i>) | 10/acre |
| Opuntia (<i>Opuntia basilaris</i> , <i>O. echinocarpa</i>) | 10/acre |

Monitoring Plan

Biological monitoring will be an ongoing process following completion of re-vegetation in order to assess the results of the re-vegetation on the disturbed areas of the expansion areas. The monitoring will occur annually to monitor and assess the areas which have been re-vegetated areas, areas that are being cleared, and areas where re-vegetation is being planned or conducted. Re-vegetated areas will be assessed utilizing success criteria outlined below to determine if modifications to the re-vegetation efforts are necessary. A report will be prepared annually to document the re-vegetation efforts and ongoing reclamation activities. This report shall become a part of the required annual mitigation monitoring report.

Success Criteria

At five years from completion of the re-vegetation for a specific area, the surviving perennial plant species shall be evaluated by the consulting biologist for relative growth as determined by density and diversity. Areas which are not meeting the success criteria will receive appropriate remedial attention as necessary which may include weeding and/or reseeded. This procedure will be repeated annually for the next five years.

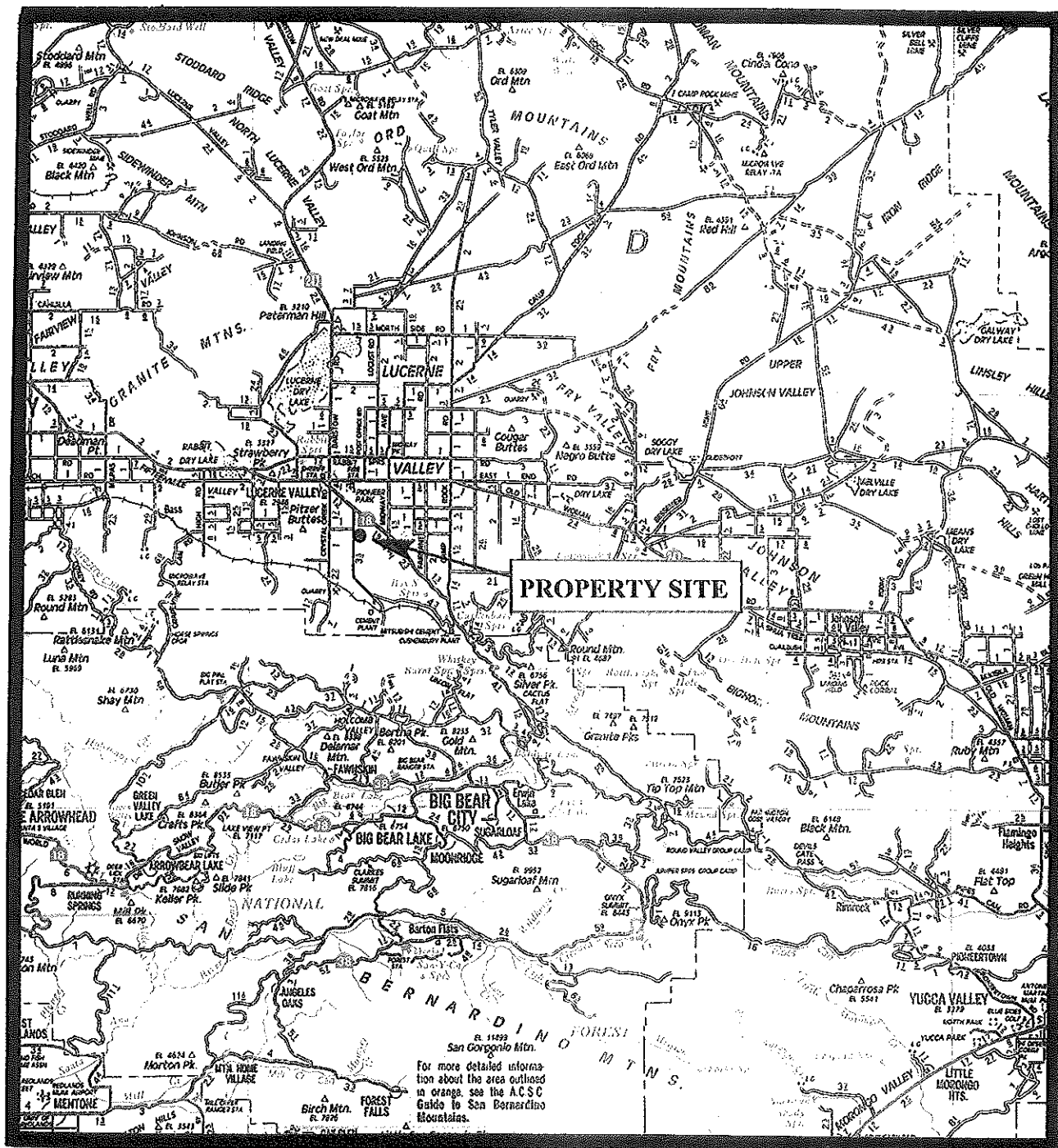
Success will be a measure of the density and species diversity based on the control areas, with 20 percent for both cover and species diversity within the first ten years following completion of re-vegetation. Baseline transect data for the undisturbed areas indicates 27% cover by 29 perennial plant species (Table 1). Therefore, successful re-vegetation will be achieved when the re-vegetated areas have at least a 9% coverage in order to meet at least a third of the baseline vegetation cover. In addition, an 80% confidence level for monitoring will be based on the number of sample sizes across the site.

Annual assessments will be conducted on reclaimed areas by a qualified biologist to determine the success of the re-vegetation efforts for the duration of the operation. Upon final reclamation, annual monitoring will continue for up to five years. Approximately forty-four (44), twenty-five (25) meter long line transects will be randomly established and permanently located in representative areas of re-vegetation on the mine site and as controls in undisturbed adjacent areas.

5.0 BIBLIOGRAPHY

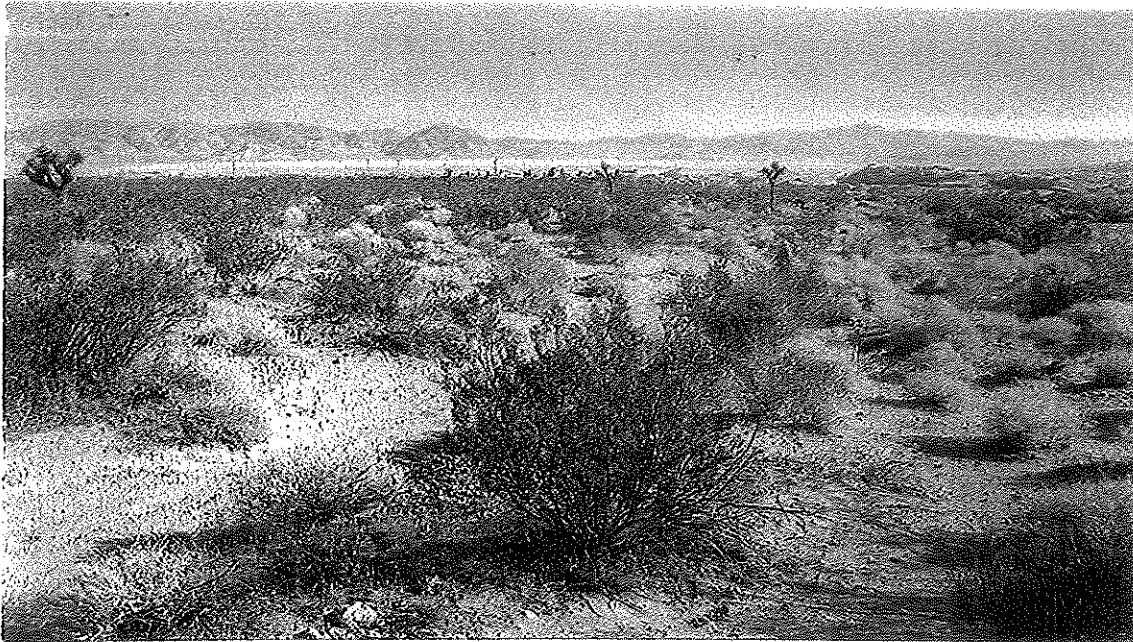
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FIGURES

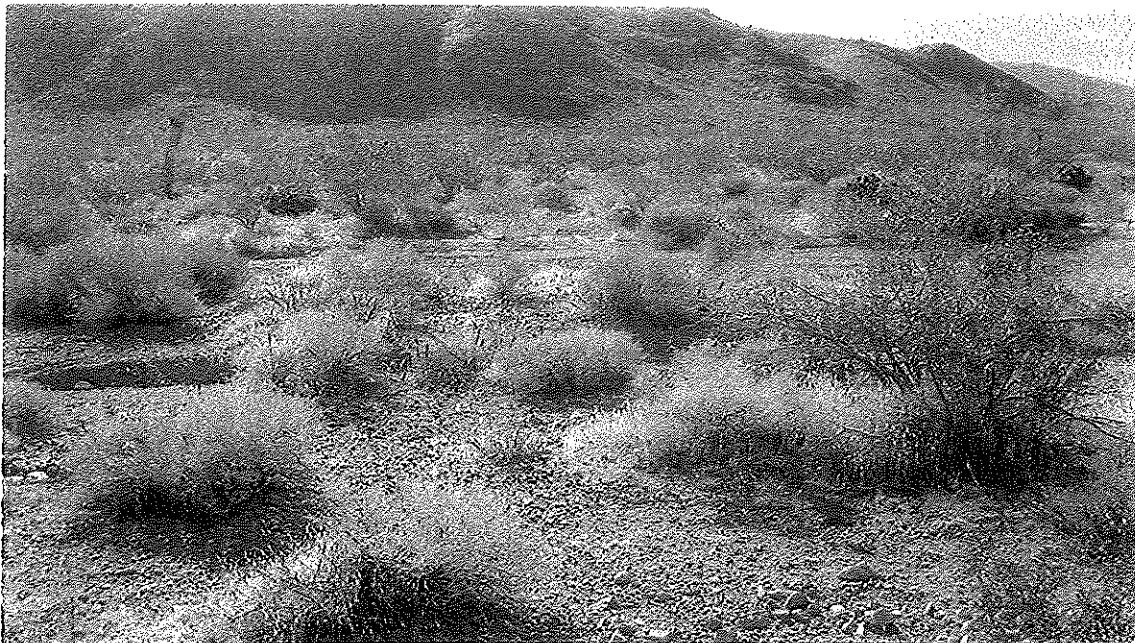


VICINITY MAP

SITE PHOTOGRAPHS



CENTER OF SITE LOOKING NORTH

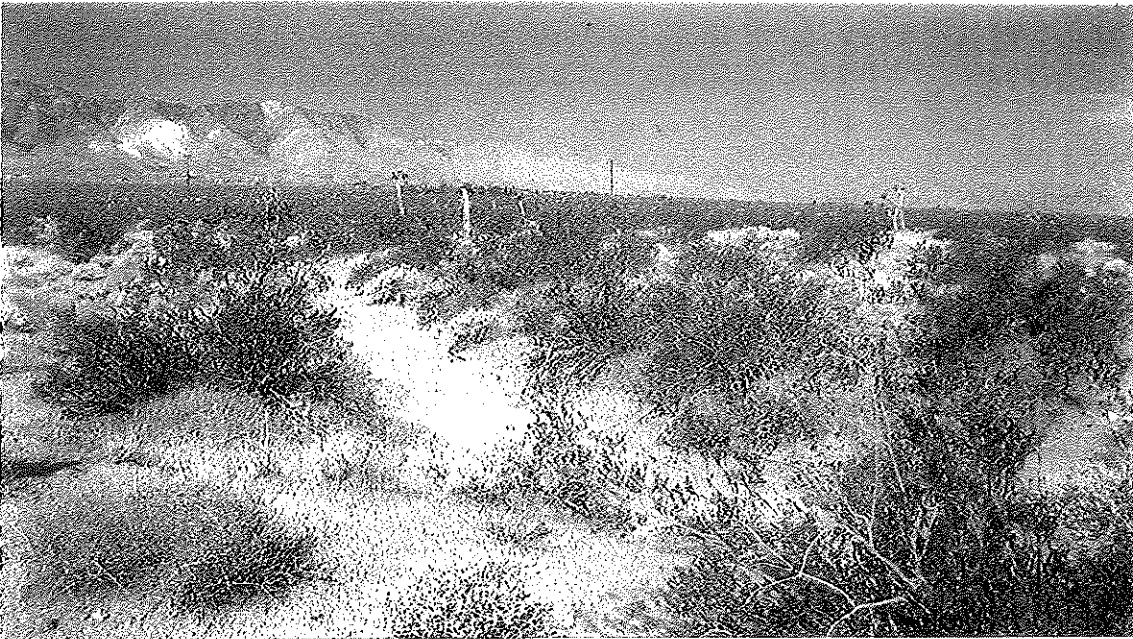


CENTER OF SITE LOOKING EAST

SITE PHOTOGRAPHS
(CUP 10507SM1/DN334-89, APN 0449-111-33)



CENTER OF SITE LOOKING SOUTH



CENTER OF SITE LOOKING WEST

SITE PHOTOGRAPHS
(CUP 10507SM1/DN334-89, APN 0449-111-33)

APPENDIX A
FLORA COMPENDIUM

Table - Plants observed on the site in May 2012 and known to occur in the immediate surrounding area.

| Common Name | Scientific Name | Location |
|------------------------|--------------------------------------|-----------------------------|
| Wild oats | <i>Avena fatua</i> | On-site & surrounding area. |
| Fiddleneck | <i>Amsinckia tessellata</i> | " |
| Brome grass | <i>Bromus sp.</i> | " |
| Needle grass | <i>Stipa sp.</i> | " |
| Buckwheat | <i>Eriogonum fasciculatum</i> | " |
| Desert trumpet | <i>E. inflatum</i> | " |
| Ephedra | <i>Ephedra nevadensis</i> | " |
| Yellow-green matchweed | <i>Gutierrezia sarothrae</i> | " |
| Creosote bush | <i>Larrea tridentata</i> | " |
| Burrobush | <i>Ambrosia dumosa</i> | " |
| Whipple's yucca | <i>Yucca whipplei</i> | " |
| Spanish dagger | <i>Y. schidigera</i> | " |
| Joshua tree | <i>Y. brevifolia</i> | " |
| Cheesebush | <i>Hymenoclea salsola</i> | " |
| Cotton-thorn | <i>Tetradymia spinosa</i> | " |
| Erodium | <i>Erodium texanum</i> | " |
| Schismus | <i>Schismus barbatus</i> | " |
| California poppy | <i>Eschscholzia californica</i> | " |
| Goldenhead | <i>Acamptopappas spheroccephalus</i> | " |
| Cooper's goldenbush | <i>Ericameria cooperi</i> | " |
| Mojave aster | <i>Xylorhiza tortifolia</i> | " |
| Desert alyssum | <i>Lepidium fremontii</i> | " |
| Beavertail cactus | <i>Opuntia basilaris</i> | " |
| Cholla | <i>O. echinocarpa</i> | " |
| Pencil cholla | <i>O. ramosissima</i> | " |
| Spiny hop-sage | <i>Grayia spinosa</i> | " |
| Winterfat | <i>Krascheninnikovia lanata</i> | " |
| Heather | <i>Kramerioa erecta</i> | " |
| Paperbag plant | <i>Salazaria mexicana</i> | " |
| Wishbone bush | <i>Mirabilis bigelovii</i> | " |
| Lycium | <i>Lycium andersonii</i> | " |
| Lycium | <i>L. cooperi</i> | " |
| Indian ricegrass | <i>Oryzopsis hymenoides</i> | " |
| Galleta grass | <i>Pleuraphis rigida</i> | " |

APPENDIX B
CERTIFICATION

Certification

I hereby certify that the statements furnished above and in the attached exhibits, present the data and information required for this re-vegetation plan, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Fieldwork conducted for this assessment was performed by Randall Arnold and Patricia Moore. I certify that I have no financial interest in the project.

Date 1-23-2014 Signed 

Field Work Performed by: Randall Arnold
Principal & Senior Biologist

Field Work Performed by: Patricia Moore
Senior Botanist

EXHIBIT G

Drainage Study

DRAINAGE STUDY

FOR HI-GRADE MATERIALS LUCERNE VALLEY PIT EXPANSION

PREPARED FOR:

**HI-GRADE MATERIALS
17671 BEAR VALLEY ROAD
HESPERIA, CA 92345**

PREPARED BY:

**HALL AND FOREMAN, INC.
14297 CAJON ST., STE. 101
VICTORVILLE, CA 92392
(760) 524-9100**

REVISED

January 10, 2013


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This Drainage Study was prepared
under my direct supervision;


Robert A. Kilpatrick, P.E.
RCE 42386
Expires 3/31/12

1/10/13
Date



1. INTRODUCTION

This drainage study is conducted for the proposed expansion of the existing Hi-Grade Lucerne Valley mining pit, within the unincorporated area of Lucerne Valley, in the County of San Bernardino.

The project is located on Meridian Road South of State Route 18, as illustrated on *Exhibit A*. The purpose of this drainage study is to determine the 100-year design flow for the existing drainage courses/washes at this site.

2. EXISTING CONDITIONS

The project site currently has an existing mine on the east side of Meridian Road and a proposed expansion of the existing mining pit to the south and southeast. Development in the area consists of existing mining operations and sparse single family residences on lots varying in size from 2.5 to over 100 acres.

Exhibit A illustrates the watershed boundary for the drainage area that is tributary to the existing wash at the project site. The total drainage area contains approximately 8,995 acres. The majority of the drainage area is undeveloped. The vegetation within this area varies from woodlands at the higher elevations along the southern portion, to grass and shrubs in the lower elevations. The soil types are also consistent with the vegetation with soil type D in the steeper mountain areas and soil type A in the wash areas.

Hydrology calculations utilizing the Unit Hydrograph Method in the San Bernardino County Hydrology Manual were conducted. The calculation worksheets and pertinent exhibits are located within the appendix to this report. Based on the rational method calculations it is estimated that the time of concentration for the portion of the wash at the project site is approximately 34.9 minutes. This time of concentration was then inputted into the unit hydrograph calculations to determine an ultimate flow and volume.

3. RECOMMENDED IMPROVEMENTS

Exhibit B illustrates the site plan for the proposed project. As illustrated, there are two primary drainage courses that are intercepted by the proposed pit expansion. One drainage course directly from the south carries approximately 3,965 cfs, while the other drainage course to the east carries approximately 13,500 cfs. Currently, a diversion dike and ditch is along the south boundary line which carries the drainage flow to Meridian Road. At Meridian Road the storm water currently sheet flows over the road to the west and back into an existing drainage channel. The grades on Meridian Road are such that not all of the storm water can be maintained at one crossing of the road, the flow cross at various points along the road.

Exhibit C illustrates the recommended improvements for the interim drainage plans of the proposed Phase 1 mining pit expansion. It is proposed that as mining progresses south into the proposed expansion area, that all the off-site flows drain into the mining pit by conveying the two major natural drainage courses be intercepted as necessary. Known as pit capture, it proposed that the drainage courses drain into the pit at the southwest corner of the pit expansion area. This proposal will eliminate the flows across Meridian Road. The pit capture will be accomplished by grading the diversion ditch into the pit. This will result in an erosion of the drainage ditch as undercutting. However, there is adequate area in the pit expansion area to accommodate the anticipated undercutting.

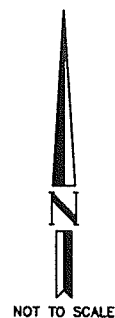
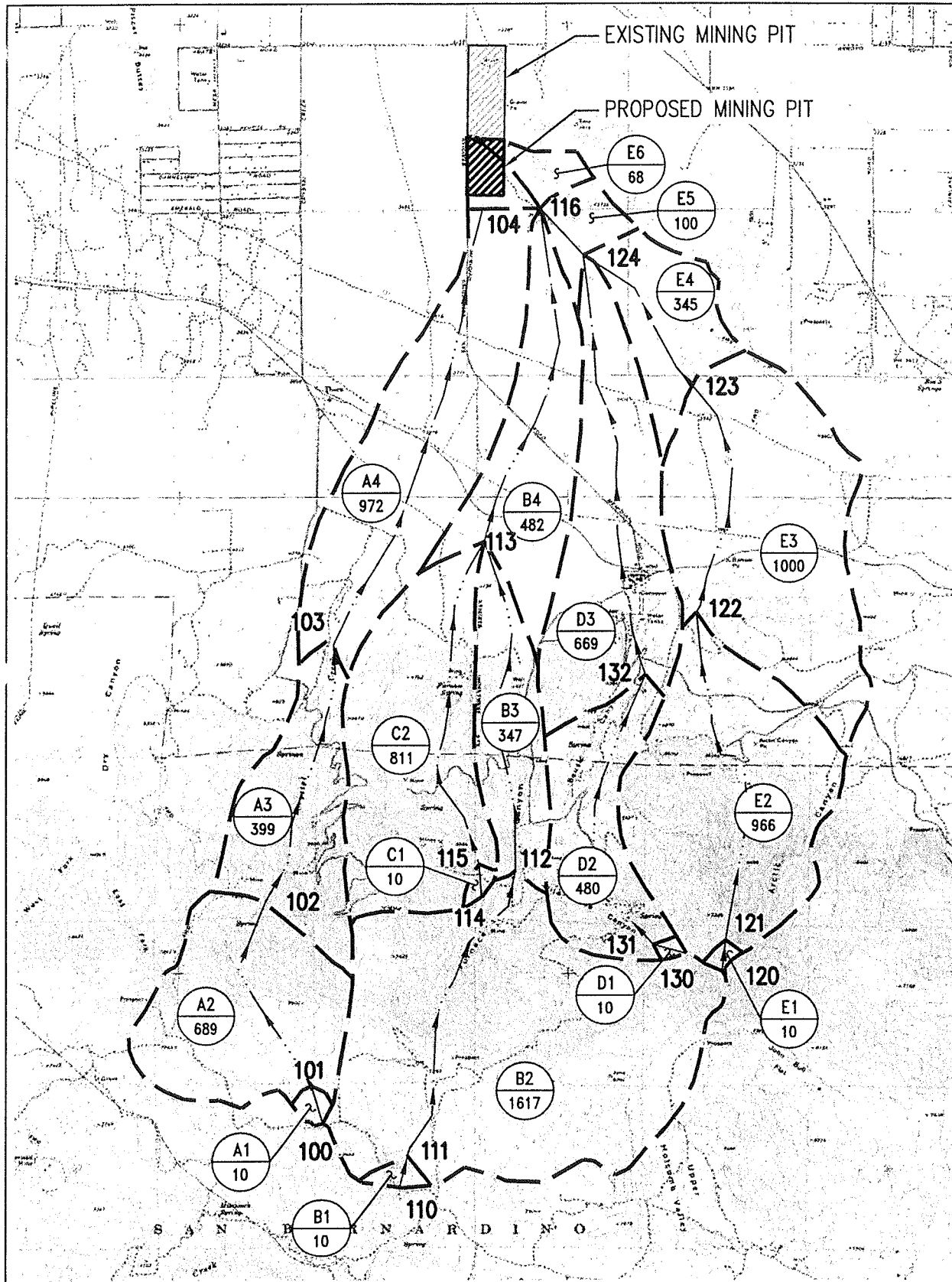
Exhibit D illustrates the recommended improvements for the interim drainage plans of the proposed Phase 2 mining pit expansion. This Phase represents the expansion of the pit southerly, and is similar to the Phase 1 pit expansion, in where the diversion of the flows is captured into pit. The location of the diversion dike and ditch in this phase is maintain the undercutting of the drainage courses within the pit expansion area until the final phase of the project.

Exhibit E illustrates the recommended improvements for the interim drainage plans of the proposed Phase 3 mining pit expansions. This Phase represents the diversion dike work necessary when the expansion of the pit reaches that location illustrated. The location of the diversion dike and ditch in this phase is to maintain the undercutting of the drainage courses within the pit expansion area until the final phase of the project.

Exhibit F illustrates the recommended improvements for the interim drainage plans of the proposed Phase 4 mining pit expansions. This Phase represents the expansion of the pit southerly, and is similar is similar to the Phase 3 pit expansion, in where the diversion of the flows is captured into pit. The location of the diversion dike and ditch in this phase is maintain the undercutting of the drainage courses within the pit expansion area until the final phase of the project.

Exhibit G demonstrates the ultimate (Phase 5) mining pit expansion, noted as the Final Reclamation Plan. At the completion of the mining, it is proposed that all of the off-site drainage continue to drain into the mining pit. Work to accomplish this involves constructing a dike along the south property line. This permanent dike is meant to intercept two major streams (the 13,500 cfs and 3,965 cfs flows) to be directed to south to centralized rip-rap down drain. It is recommended that as a part of the final reclamation improvements that one armored concrete and rip-rap down drain be constructed to drain the drainage courses into the mining pit.

In the 100 year storm event, the total volume of this storm is approximately 10,210 AC-FT.



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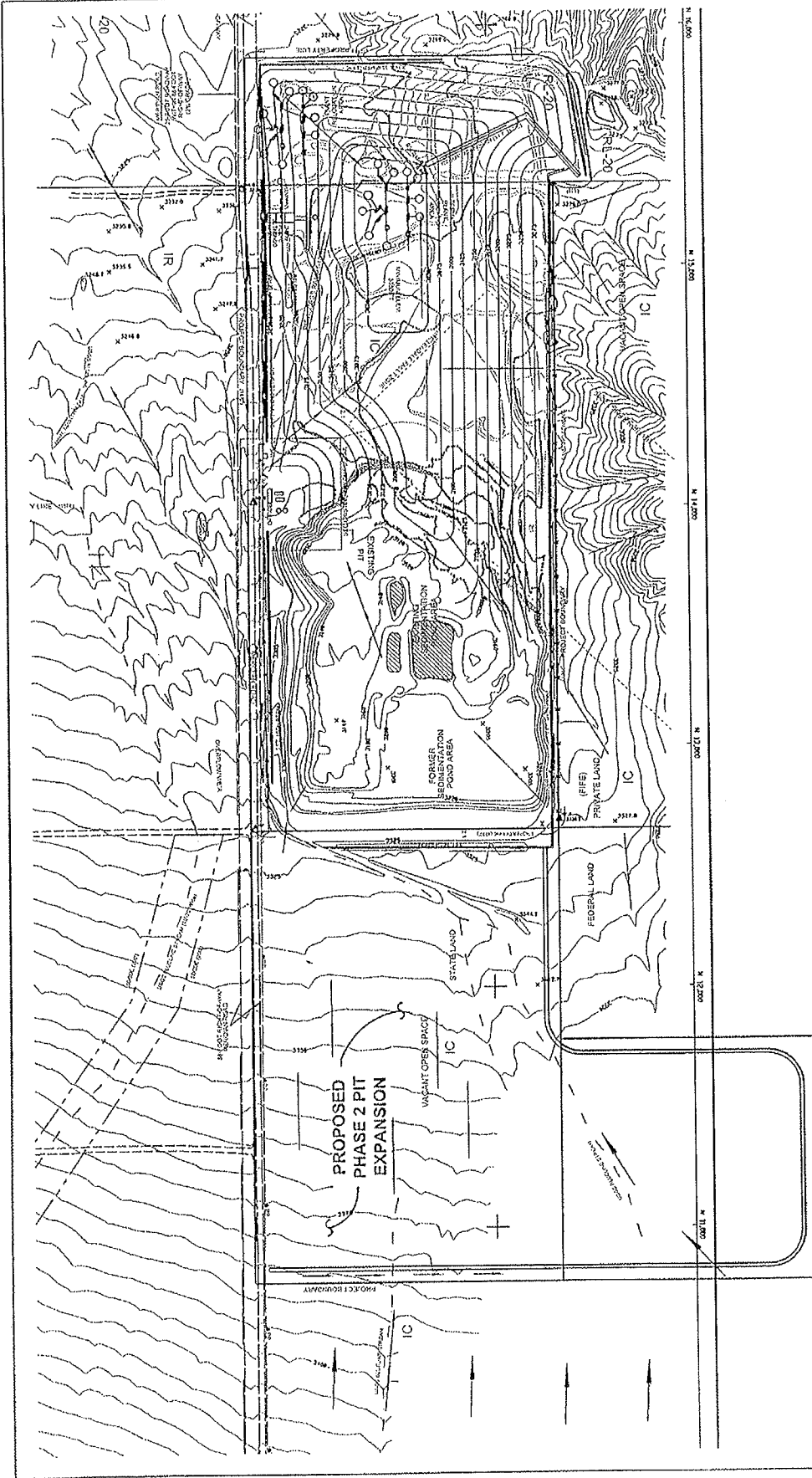
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LUCERNE VALLEY PIT EXPANSION

HYDROLOGY MAP

EXHIBIT

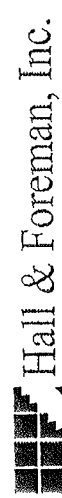
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NOT TO SCALE

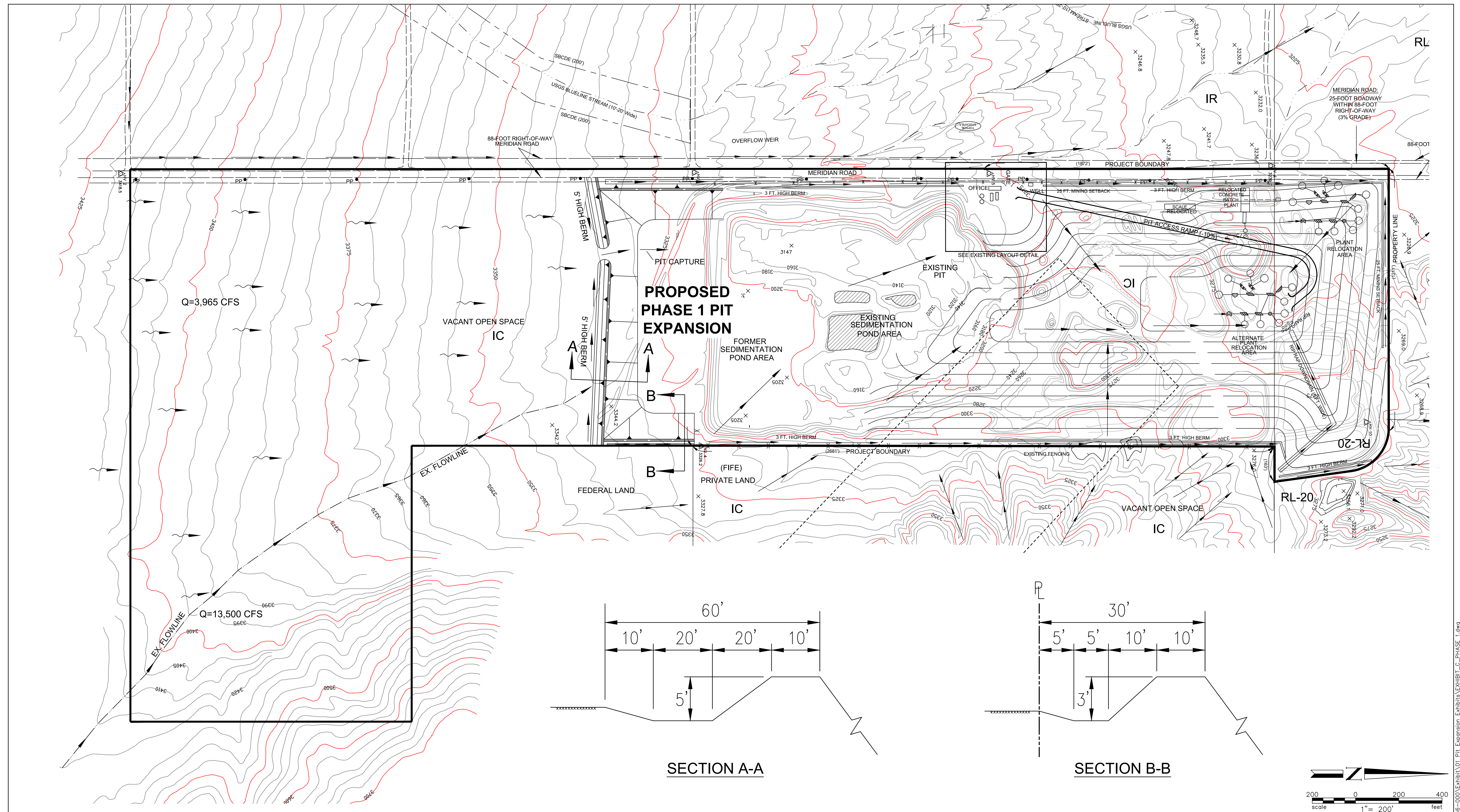
LUCERNE VALLEY PIT EXPANSION SITE PLAN

B



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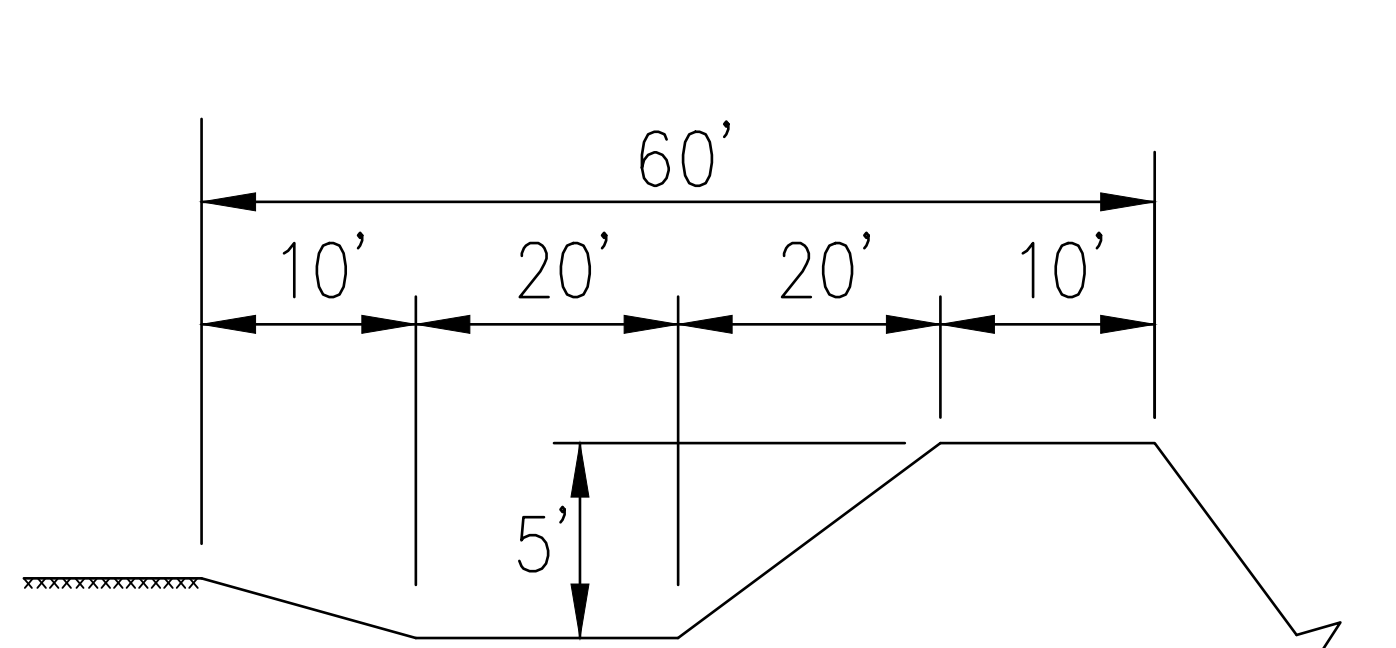
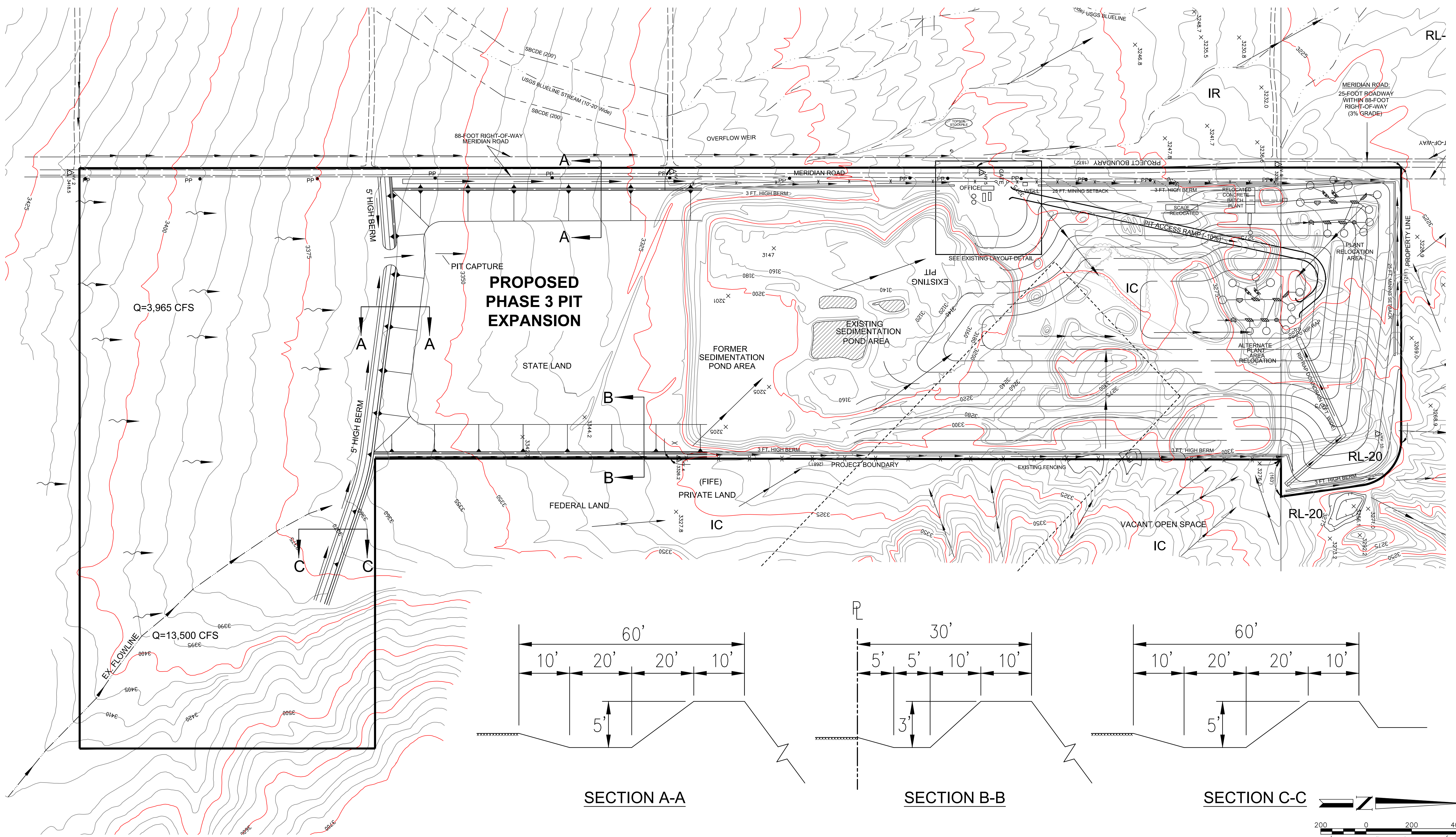
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LUCERNE VALLEY PIT EXPANSION EXPANSION PHASE 1 PLAN

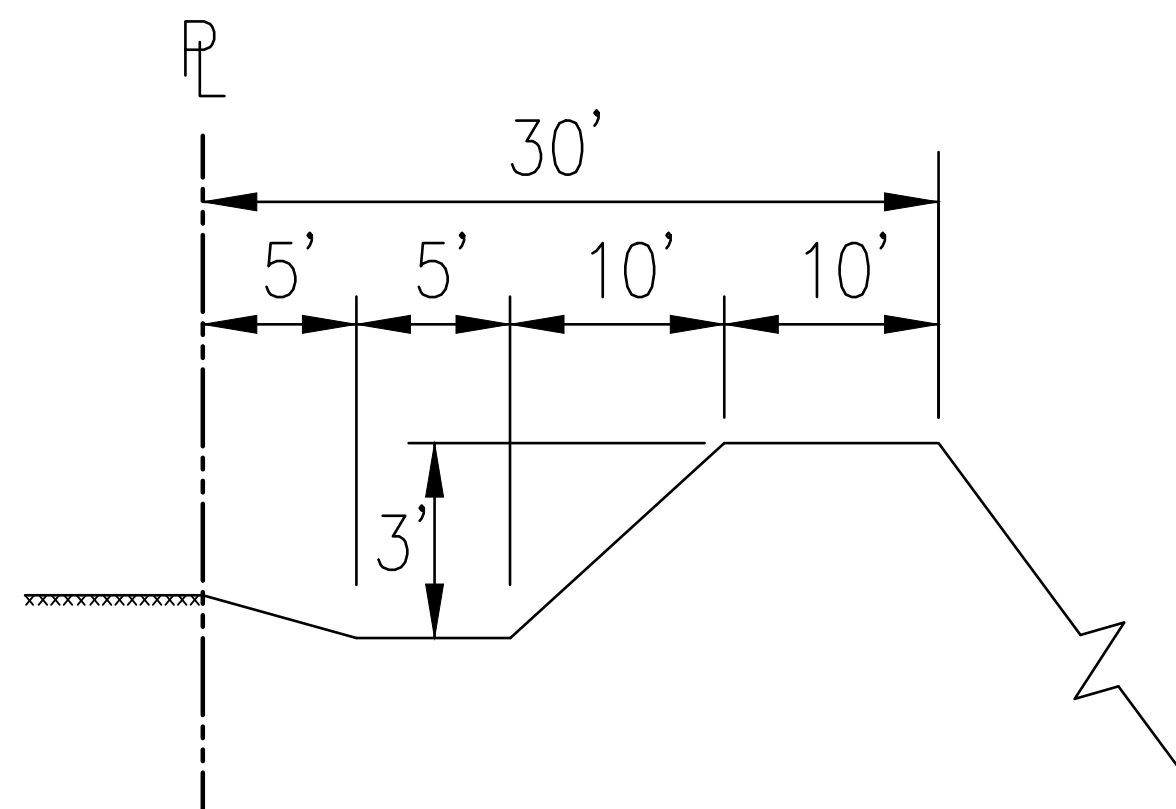
HI GRADE MATERIALS
17671 BEAR VALLEY ROAD
HESPERIA, CA

EXHIBIT /Eng/1

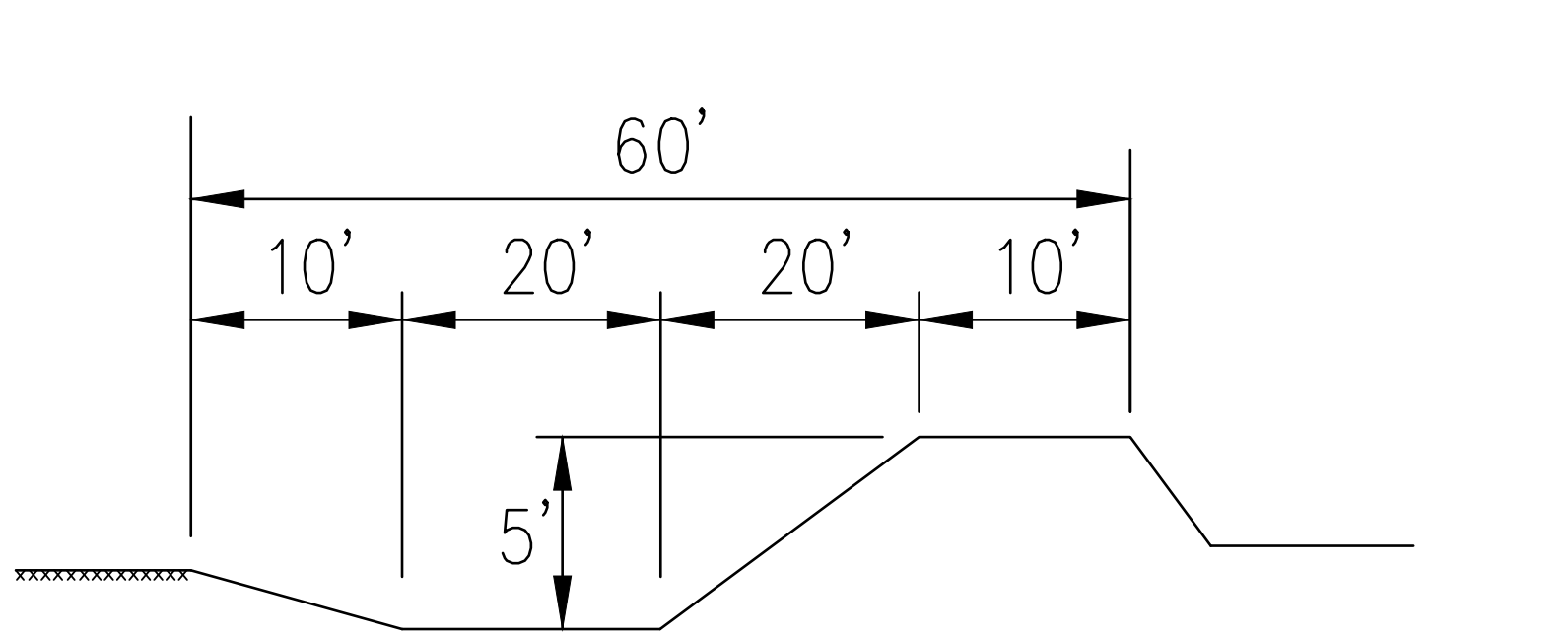
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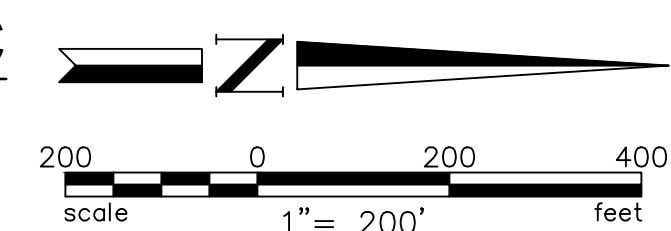
SECTION A-A



SECTION B-B



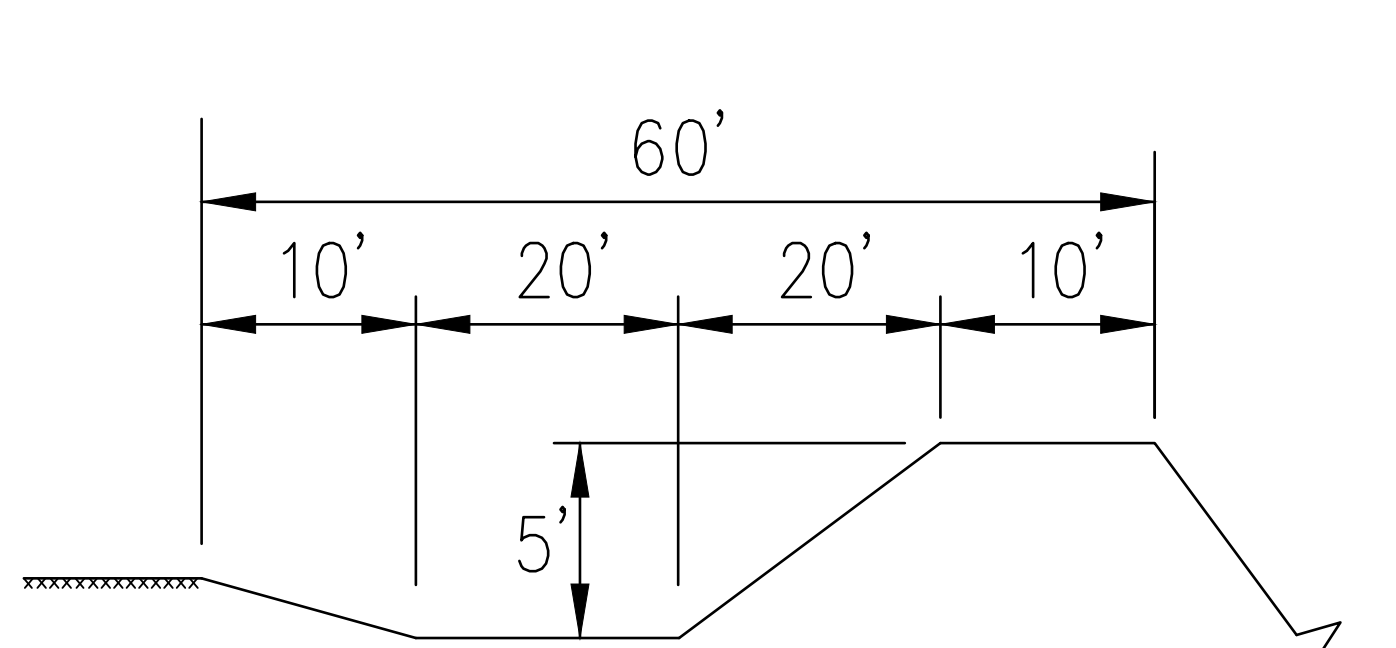
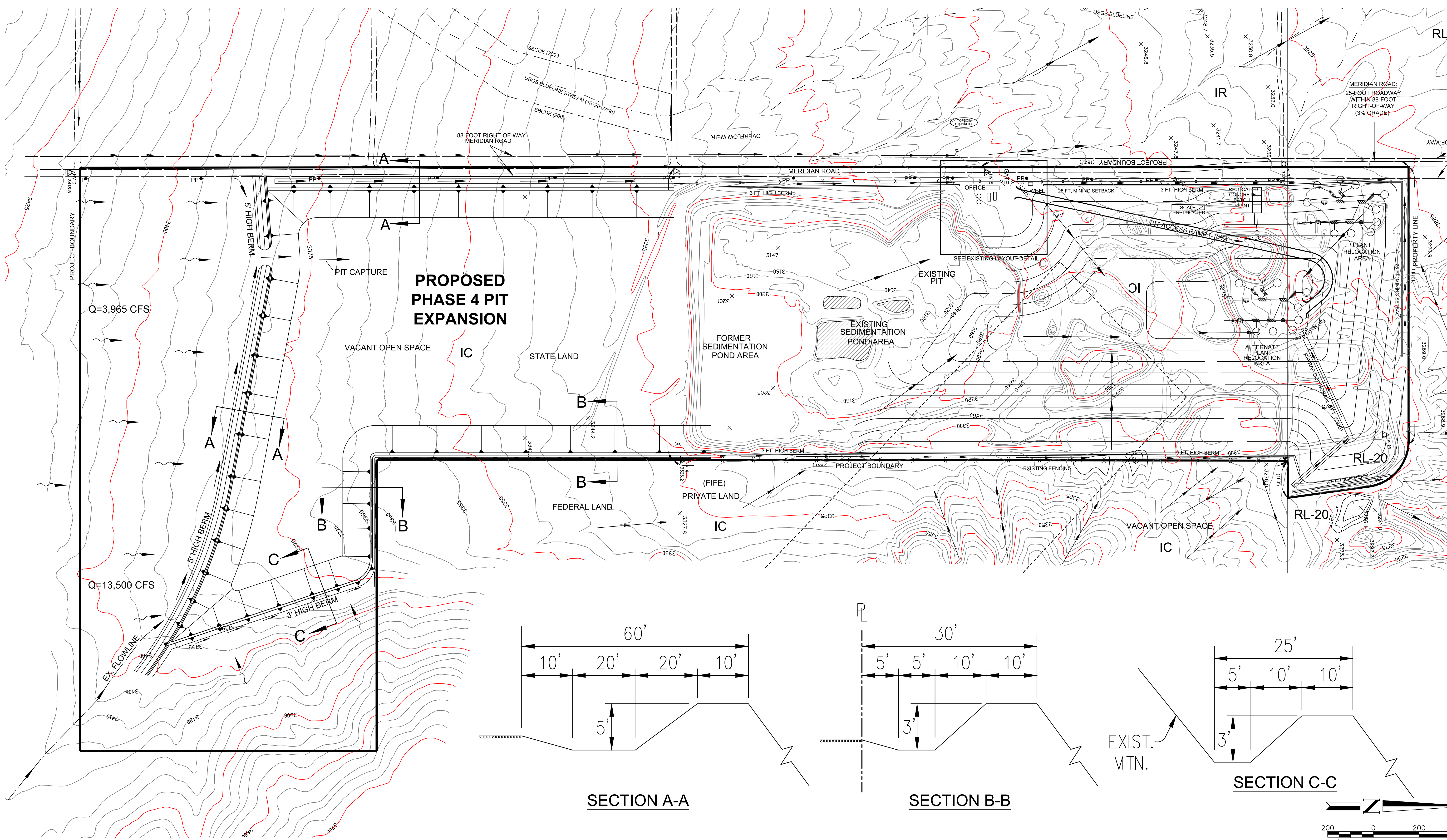
SECTION C-C



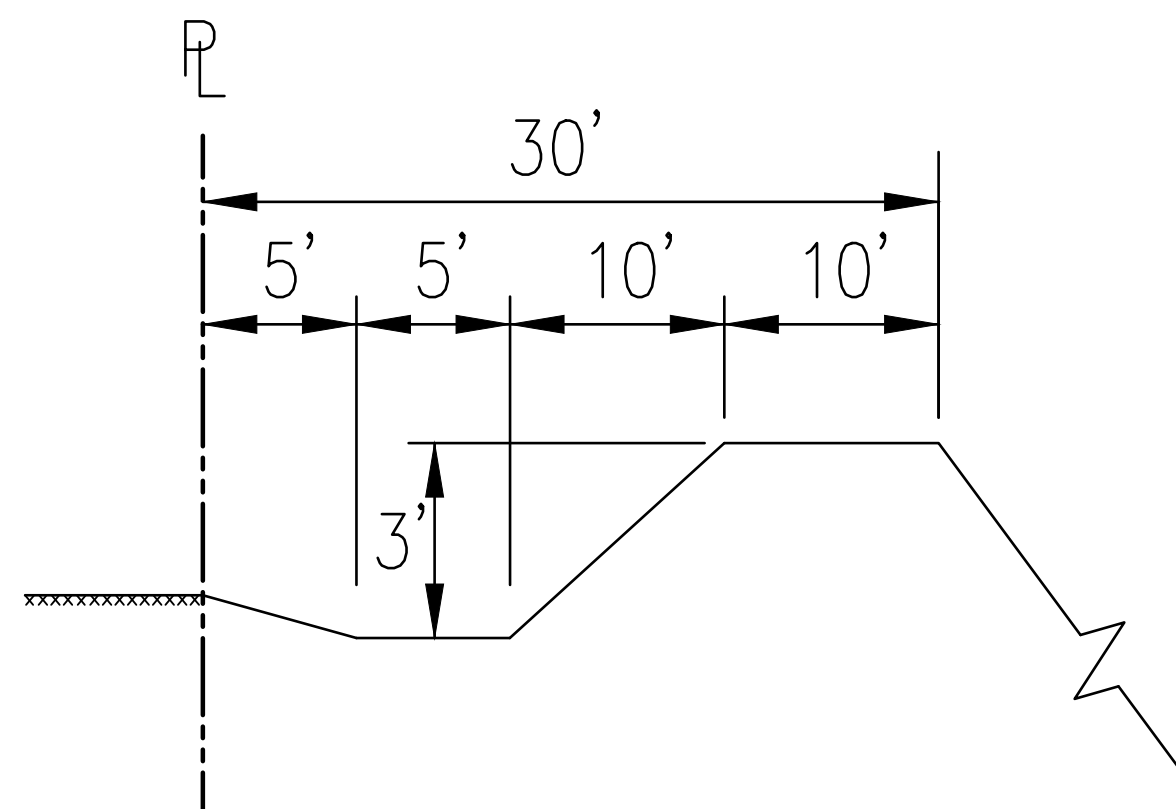
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**LUCERNE VALLEY PIT EXPANSION
 EXPANSION PHASE 3 PLAN**
 HI GRADE MATERIALS
 17671 BEAR VALLEY ROAD
 HESPERIA, CA

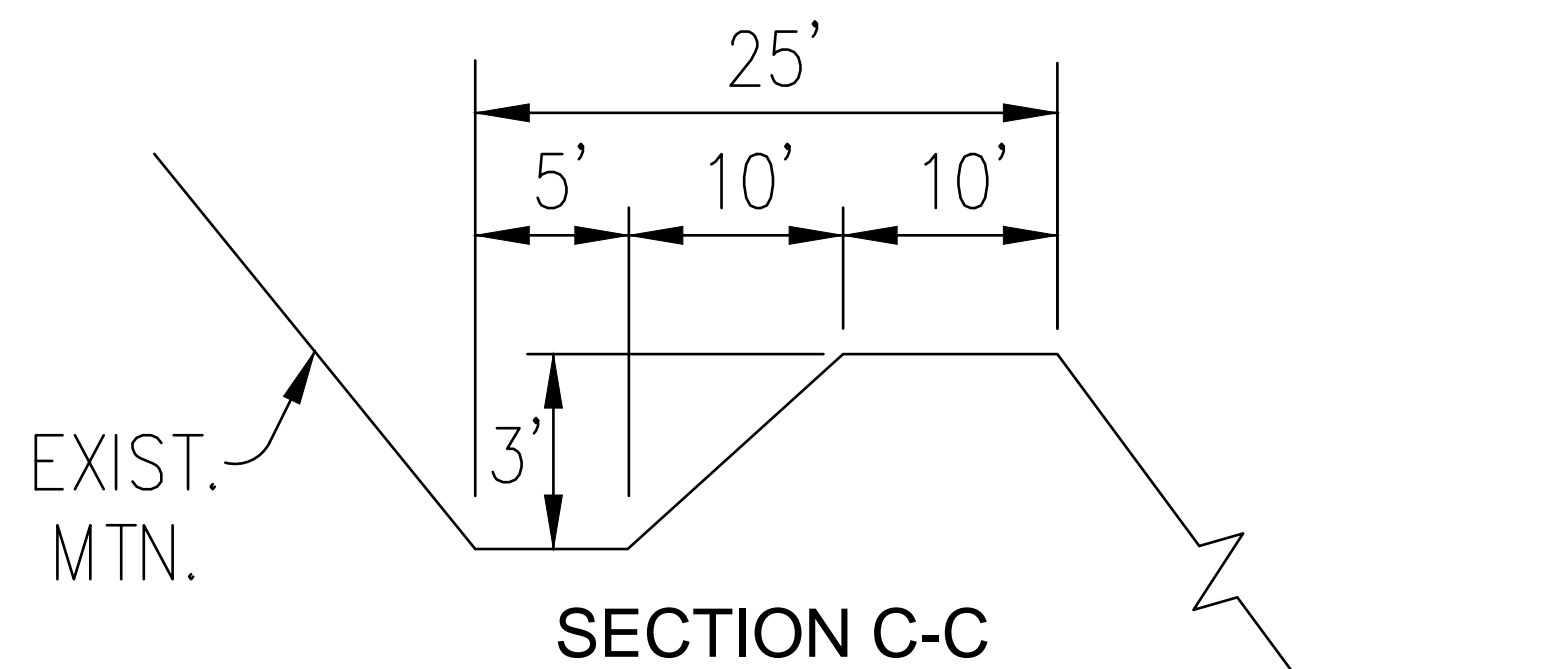
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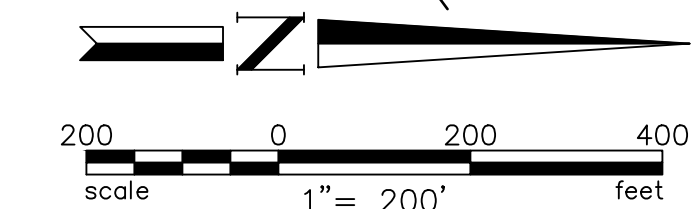
SECTION A-A



SECTION B-B



SECTION C-C



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**LUCERNE VALLEY PIT EXPANSION
 EXPANSION PHASE 4 PLAN**
 HI GRADE MATERIALS
 17671 BEAR VALLEY ROAD
 HESPERIA, CA

EXHIBIT
F

Drawing Name: V:\100146\Eng\100146-000\Exhibit\01 Pit Expansion Exhibits\EXHIBIT_F_PHASE 4.dwg
 Last Opened: Jan 31, 2013 - 3:23pm by: SShubert

4. APPENDIX

- **HYDROLOGY WORKSHEETS**



Hall & Foreman, Inc.

Engineering • Surveying • Planning • Landscape Architecture

SUBJECT

BY

DATE

JOB NO.

SHEET

OF

RATIONAL METHOD T_c CALCULATIONS

RATIONAL METHOD STUDY FORM

[illegible]

Figure D-6

- For CALCULATION ONLY -

RATIONAL METHOD STUDY FORM

| SAN BERNARDINO COUNTY HYDROLOGY MANUAL | | | STUDY NAME: 100-YEAR STORM 1-HOUR RAINFALL (INCH) = 2.0 ; SLOPE = 0.7 | | | | Calculated by <u>AL</u> Date _____ Checked by _____ Date _____ | | | Page <u>2</u> of <u>4</u> | | | |
|---|------------------------------------|-----------|--|---------------------|---------------------|---------|---|---------------------|---------|---------------------------|---------------------------|------------|----------------------|
| Concentration Point | Area (Acres) Subarea Total | Soil Type | Dev. Type | T _t min. | T _c min. | I in/hr | F _m in/hr | F _m avg. | Q Total | Flow Path Length ft. | Slope ft./ft. | V ft./sec. | Hydraulics and Notes |
| 110 | | | | | | | | | | | | | |
| 111 | 10 10 | D | UND. | 11.5 | 12.5 | 6.2 | 0.40 | | 52.2 | 1000' | H = 7080' - 6600' = 480' | | |
| 112 | 966 976 | D | UND. | 4.1 | 24.0 | 3.8 | 0.40 | | 29.86 | 10,000' | H = 6600' - 4040' = 2560' | | |
| 113 | 1000 1976 | A | RES. | 3.6 | 28.1 | 2.5 | 0.78 | | 30.58 | 6500' | H = 4040' - 3640' = 400' | | |
| 114 | 345 2321 | A | RES. | 3.6 | 31.7 | 2.3 | 0.78 | | 31.75 | 5000' | H = 3640' - 3440' = 200' | | |
| 120 | | | | | | | | | | | | | |
| 121 | 10 10 | D | UND. | 12.3 | 11.5 | 6.6 | 0.40 | | 55.8 | 1000' | H = 6800' - 6200' = 600' | | |
| 122 | 480 1490 | D | UND. | 9.0 | 23.8 | 3.8 | 0.40 | | 14.99 | 9800' | H = 6200' - 4700' = 1500' | | |
| 114 | 669 1159 | A | RES. | 9.0 | 32.8 | 2.3 | 0.78 | | 15.85 | 12,000' | H = 4200' - 3900' = 300' | | |
| CONFLUENCE @ 114 | | | USE | | | | | | | | | | |
| 114 | | | | | | | | | | | | | |
| 115 | 100 3580 | A | RES. | 1.7 | 34.0 | 2.3 | 0.78 | | 48.97 | 2000' | H = 3460' - 3415' = 45' | | |

Figure D-6

- FOR T_c CALCULATION ONLY -

RATIONAL METHOD STUDY FORM

| SAN BERNARDINO COUNTY HYDROLOGY MANUAL | | | STUDY NAME: 100-YEAR STORM 1-HOUR RAINFALL (INCH) = 1.6; SLOPE = 0.7 | | | | Calculated by <u>EC</u> Date _____ Checked by _____ Date _____ | | | | Page <u>3</u> of <u>4</u> | | | |
|---|-----------------------|-----------------------|---|-----------|---------------------|---------------------------------|---|----------------------|---------------------|-----------------------|---------------------------|--|------------|----------------------|
| Concentration Point | Area (Acres) | | Soil Type | Dev. Type | T _t min. | T _c min. | I in/hr | F _m in/hr | F _m avg. | Q Total | Flow Path Length ft. | Slope ft./ft. | V ft./sec. | Hydraulics and Notes |
| 130 | | | | | | | | | | | | | | |
| 131 | 10 | 10 | D | und. | 9.6 | 17.0 | 4.8 | 0.40 | | 39.6 | 1000' | H = 7200' - 7200' = 0 | | |
| 132 | 1617 | 1627 | D | und. | 4.5 | 26.6 | 3.6 | 0.40 | | 4686 | 8000' | H = 7200' - 5000' = 2200' | 13.9 | MDN TERN. N=0.40 |
| 133 | 347 | 1974 | D | und. | | 31.1 | 3.1 | 0.40 | | 4796 | 9000' | 0.120 | 33.4 | MDN TERN. N=0.40 |
| 140 | | | | | | | | | | | | | | |
| 141 | 10 | 10 | D | und. | 14.9 | 13.5 | 5.8 | 0.40 | | 48.6 | 1000' | H = 5600' - 5240' = 360' | | |
| 133 | 911 | 821 | D | und. | | 28.4 | 3.3 | 0.40 | | 2142 | 9800' | H = 5240' - 3940' = 1300' | 11.0 | MDN TERN. N=0.40 |
| CONFLUENCE @ 133 ⇒ | | | | | | | | | | | | | | |
| | Q ₁ = 2142 | T ₁ = 28.4 | | | | Q ₁ = Q ₂ | $\frac{(I_2 - F_{m1})}{(I_1 - F_{m1})}$ | | | Q ₁ = 4796 | (3.1 - 0.40) | 2142 = 6790 | | |
| | Q ₂ = 4796 | T ₂ = 31.1 | | | | | | | | | (3.3 - 0.40) | ∴ T _p = T ₃ = 31.1 | | |
| | | | | | | | | | | | | | | Ap 1974-821 = 2795 |
| 115 | 482 | 3277 | A | RES | 4.6 | 31.1 | 2.4 | 0.78 | | 6790 | 7000' | H = 3940' - 3445' = 515' | | |
| | | | | | | | | | | 4778 | | 0.060 | 37.8 | SANDY LSH N=0.33 |
| | | | | | | | | | | 46790 | | | | |

Figure D-6

RATIONAL METHOD STUDY FORM

| SAN BERNARDINO COUNTY HYDROLOGY MANUAL | | | STUDY NAME: (00)-YEAR STORM 1-HOUR RAINFALL (INCH)= <u>2.0</u> ^{0.7} ; SLOPE = <u>0.7</u> | | | Calculated by <u>RL</u> Checked by _____ | | | Date _____ Page <u>4</u> of <u>4</u> | | | | | |
|---|---|-------|---|-----------|------------|---|-----------|-------------|---|-----------|----------------------|---------------|--------------|----------------------|
| Concentration Point | Area (Acres) | | Soil Type | Dev. Type | T_t min. | T_c min. | I in/hr | F_m in/hr | F_m avg. | Q Total | Flow Path Length ft. | Slope ft./ft. | V ft./sec. | Hydraulics and Notes |
| | Subarea | Total | | | | | | | | | | | | |
| | CONFLUENCE @ 115 | | | | | | | | | | | | | |
| | $T_1 = 35.7 \approx T_2 = 34.9$ | | | | | | | | | | | | | |
| | $\therefore T_p = \frac{T_1 + T_2}{2} = 34.9$ | | | | | | | | | | | | | |
| | CONFLUENCE NODES | | | | | | | | | | | | | |
| | $T_1 = 34.1 \approx T_2 = 34.9$ | | | | | | | | | | | | | |
| | $\therefore T_p = \frac{T_1 + T_2}{2} = 34.5$ | | | | | | | | | | | | | |
| | $Q_p = 3261 \times 11.690 = 14,950$ | | | | | | | | | | | | | |
| | $T_p = 34.5 \text{ min}$ | | | | | | | | | | | | | |

LIMITATIONS:

1. Maximum length = 1000 Feet
2. Maximum area = 10 Acres

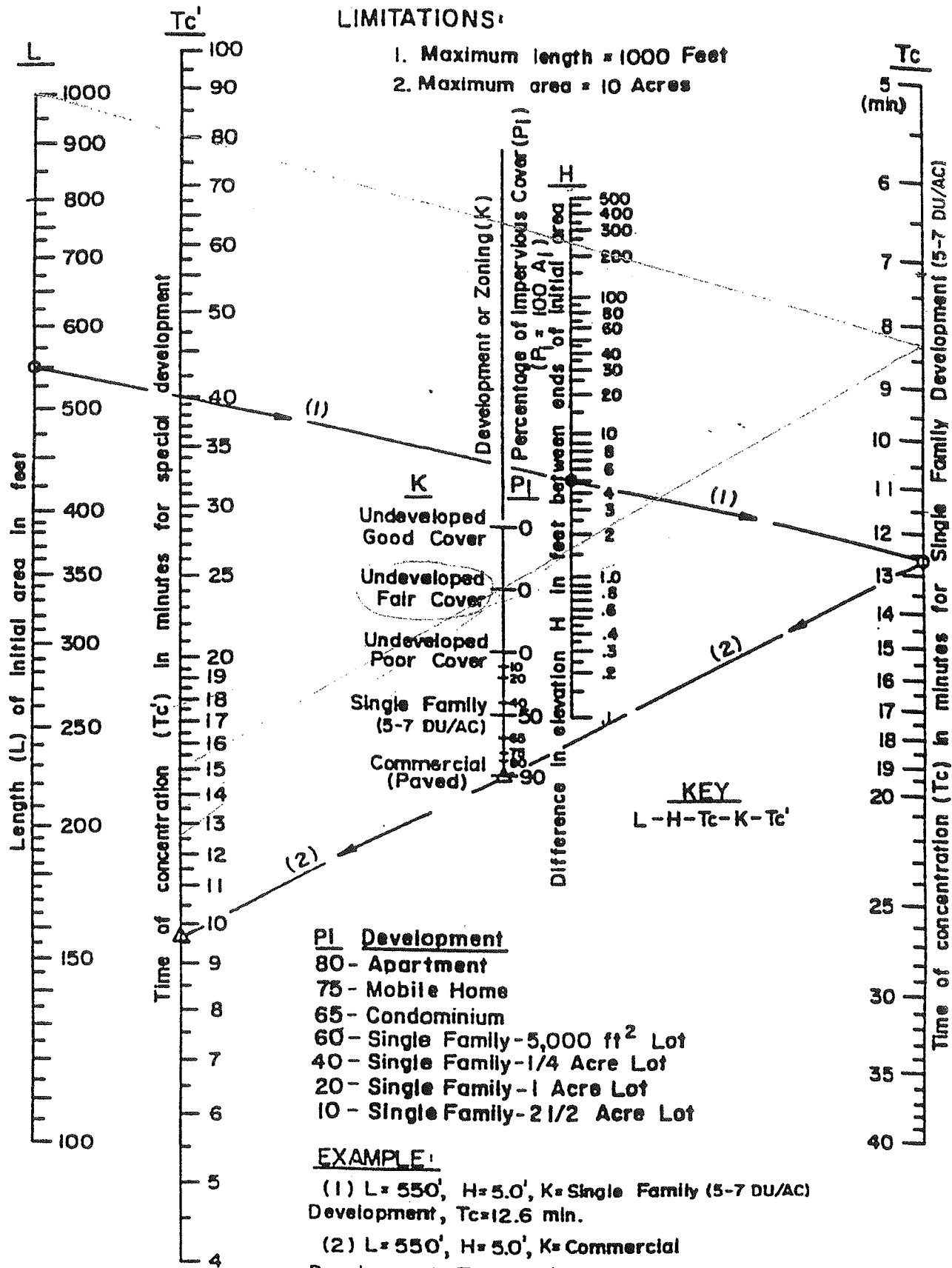


TABLE C.2. Fm (in/hr) VALUES
FOR TYPICAL COVER TYPES

| <u>COVER TYPE</u> | <u>SOIL GROUP</u> | | | | |
|------------------------|-------------------|------|------|------|------|
| | $A_p(1)$ | A | B | C | D |
| NATURAL: | | | | | |
| Barren | 1.0 | 0.41 | 0.27 | 0.18 | 0.14 |
| Row Crops (good) | 1.0 | 0.59 | 0.41 | 0.29 | 0.22 |
| Grass (fair) | 1.0 | 0.82 | 0.56 | 0.40 | 0.31 |
| Orchards (fair) | 1.0 | 0.88 | 0.62 | 0.43 | 0.34 |
| Woodland (fair) | 1.0 | 0.95 | 0.69 | 0.50 | 0.40 |
| URBAN: | | | | | |
| Residential (1 DU/AC) | 0.80 | 0.78 | 0.60 | 0.45 | 0.37 |
| Residential (2 DU/AC) | 0.70 | 0.68 | 0.53 | 0.39 | 0.32 |
| Residential (4 DU/AC) | 0.60 | 0.58 | 0.45 | 0.34 | 0.28 |
| Residential (10 DU/AC) | 0.40 | 0.39 | 0.30 | 0.22 | 0.18 |
| Condominium | 0.35 | 0.34 | 0.26 | 0.20 | 0.16 |
| Mobile Home Park | 0.25 | 0.24 | 0.19 | 0.14 | 0.12 |
| Apartments | 0.20 | 0.19 | 0.15 | 0.11 | 0.09 |
| Commercial/Industrial | 0.10 | 0.10 | 0.08 | 0.06 | 0.05 |

NOTES:

- (1) Recommended a_p values from Figure C-4
- (2) AMC II assumed for all Fm values
- (3) CN values obtained from Figure C-3
- (4) DU/AC=dwelling unit per acre

Curve (I) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC

| Cover Type (3) | Quality of Cover (2) | Soil Group | | | |
|---|----------------------|------------|----|----|----|
| | | A | B | C | D |
| <u>NATURAL COVERS -</u> | | | | | |
| Barren (Rockland, eroded and graded land) | | 78 | 86 | 91 | 93 |
| Chaparral, Broadleaf (Manzonita, ceanothus and scrub oak) | Poor | 53 | 70 | 80 | 85 |
| | Fair | 40 | 63 | 75 | 81 |
| | Good | 31 | 57 | 71 | 78 |
| Chaparral, Narrowleaf (Chamise and redshank) | Poor | 71 | 82 | 88 | 91 |
| | Fair | 55 | 72 | 81 | 86 |
| Grass, Annual or Perennial | Poor | 67 | 78 | 86 | 89 |
| | Fair | 50 | 69 | 79 | 84 |
| | Good | 38 | 61 | 74 | 80 |
| Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass) | Poor | 63 | 77 | 85 | 88 |
| | Fair | 51 | 70 | 80 | 84 |
| | Good | 30 | 58 | 71 | 78 |
| Open Brush (Soft wood shrubs - buckwheat, sage, etc.) | Poor | 62 | 76 | 84 | 88 |
| | Fair | 46 | 66 | 77 | 83 |
| | Good | 41 | 63 | 75 | 81 |
| Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent.) | Poor | 45 | 66 | 77 | 83 |
| | Fair | 36 | 60 | 73 | 79 |
| | Good | 25 | 55 | 70 | 77 |
| Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent) | Poor | 57 | 73 | 82 | 86 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| <u>URBAN COVERS -</u> | | | | | |
| Residential or Commercial Landscaping (Lawn, shrubs, etc.) | Good | 32 | 56 | 69 | 75 |
| Turf (Irrigated and mowed grass) | Poor | 58 | 74 | 83 | 87 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| <u>AGRICULTURAL COVERS -</u> | | | | | |
| Fallow (Land plowed but not tilled or seeded) | | 77 | 86 | 91 | 94 |

Curve (I) Numbers of Hydrologic Soil-Cover Complexes For Pervious Areas-AMC II

| Cover Type (3) | Quality of Cover (2) | Soil Group | | | |
|--|----------------------|------------|----|----|----|
| | | A | B | C | D |
| <u>AGRICULTURAL COVERS</u> (Continued) | | | | | |
| Legumes, Close Seeded (Alfalfa, sweetclover, timothy, etc.) | Poor | 66 | 77 | 85 | 89 |
| | Good | 58 | 72 | 81 | 85 |
| Orchards, Evergreen (Citrus, avocados, etc.) | Poor | 57 | 73 | 82 | 86 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| Pasture, Dryland (Annual grasses) | Poor | 68 | 79 | 86 | 89 |
| | Fair | 49 | 69 | 79 | 84 |
| | Good | 39 | 61 | 74 | 80 |
| Pasture, Irrigated (Legumes and perennial grass) | Poor | 58 | 74 | 83 | 87 |
| | Fair | 44 | 65 | 77 | 82 |
| | Good | 33 | 58 | 72 | 79 |
| Row Crops (Field crops - tomatoes, sugar beets, etc.) | Poor | 72 | 81 | 88 | 91 |
| | Good | 67 | 78 | 85 | 89 |
| Small grain (Wheat, oats, barley, etc.) | Poor | 65 | 76 | 84 | 88 |
| | Good | 63 | 75 | 83 | 87 |

Notes:

1. All curve numbers are for Antecedent Moisture Condition (AMC) II.
2. Quality of cover definitions:

Poor-Heavily grazed, regularly burned areas, or areas of high burn potential. Less than 50 percent of the ground surface is protected by plant cover or brush and tree canopy.

Fair-Moderate cover with 50 percent to 75 percent of the ground surface protected.

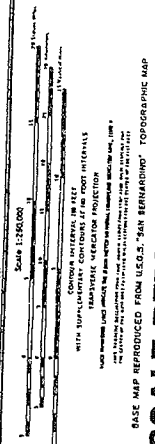
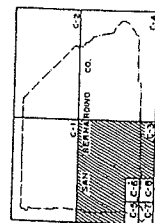
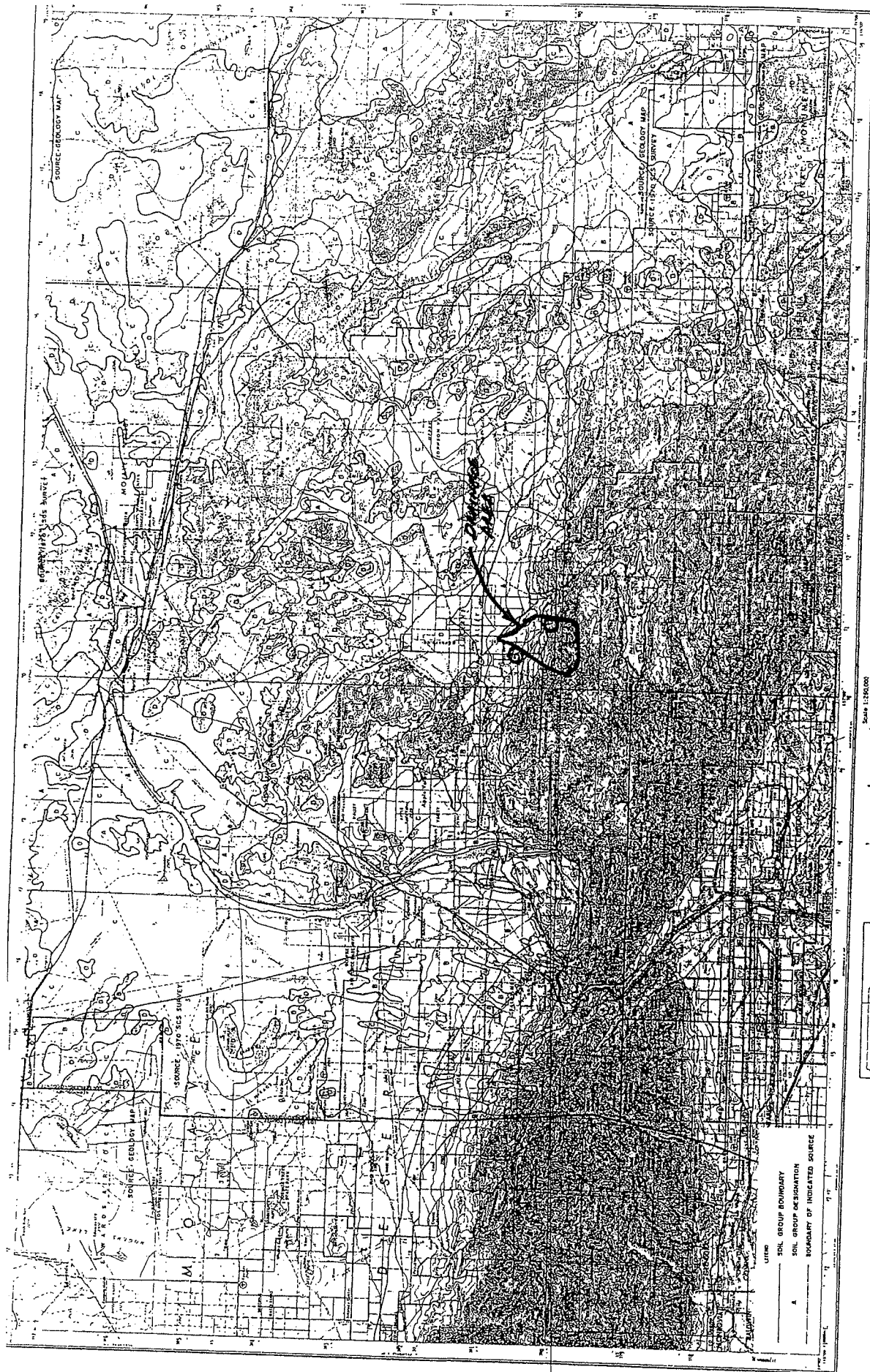
Good-Heavy or dense cover with more than 75 percent of the ground surface protected.

3. See Figure C-2 for definition of cover types.

| ACTUAL IMPERVIOUS COVER | | |
|--|----------------------|---|
| Land Use (1) | Range-Percent | Recommended Value For Average Conditions-Percent (2) |
| Natural or Agriculture | 0 - 0 | 0 |
| Public Park | 10 - 25 | 15 |
| School | 30 - 50 | 40 |
| Single Family Residential: (3) | | |
| 2.5 acre lots | 5 - 15 | 10 |
| 1 acre lots | 10 - 25 | 20 |
| 2 dwellings/acre | 20 - 40 | 30 |
| 3-4 dwellings/acre | 30 - 50 | 40 |
| 5-7 dwellings/acre | 35 - 55 | 50 |
| 8-10 dwellings/acre | 50 - 70 | 60 |
| More than 10 dwellings/acre | 65 - 90 | 80 |
| Multiple Family Residential: | | |
| Condominiums | 45 - 70 | 65 |
| Apartments | 65 - 90 | 80 |
| Mobile Home Park | 60 - 85 | 75 |
| Commercial, Downtown Business or Industrial | 80 - 100 | 90 |

Notes:

1. Land use should be based on ultimate development of the watershed. Long range master plans for the County and incorporated cities should be reviewed to insure reasonable land use assumptions.
2. Recommended values are based on average conditions which may not apply to a particular study area. The percentage impervious may vary greatly even on comparable sized lots due to differences in dwelling size, improvements, etc. Landscape practices should also be considered as it is common in some areas to use ornamental gravels underlain by impervious plastic materials in place of lawns and shrubs. A field investigation of a study area shall always be made, and a review of aerial photos, where available, may assist in estimating the percentage of impervious cover in developed areas.
3. For typical equestrian subdivisions increase impervious area 5 percent over the values recommended in the table above.



SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

HYDROLOGIC SOILS GROUP MAP
FOR



CT

BY

DATE

JOB NO.

SHEET

OF

SOUTH PROPERTY LINE BERM



Hall & Foreman, Inc.

Engineering • Surveying • Planning • Landscape Architecture

| SUBJECT | BY | DATE | JOB NO. | SHEET OF |
|--|----|----------|-------------|----------|
| AREA - AVERAGED POINT PRECIP. - 100 YR | BL | 2-Mar-10 | 100146-0000 | 1 OF 1 |

| (1) ISOHYETAL (INCHES) | (2) AREA (ACRES) | WEIGHTING (1) * (2) |
|---|------------------------|--------------------------|
| <u>100 YR 1-HOUR ISOHYETAL AREA-AVERAGING</u> | | |
| 2.1 | 68 | 142.8 |
| 2.0 | 221 | 442.0 |
| 1.9 | 375 | 712.5 |
| 1.8 | 364 | 655.2 |
| 1.7 | 108 | 183.6 |
| 1.6 | 522 | 835.2 |
| 1.5 | 412 | 618 |
| TOTAL MAP AREA = 2070 AC | | TOTAL WEIGHTING = 3589.3 |

$$100 \text{ YR 1-HOUR AREA-AVERAGED VALUE} = 3589.3 / 2070 = 1.73$$

| (1) ISOHYETAL (INCHES) | (2) AREA (ACRES) | WEIGHTING (1) * (2) |
|--|------------------------|------------------------|
| <u>100YR 6-HOUR ISOHYETAL AREA-AVERAGING</u> | | |
| 6.0 | 343 | 2058.0 |
| 5.0 | 701 | 3505.0 |
| 4.5 | 144 | 648.0 |
| 4.0 | 322 | 1288.0 |
| 3.5 | 308 | 1078.0 |
| 3.0 | 252 | 756.0 |
| TOTAL MAP AREA = 2070 AC | | TOTAL WEIGHTING = 9333 |

$$100 \text{ YR 6-HOUR AREA-AVERAGED VALUE} = 9333.0 / 2070 = 4.51$$

| (1) ISOHYETAL (INCHES) | (2) AREA (ACRES) | WEIGHTING (1) * (2) |
|--|------------------------|---------------------------|
| <u>100 YR 24-HOUR ISOHYETAL AREA-AVERAGING</u> | | |
| 18.0 | 37 | 666.0 |
| 16.0 | 663 | 10608.0 |
| 14.0 | 391 | 5474.0 |
| 12.0 | 112 | 1344.0 |
| 10.0 | 207 | 2070.0 |
| 8.0 | 333 | 2664.0 |
| 7.0 | 118 | 826.0 |
| 6.0 | 163 | 978.0 |
| 7.0 | 46 | 322.0 |
| TOTAL MAP AREA = 2070 AC | | TOTAL WEIGHTING = 24952.0 |

$$100 \text{ YR 24-HOUR AREA-AVERAGED VALUE} = 24952.0 / 2070 = 12.05$$

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 Rancho Cucamonga Office: 909.919.7800 Tel / 909.919.7801 Fax
 Victorville Office: 760.241.0595 Tel / 760.241.1937 Fax

Woodland Hills: 818.251.1200 Tel / 818.251.1201 Fax
 Temecula Office: 951.294.9300 Tel / 951.294.9301 Fax
 Santa Clarita Office: 661.284.7400 Tel / 661.284.7401 Fax

100146ex100yr24hr.out

Unit Hydrograph Analysis

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2004, Version 7.0

Study date 03/02/10

+++++

San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 4054

Hi Grade Materials
Lucerne Valley
Unit Hydrograph 100 year 24 hour storm event
100146ex100yr24hr.ubm

SOUTH PROPERTY
LINE BERM PROTECTION

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

| Sub-Area (Ac.) | Duration (hours) | Isohyetal (In) |
|----------------------------|---------------------|-------------------|
| Rainfall data for year 100 | | |
| 2070.00 | 1 | 1.73 |

| | | |
|----------------------------|---|------|
| Rainfall data for year 100 | | |
| 2070.00 | 6 | 4.51 |

| | | |
|----------------------------|----|-------|
| Rainfall data for year 100 | | |
| 2070.00 | 24 | 12.05 |

+++++

***** Area-averaged max loss rate, Fm *****

| SCS curve No.(AMCII) | SCS curve NO.(AMC 3) | Area (Ac.) | Area Fraction | Fp(Fig C6) (In/Hr) | Ap (dec.) | Fm (In/Hr) |
|-------------------------|-------------------------|---------------|------------------|-----------------------|--------------|---------------|
| 93.0 | 98.6 | 10.00 | 0.005 | 0.028 | 1.000 | 0.028 |
| 93.0 | 98.6 | 689.00 | 0.333 | 0.028 | 1.000 | 0.028 |
| 93.0 | 98.6 | 399.00 | 0.193 | 0.028 | 1.000 | 0.028 |
| 78.0 | 92.8 | 972.00 | 0.470 | 0.140 | 1.000 | 0.140 |

Area-averaged adjusted loss rate Fm (In/Hr) = 0.081

***** Area-Averaged low loss rate fraction, Yb *****

| Area (Ac.) | Area Fract | SCS CN (AMC2) | SCS CN (AMC3) | S | Pervious Yield Fr |
|---------------|---------------|------------------|------------------|------|----------------------|
| 10.00 | 0.005 | 93.0 | 98.6 | 0.14 | 0.986 |
| 689.00 | 0.333 | 93.0 | 98.6 | 0.14 | 0.986 |
| 399.00 | 0.193 | 93.0 | 98.6 | 0.14 | 0.986 |
| 972.00 | 0.470 | 78.0 | 92.8 | 0.78 | 0.927 |

Area-averaged catchment yield fraction, Y = 0.958

Area-averaged low loss fraction, Yb = 0.042

User entry of time of concentration = 0.570 (hours)

Watershed area = 2070.00(Ac.)

Catchment Lag time = 0.456 hours

Unit interval = 5.000 minutes

Unit interval percentage of lag time = 18.2749

Hydrograph baseflow = 0.00(CFS)

Tc = 34.1 PER RATIONAL
METHOD CALCULATIONS

100146ex100yr24hr.out
Average maximum watershed loss rate(Fm) = 0.081(In/Hr)
Average low loss rate fraction (Yb) = 0.042 (decimal)
VALLEY DEVELOPED S-Graph proportion = 0.000
VALLEY UNDEVELOPED S-Graph proportion = 0.840
FOOTHILL S-Graph proportion = 0.000
MOUNTAIN S-Graph proportion = 0.000
DESERT S-Graph proportion = 0.160

Computed peak 5-minute rainfall = 0.640(In)
Computed peak 30-minute rainfall = 1.311(In)
Specified peak 1-hour rainfall = 1.730(In)
Computed peak 3-hour rainfall = 3.113(In)
Specified peak 6-hour rainfall = 4.510(In)
Specified peak 24-hour rainfall = 12.050(In)

Rainfall depth area reduction factors:
using a total area of 2070.00(Ac.) (Ref: fig. E-4)

| | |
|--------------------------|--------------------------------|
| 5-minute factor = 0.903 | Adjusted rainfall = 0.578(In) |
| 30-minute factor = 0.903 | Adjusted rainfall = 1.184(In) |
| 1-hour factor = 0.903 | Adjusted rainfall = 1.562(In) |
| 3-hour factor = 0.988 | Adjusted rainfall = 3.075(In) |
| 6-hour factor = 0.994 | Adjusted rainfall = 4.481(In) |
| 24-hour factor = 0.997 | Adjusted rainfall = 12.019(In) |

| Unit Hydrograph | | |
|----------------------|-------------|-----------------|
| Interval | 's' Graph | Unit Hydrograph |
| Number | Mean values | ((CFS)) |
| (K = 25034.06 (CFS)) | | |
| 1 | 1.487 | 372.300 |
| 2 | 5.683 | 1050.457 |
| 3 | 12.926 | 1813.070 |
| 4 | 23.847 | 2734.009 |
| 5 | 37.241 | 3353.052 |
| 6 | 49.899 | 3168.926 |
| 7 | 59.264 | 2344.459 |
| 8 | 65.672 | 1604.135 |
| 9 | 70.448 | 1195.602 |
| 10 | 73.972 | 882.268 |
| 11 | 76.820 | 712.771 |
| 12 | 79.287 | 617.660 |
| 13 | 81.426 | 535.428 |
| 14 | 83.284 | 465.135 |
| 15 | 84.966 | 421.143 |
| 16 | 86.465 | 375.280 |
| 17 | 87.763 | 324.975 |
| 18 | 88.880 | 279.685 |
| 19 | 89.969 | 272.468 |
| 20 | 90.957 | 247.355 |
| 21 | 91.774 | 204.666 |
| 22 | 92.579 | 201.358 |
| 23 | 93.253 | 168.930 |
| 24 | 93.844 | 147.862 |
| 25 | 94.431 | 146.905 |
| 26 | 94.978 | 136.957 |
| 27 | 95.515 | 134.320 |
| 28 | 96.021 | 126.825 |
| 29 | 96.421 | 100.092 |
| 30 | 96.811 | 97.721 |
| 31 | 97.167 | 89.047 |
| 32 | 97.473 | 76.591 |
| 33 | 97.778 | 76.297 |
| 34 | 98.047 | 67.399 |
| 35 | 98.297 | 62.585 |
| 36 | 98.541 | 61.151 |
| 37 | 98.740 | 49.693 |
| 38 | 98.928 | 47.213 |
| 39 | 99.113 | 46.194 |
| 40 | 99.285 | 43.199 |
| 41 | 99.457 | 43.004 |
| 42 | 99.629 | 43.004 |
| 43 | 99.804 | 43.835 |
| 44 | 100.000 | 21.918 |

Total soil rain loss = 0.48(In)
Total effective rainfall = 11.53(In)
Peak flow rate in flood hydrograph = 3962.28(CFS)

 ++++++
 24 - H O U R S T O R M
 R u n o f f H y d r o g r a p h

 Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume | Ac.Ft | Q(CFS) | 0 | 1000.0 | 2000.0 | 3000.0 | 4000.0 |
|-----------|----------|-------|--------|-----|--------|--------|--------|--------|
| 0+ 5 | 0.0730 | | 10.60 | Q | | | | |
| 0+10 | 0.3521 | | 40.52 | Q | | | | |
| 0+15 | 0.9870 | | 92.20 | Q | | | | |
| 0+20 | 2.1590 | | 170.16 | VQ | | | | |
| 0+25 | 3.9900 | | 265.87 | V Q | | | | |
| 0+30 | 6.4451 | | 356.48 | V Q | | | | |
| 0+35 | 9.3635 | | 423.75 | V Q | | | | |
| 0+40 | 12.6008 | | 470.06 | V Q | | | | |
| 0+45 | 16.0775 | | 504.81 | V Q | | | | |
| 0+50 | 19.7325 | | 530.70 | V Q | | | | |
| 0+55 | 23.5328 | | 551.81 | V Q | | | | |
| 1+ 0 | 27.4602 | | 570.25 | V Q | | | | |
| 1+ 5 | 31.4986 | | 586.38 | V Q | | | | |
| 1+10 | 35.6345 | | 600.53 | V Q | | | | |
| 1+15 | 39.8595 | | 613.47 | V Q | | | | |
| 1+20 | 44.1647 | | 625.12 | V Q | | | | |
| 1+25 | 48.5404 | | 635.36 | V Q | | | | |
| 1+30 | 52.9780 | | 644.33 | V Q | | | | |
| 1+35 | 57.4761 | | 653.12 | V Q | | | | |
| 1+40 | 62.0299 | | 661.21 | V Q | | | | |
| 1+45 | 66.6312 | | 668.11 | V Q | | | | |
| 1+50 | 71.2794 | | 674.92 | V Q | | | | |
| 1+55 | 75.9683 | | 680.83 | V Q | | | | |
| 2+ 0 | 80.6940 | | 686.16 | V Q | | | | |
| 2+ 5 | 85.4562 | | 691.48 | V Q | | | | |
| 2+10 | 90.2532 | | 696.52 | V Q | | | | |
| 2+15 | 95.0845 | | 701.50 | V Q | | | | |
| 2+20 | 99.9487 | | 706.29 | V Q | | | | |
| 2+25 | 104.8408 | | 710.33 | V Q | | | | |
| 2+30 | 109.7603 | | 714.31 | V Q | | | | |
| 2+35 | 114.7057 | | 718.07 | V Q | | | | |
| 2+40 | 119.6745 | | 721.48 | V Q | | | | |
| 2+45 | 124.6669 | | 724.89 | V Q | | | | |
| 2+50 | 129.6811 | | 728.06 | V Q | | | | |
| 2+55 | 134.7163 | | 731.11 | V Q | | | | |
| 3+ 0 | 139.7723 | | 734.13 | V Q | | | | |
| 3+ 5 | 144.8470 | | 736.84 | V Q | | | | |
| 3+10 | 149.9399 | | 739.49 | V Q | | | | |
| 3+15 | 155.0510 | | 742.13 | V Q | | | | |
| 3+20 | 160.1797 | | 744.69 | V Q | | | | |
| 3+25 | 165.3260 | | 747.25 | V Q | | | | |
| 3+30 | 170.4902 | | 749.83 | V Q | | | | |
| 3+35 | 175.6724 | | 752.45 | V Q | | | | |
| 3+40 | 180.8683 | | 754.46 | V Q | | | | |
| 3+45 | 186.0739 | | 755.85 | V Q | | | | |
| 3+50 | 191.2892 | | 757.26 | V Q | | | | |
| 3+55 | 196.5143 | | 758.68 | V Q | | | | |
| 4+ 0 | 201.7491 | | 760.11 | V Q | | | | |
| 4+ 5 | 206.9940 | | 761.55 | V Q | | | | |
| 4+10 | 212.2488 | | 763.00 | V Q | | | | |
| 4+15 | 217.5138 | | 764.47 | V Q | | | | |
| 4+20 | 222.7889 | | 765.95 | V Q | | | | |
| 4+25 | 228.0743 | | 767.44 | V Q | | | | |
| 4+30 | 233.3701 | | 768.95 | V Q | | | | |
| 4+35 | 238.6763 | | 770.47 | V Q | | | | |
| 4+40 | 243.9931 | | 772.00 | V Q | | | | |
| 4+45 | 249.3206 | | 773.55 | V Q | | | | |
| 4+50 | 254.6588 | | 775.11 | V Q | | | | |
| 4+55 | 260.0078 | | 776.68 | V Q | | | | |
| 5+ 0 | 265.3678 | | 778.27 | V Q | | | | |
| 5+ 5 | 270.7389 | | 779.87 | V Q | | | | |
| 5+10 | 276.1210 | | 781.49 | V Q | | | | |
| 5+15 | 281.5145 | | 783.13 | V Q | | | | |
| 5+20 | 286.9192 | | 784.78 | V Q | | | | |
| 5+25 | 292.3355 | | 786.44 | V Q | | | | |
| 5+30 | 297.7633 | | 788.12 | V Q | | | | |
| 5+35 | 303.2028 | | 789.82 | VQ | | | | |
| 5+40 | 308.6542 | | 791.53 | VQ | | | | |
| 5+45 | 314.1174 | | 793.26 | VQ | | | | |
| 5+50 | 319.5927 | | 795.01 | VQ | | | | |
| 5+55 | 325.0801 | | 796.77 | VQ | | | | |
| 6+ 0 | 330.5798 | | 798.56 | VQ | | | | |
| 6+ 5 | 336.0919 | | 800.36 | V Q | | | | |
| 6+10 | 341.6165 | | 802.17 | V Q | | | | |

| | | | | | |
|-------|----------|---------|-----|--|--|
| 6+15 | 347.1538 | 804.01 | V Q | | |
| 6+20 | 352.7038 | 805.87 | VQ | | |
| 6+25 | 358.2668 | 807.74 | VQ | | |
| 6+30 | 363.8428 | 809.64 | VQ | | |
| 6+35 | 369.4321 | 811.56 | VQ | | |
| 6+40 | 375.0346 | 813.49 | VQ | | |
| 6+45 | 380.6507 | 815.45 | VQ | | |
| 6+50 | 386.2803 | 817.43 | VQ | | |
| 6+55 | 391.9238 | 819.43 | VQ | | |
| 7+ 0 | 397.5811 | 821.45 | Q | | |
| 7+ 5 | 403.2526 | 823.49 | Q | | |
| 7+10 | 408.9383 | 825.56 | Q | | |
| 7+15 | 414.6384 | 827.65 | Q | | |
| 7+20 | 420.3530 | 829.77 | Q | | |
| 7+25 | 426.0824 | 831.91 | Q | | |
| 7+30 | 431.8267 | 834.07 | Q | | |
| 7+35 | 437.5861 | 836.26 | Q | | |
| 7+40 | 443.3607 | 838.48 | Q | | |
| 7+45 | 449.1508 | 840.72 | QV | | |
| 7+50 | 454.9565 | 842.99 | QV | | |
| 7+55 | 460.7781 | 845.29 | QV | | |
| 8+ 0 | 466.6156 | 847.61 | QV | | |
| 8+ 5 | 472.4694 | 849.97 | QV | | |
| 8+10 | 478.3396 | 852.35 | QV | | |
| 8+15 | 484.2264 | 854.77 | QV | | |
| 8+20 | 490.1301 | 857.21 | QV | | |
| 8+25 | 496.0508 | 859.69 | QV | | |
| 8+30 | 501.9889 | 862.20 | Q V | | |
| 8+35 | 507.9444 | 864.75 | Q V | | |
| 8+40 | 513.9177 | 867.32 | Q V | | |
| 8+45 | 519.9090 | 869.93 | Q V | | |
| 8+50 | 525.9185 | 872.58 | Q V | | |
| 8+55 | 531.9465 | 875.27 | Q V | | |
| 9+ 0 | 537.9933 | 877.99 | Q V | | |
| 9+ 5 | 544.0590 | 880.75 | Q V | | |
| 9+10 | 550.1441 | 883.55 | Q V | | |
| 9+15 | 556.2487 | 886.39 | Q V | | |
| 9+20 | 562.3731 | 889.27 | Q V | | |
| 9+25 | 568.5177 | 892.19 | Q V | | |
| 9+30 | 574.6827 | 895.16 | Q V | | |
| 9+35 | 580.8685 | 898.18 | Q V | | |
| 9+40 | 587.0754 | 901.23 | Q V | | |
| 9+45 | 593.3036 | 904.34 | Q V | | |
| 9+50 | 599.5536 | 907.50 | Q V | | |
| 9+55 | 605.8256 | 910.70 | Q V | | |
| 10+ 0 | 612.1201 | 913.96 | Q V | | |
| 10+ 5 | 618.4374 | 917.27 | Q V | | |
| 10+10 | 624.7778 | 920.63 | Q V | | |
| 10+15 | 631.1418 | 924.05 | Q V | | |
| 10+20 | 637.5297 | 927.53 | Q V | | |
| 10+25 | 643.9420 | 931.07 | Q V | | |
| 10+30 | 650.3791 | 934.67 | Q V | | |
| 10+35 | 656.8415 | 938.33 | Q V | | |
| 10+40 | 663.3295 | 942.06 | Q V | | |
| 10+45 | 669.8436 | 945.86 | Q V | | |
| 10+50 | 676.3844 | 949.72 | Q V | | |
| 10+55 | 682.9523 | 953.66 | Q V | | |
| 11+ 0 | 689.5479 | 957.67 | Q V | | |
| 11+ 5 | 696.1716 | 961.76 | Q V | | |
| 11+10 | 702.8240 | 965.93 | Q V | | |
| 11+15 | 709.5058 | 970.19 | Q V | | |
| 11+20 | 716.2174 | 974.52 | Q V | | |
| 11+25 | 722.9595 | 978.95 | Q V | | |
| 11+30 | 729.7327 | 983.47 | Q V | | |
| 11+35 | 736.5377 | 988.09 | Q V | | |
| 11+40 | 743.3752 | 992.80 | Q V | | |
| 11+45 | 750.2458 | 997.62 | Q V | | |
| 11+50 | 757.1504 | 1002.55 | Q V | | |
| 11+55 | 764.0897 | 1007.58 | Q V | | |
| 12+ 0 | 771.0645 | 1012.74 | Q V | | |
| 12+ 5 | 778.0499 | 1014.28 | Q V | | |
| 12+10 | 785.0000 | 1009.16 | Q V | | |
| 12+15 | 791.8635 | 996.58 | Q V | | |
| 12+20 | 798.5783 | 974.99 | Q V | | |
| 12+25 | 805.1038 | 947.50 | Q V | | |
| 12+30 | 811.4550 | 922.20 | Q V | | |
| 12+35 | 817.6914 | 905.53 | Q V | | |
| 12+40 | 823.8666 | 896.63 | Q V | | |
| 12+45 | 830.0108 | 892.14 | Q V | | |
| 12+50 | 836.1479 | 891.10 | Q V | | |
| 12+55 | 842.2916 | 892.07 | Q V | | |
| 13+ 0 | 848.4506 | 894.29 | Q V | | |
| 13+ 5 | 854.6329 | 897.67 | Q V | | |
| 13+10 | 860.8456 | 902.08 | Q V | | |

| | | |
|-------|-----------|---------|
| 13+15 | 867.0942 | 907.30 |
| 13+20 | 873.3845 | 913.34 |
| 13+25 | 879.7225 | 920.29 |
| 13+30 | 886.1145 | 928.11 |
| 13+35 | 892.5638 | 936.45 |
| 13+40 | 899.0755 | 945.50 |
| 13+45 | 905.6562 | 955.51 |
| 13+50 | 912.3096 | 966.08 |
| 13+55 | 919.0423 | 977.58 |
| 14+ 0 | 925.8598 | 989.91 |
| 14+ 5 | 932.7824 | 1005.17 |
| 14+10 | 939.8437 | 1025.30 |
| 14+15 | 947.0805 | 1050.79 |
| 14+20 | 954.5368 | 1082.65 |
| 14+25 | 962.2457 | 1119.34 |
| 14+30 | 970.2059 | 1155.84 |
| 14+35 | 978.3909 | 1188.46 |
| 14+40 | 986.7786 | 1217.90 |
| 14+45 | 995.3613 | 1246.20 |
| 14+50 | 1004.1364 | 1274.16 |
| 14+55 | 1013.1090 | 1302.82 |
| 15+ 0 | 1022.2881 | 1332.79 |
| 15+ 5 | 1031.6860 | 1364.58 |
| 15+10 | 1041.3172 | 1398.44 |
| 15+15 | 1051.2003 | 1435.02 |
| 15+20 | 1061.3570 | 1474.77 |
| 15+25 | 1071.7454 | 1508.39 |
| 15+30 | 1082.2721 | 1528.48 |
| 15+35 | 1092.8411 | 1534.63 |
| 15+40 | 1103.3408 | 1524.56 |
| 15+45 | 1113.7424 | 1510.31 |
| 15+50 | 1124.2018 | 1518.70 |
| 15+55 | 1135.0888 | 1580.80 |
| 16+ 0 | 1146.9370 | 1720.36 |
| 16+ 5 | 1161.2971 | 2085.09 |
| 16+10 | 1179.3059 | 2614.87 |
| 16+15 | 1201.1206 | 3167.49 |
| 16+20 | 1226.6038 | 3700.17 |
| 16+25 | 1253.8923 | 3962.28 |
| 16+30 | 1279.7415 | 3753.30 |
| 16+35 | 1301.9275 | 3221.41 |
| 16+40 | 1320.8787 | 2751.71 |
| 16+45 | 1337.8956 | 2470.85 |
| 16+50 | 1353.4787 | 2262.67 |
| 16+55 | 1368.1002 | 2123.05 |
| 17+ 0 | 1381.9862 | 2016.25 |
| 17+ 5 | 1395.1884 | 1916.95 |
| 17+10 | 1407.7310 | 1821.18 |
| 17+15 | 1419.6871 | 1736.03 |
| 17+20 | 1431.0385 | 1648.22 |
| 17+25 | 1441.7707 | 1558.32 |
| 17+30 | 1451.9399 | 1476.57 |
| 17+35 | 1461.7083 | 1418.36 |
| 17+40 | 1471.0650 | 1358.60 |
| 17+45 | 1479.9967 | 1296.88 |
| 17+50 | 1488.6398 | 1254.98 |
| 17+55 | 1496.9391 | 1205.06 |
| 18+ 0 | 1504.9549 | 1163.90 |
| 18+ 5 | 1512.7856 | 1137.02 |
| 18+10 | 1520.4705 | 1115.85 |
| 18+15 | 1528.0858 | 1105.74 |
| 18+20 | 1535.6828 | 1103.08 |
| 18+25 | 1543.2664 | 1101.14 |
| 18+30 | 1550.9074 | 1109.48 |
| 18+35 | 1558.5416 | 1108.48 |
| 18+40 | 1566.1184 | 1100.15 |
| 18+45 | 1573.6490 | 1093.44 |
| 18+50 | 1581.0941 | 1081.03 |
| 18+55 | 1588.4593 | 1069.43 |
| 19+ 0 | 1595.7539 | 1059.18 |
| 19+ 5 | 1602.9541 | 1045.46 |
| 19+10 | 1610.0864 | 1035.61 |
| 19+15 | 1617.1562 | 1026.55 |
| 19+20 | 1624.1583 | 1016.70 |
| 19+25 | 1631.0982 | 1007.67 |
| 19+30 | 1637.9702 | 997.81 |
| 19+35 | 1644.7663 | 986.79 |
| 19+40 | 1651.4181 | 965.84 |
| 19+45 | 1657.9361 | 946.41 |
| 19+50 | 1664.3979 | 938.27 |
| 19+55 | 1670.8110 | 931.17 |
| 20+ 0 | 1677.1751 | 924.07 |
| 20+ 5 | 1683.4905 | 917.00 |
| 20+10 | 1689.7599 | 910.33 |

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| | | | | | | |
|-------|-----------|--------|---|--|--|---|
| 20+15 | 1695.9856 | 903.98 | Q | | | V |
| 20+20 | 1702.1698 | 897.94 | Q | | | V |
| 20+25 | 1708.3126 | 891.94 | Q | | | V |
| 20+30 | 1714.4158 | 886.18 | Q | | | V |
| 20+35 | 1720.4804 | 880.58 | Q | | | V |
| 20+40 | 1726.5080 | 875.22 | Q | | | V |
| 20+45 | 1732.5011 | 870.19 | Q | | | V |
| 20+50 | 1738.4602 | 865.27 | Q | | | V |
| 20+55 | 1744.3863 | 860.48 | Q | | | V |
| 21+ 0 | 1750.2806 | 855.85 | Q | | | V |
| 21+ 5 | 1756.1432 | 851.26 | Q | | | V |
| 21+10 | 1761.9751 | 846.79 | Q | | | V |
| 21+15 | 1767.7771 | 842.45 | Q | | | V |
| 21+20 | 1773.5500 | 838.22 | Q | | | V |
| 21+25 | 1779.2945 | 834.11 | Q | | | V |
| 21+30 | 1785.0116 | 830.11 | Q | | | V |
| 21+35 | 1790.7019 | 826.24 | Q | | | V |
| 21+40 | 1796.3649 | 822.26 | Q | | | V |
| 21+45 | 1801.9995 | 818.15 | Q | | | V |
| 21+50 | 1807.6065 | 814.14 | Q | | | V |
| 21+55 | 1813.1865 | 810.21 | Q | | | V |
| 22+ 0 | 1818.7401 | 806.38 | Q | | | V |
| 22+ 5 | 1824.2678 | 802.62 | Q | | | V |
| 22+10 | 1829.7702 | 798.95 | Q | | | V |
| 22+15 | 1835.2478 | 795.35 | Q | | | V |
| 22+20 | 1840.7011 | 791.82 | Q | | | V |
| 22+25 | 1846.1307 | 788.37 | Q | | | V |
| 22+30 | 1851.5369 | 784.98 | Q | | | V |
| 22+35 | 1856.9202 | 781.66 | Q | | | V |
| 22+40 | 1862.2811 | 778.40 | Q | | | V |
| 22+45 | 1867.6200 | 775.21 | Q | | | V |
| 22+50 | 1872.9373 | 772.07 | Q | | | V |
| 22+55 | 1878.2334 | 768.99 | Q | | | V |
| 23+ 0 | 1883.5086 | 765.96 | Q | | | V |
| 23+ 5 | 1888.7634 | 762.99 | Q | | | V |
| 23+10 | 1893.9980 | 760.07 | Q | | | V |
| 23+15 | 1899.2129 | 757.20 | Q | | | V |
| 23+20 | 1904.4084 | 754.38 | Q | | | V |
| 23+25 | 1909.5848 | 751.61 | Q | | | V |
| 23+30 | 1914.7423 | 748.88 | Q | | | V |
| 23+35 | 1919.8814 | 746.20 | Q | | | V |
| 23+40 | 1925.0023 | 743.56 | Q | | | V |
| 23+45 | 1930.1054 | 740.96 | Q | | | V |
| 23+50 | 1935.1907 | 738.40 | Q | | | V |
| 23+55 | 1940.2588 | 735.88 | Q | | | V |
| 24+ 0 | 1945.3097 | 733.40 | Q | | | V |
| 24+ 5 | 1950.2709 | 720.37 | Q | | | V |
| 24+10 | 1955.0100 | 688.11 | Q | | | V |
| 24+15 | 1959.3784 | 634.29 | Q | | | V |
| 24+20 | 1963.1970 | 554.46 | Q | | | V |
| 24+25 | 1966.3463 | 457.28 | Q | | | V |
| 24+30 | 1968.8645 | 365.65 | Q | | | V |
| 24+35 | 1970.9152 | 297.76 | Q | | | V |
| 24+40 | 1972.6448 | 251.14 | Q | | | V |
| 24+45 | 1974.1345 | 216.30 | Q | | | V |
| 24+50 | 1975.4464 | 190.48 | Q | | | V |
| 24+55 | 1976.6142 | 169.57 | Q | | | V |
| 25+ 0 | 1977.6571 | 151.44 | Q | | | V |
| 25+ 5 | 1978.5917 | 135.70 | Q | | | V |
| 25+10 | 1979.4320 | 122.02 | Q | | | V |
| 25+15 | 1980.1871 | 109.63 | Q | | | V |
| 25+20 | 1980.8661 | 98.59 | Q | | | V |
| 25+25 | 1981.4791 | 89.02 | Q | | | V |
| 25+30 | 1982.0354 | 80.77 | Q | | | V |
| 25+35 | 1982.5364 | 72.75 | Q | | | V |
| 25+40 | 1982.9873 | 65.47 | Q | | | V |
| 25+45 | 1983.3967 | 59.44 | Q | | | V |
| 25+50 | 1983.7652 | 53.51 | Q | | | V |
| 25+55 | 1984.0995 | 48.53 | Q | | | V |
| 26+ 0 | 1984.4037 | 44.17 | Q | | | V |
| 26+ 5 | 1984.6781 | 39.85 | Q | | | V |
| 26+10 | 1984.9248 | 35.82 | Q | | | V |
| 26+15 | 1985.1444 | 31.88 | Q | | | V |
| 26+20 | 1985.3384 | 28.17 | Q | | | V |
| 26+25 | 1985.5122 | 25.24 | Q | | | V |
| 26+30 | 1985.6663 | 22.38 | Q | | | V |
| 26+35 | 1985.8025 | 19.77 | Q | | | V |
| 26+40 | 1985.9232 | 17.53 | Q | | | V |
| 26+45 | 1986.0286 | 15.30 | Q | | | V |
| 26+50 | 1986.1204 | 13.34 | Q | | | V |
| 26+55 | 1986.1998 | 11.52 | Q | | | V |
| 27+ 0 | 1986.2668 | 9.74 | Q | | | V |
| 27+ 5 | 1986.3240 | 8.30 | Q | | | V |
| 27+10 | 1986.3717 | 6.93 | Q | | | V |

| | | | | 100146ex100yr24hr.out | | | | | |
|-------|-----------|------|---|-----------------------|--|--|--|---|--|
| 27+15 | 1986.4102 | 5.59 | Q | | | | | V | |
| 27+20 | 1986.4401 | 4.35 | Q | | | | | V | |
| 27+25 | 1986.4616 | 3.11 | Q | | | | | V | |
| 27+30 | 1986.4745 | 1.88 | Q | | | | | V | |
| 27+35 | 1986.4788 | 0.63 | Q | | | | | V | |



| PROJECT | BY | DATE | JOB NO. | SHEET OF |
|---------------------------------------|----|------|---------|----------|
| <p><u>EAST PROPERTY LINE BERM</u></p> | | | | |



Engineering • Surveying • Planning • Landscape Architecture

| SUBJECT | BY | DATE | JOB NO. | SHEET | OF |
|--|----|----------|-------------|-------|------|
| AREA - AVERAGED POINT PRECIP. - 100 YR | BL | 2-Mar-10 | 100146-0000 | 1 | OF 1 |

| (1) ISOHYETAL (INCHES) | (2) AREA (ACRES) | WEIGHTING (1) * (2) |
|---|------------------------|---------------------------|
| <u>100 YR 1-HOUR ISOHYETAL AREA-AVERAGING</u> | | |
| 2.2 | 121 | 266.2 |
| 2.1 | 377 | 791.7 |
| 2.0 | 485 | 970.0 |
| 1.9 | 1035 | 1966.5 |
| 1.8 | 1161 | 2089.8 |
| 1.7 | 1003 | 1705.1 |
| 1.6 | 3172 | 5075.2 |
| 1.5 | 1641 | 2461.5 |
| TOTAL MAP AREA = 8995 AC | | TOTAL WEIGHTING = 15326.0 |
| 100 YR 1-HOUR AREA-AVERAGED VALUE = $15326.0 / 8995 = 1.70$ | | |

| (1) ISOHYETAL (INCHES) | (2) AREA (ACRES) | WEIGHTING (1) * (2) |
|---|------------------------|-------------------------|
| <u>100YR 6-HOUR ISOHYETAL AREA-AVERAGING</u> | | |
| 6.5 | 353 | 2294.5 |
| 6.0 | 791 | 4746.0 |
| 5.0 | 2492 | 12460.0 |
| 4.5 | 1452 | 6534.0 |
| 4.0 | 1773 | 7092.0 |
| 3.5 | 998 | 3493.0 |
| 3.0 | 1136 | 3408.0 |
| TOTAL MAP AREA = 8995 AC | | TOTAL WEIGHTING = 40028 |
| 100 YR 6-HOUR AREA-AVERAGED VALUE = $40027.5 / 8995 = 4.45$ | | |

| (1) ISOHYETAL (INCHES) | (2) AREA (ACRES) | WEIGHTING (1) * (2) |
|--|------------------------|----------------------------|
| <u>100 YR 24-HOUR ISOHYETAL AREA-AVERAGING</u> | | |
| 18.0 | 275 | 4950.0 |
| 16.0 | 1758 | 28128.0 |
| 14.0 | 1707 | 23898.0 |
| 12.0 | 1370 | 16440.0 |
| 10.0 | 1063 | 10630.0 |
| 8.0 | 1223 | 9784.0 |
| 7.0 | 619 | 4333.0 |
| 6.0 | 606 | 3636.0 |
| 7.0 | 374 | 2618.0 |
| TOTAL MAP AREA = 8995 AC | | TOTAL WEIGHTING = 104417.0 |
| 100 YR 24-HOUR AREA-AVERAGED VALUE = $104417.0 / 8995 = 11.61$ | | |

Unit Hydrograph Analysis

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study date 06/18/10

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San Bernardino County Synthetic Unit Hydrology Method
Manual date - August 1986

Program License Serial Number 4054

Hi Grade Materials
Lucerne Valley
Unit Hydrograph 100 year 24 hour storm event
100146ex100yr24hrVOLUME.ubm*EAST PROPERTY LINE*
BERM PROTECTION

Storm Event Year = 100

Antecedent Moisture Condition = 3

English (in-lb) Input Units Used

English Rainfall Data (Inches) Input Values Used

English Units used in output format

Area averaged rainfall intensity isohyetal data:

| Sub-Area (Ac.) | Duration (hours) | Isohyetal (In) |
|---------------------------------------|---------------------|-------------------|
| Rainfall data for year 100 8995.00 | 1 | 1.70 |
| Rainfall data for year 100 8995.00 | 6 | 4.45 |
| Rainfall data for year 100 8995.00 | 24 | 11.61 |

+++++

***** Area-averaged max loss rate, Fm *****

| SCS curve No. (AMCII) | SCS curve No. (AMC 3) | Area (Ac.) | Area Fraction | Fp(Fig C6) (In/Hr) | Ap (dec.) | Fm (In/Hr) |
|--------------------------|--------------------------|---------------|------------------|-----------------------|--------------|---------------|
| 93.0 | 98.6 | 10.00 | 0.001 | 0.028 | 1.000 | 0.028 |
| 93.0 | 98.6 | 966.00 | 0.107 | 0.028 | 1.000 | 0.028 |
| 78.0 | 92.8 | 1000.00 | 0.111 | 0.140 | 1.000 | 0.140 |
| 78.0 | 92.8 | 345.00 | 0.038 | 0.140 | 1.000 | 0.140 |
| 93.0 | 98.6 | 10.00 | 0.001 | 0.028 | 1.000 | 0.028 |
| 78.0 | 92.8 | 480.00 | 0.053 | 0.140 | 1.000 | 0.140 |
| 78.0 | 92.8 | 669.00 | 0.074 | 0.140 | 1.000 | 0.140 |
| 78.0 | 92.8 | 100.00 | 0.011 | 0.140 | 1.000 | 0.140 |
| 93.0 | 98.6 | 10.00 | 0.001 | 0.028 | 1.000 | 0.028 |
| 93.0 | 98.6 | 1617.00 | 0.180 | 0.028 | 1.000 | 0.028 |
| 93.0 | 98.6 | 347.00 | 0.039 | 0.028 | 1.000 | 0.028 |
| 93.0 | 98.6 | 10.00 | 0.001 | 0.028 | 1.000 | 0.028 |
| 93.0 | 98.6 | 811.00 | 0.090 | 0.028 | 1.000 | 0.028 |
| 78.0 | 92.8 | 482.00 | 0.054 | 0.140 | 1.000 | 0.140 |
| 93.0 | 98.6 | 10.00 | 0.001 | 0.028 | 1.000 | 0.028 |
| 93.0 | 98.6 | 689.00 | 0.077 | 0.028 | 1.000 | 0.028 |
| 93.0 | 98.6 | 399.00 | 0.044 | 0.028 | 1.000 | 0.028 |
| 78.0 | 92.8 | 972.00 | 0.108 | 0.140 | 1.000 | 0.140 |
| 78.0 | 92.8 | 68.00 | 0.008 | 0.140 | 1.000 | 0.140 |

Area-averaged adjusted loss rate Fm (In/Hr) = 0.079

***** Area-Averaged low loss rate fraction, Yb *****

| Area (Ac.) | Area Fract | SCS CN (AMC2) | SCS CN (AMC3) | S | Pervious Yield Fr |
|---------------|---------------|------------------|------------------|------|----------------------|
| 10.00 | 0.001 | 93.0 | 98.6 | 0.14 | 0.985 |

| 100146ex100yr24hrVOLUME.out | | | | | |
|-----------------------------|-------|------|------|------|-------|
| 966.00 | 0.107 | 93.0 | 98.6 | 0.14 | 0.985 |
| 1000.00 | 0.111 | 78.0 | 92.8 | 0.78 | 0.924 |
| 345.00 | 0.038 | 78.0 | 92.8 | 0.78 | 0.924 |
| 10.00 | 0.001 | 93.0 | 98.6 | 0.14 | 0.985 |
| 480.00 | 0.053 | 78.0 | 92.8 | 0.78 | 0.924 |
| 669.00 | 0.074 | 78.0 | 92.8 | 0.78 | 0.924 |
| 100.00 | 0.011 | 78.0 | 92.8 | 0.78 | 0.924 |
| 10.00 | 0.001 | 93.0 | 98.6 | 0.14 | 0.985 |
| 1617.00 | 0.180 | 93.0 | 98.6 | 0.14 | 0.985 |
| 347.00 | 0.039 | 93.0 | 98.6 | 0.14 | 0.985 |
| 10.00 | 0.001 | 93.0 | 98.6 | 0.14 | 0.985 |
| 811.00 | 0.090 | 93.0 | 98.6 | 0.14 | 0.985 |
| 482.00 | 0.054 | 78.0 | 92.8 | 0.78 | 0.924 |
| 10.00 | 0.001 | 93.0 | 98.6 | 0.14 | 0.985 |
| 689.00 | 0.077 | 93.0 | 98.6 | 0.14 | 0.985 |
| 399.00 | 0.044 | 93.0 | 98.6 | 0.14 | 0.985 |
| 972.00 | 0.108 | 78.0 | 92.8 | 0.78 | 0.924 |
| 68.00 | 0.008 | 78.0 | 92.8 | 0.78 | 0.924 |

Area-averaged catchment yield fraction, $Y = 0.957$
 Area-averaged low loss fraction, $Y_b = 0.043$
 User entry of time of concentration = 0.575 (hours)
 watershed area = 8995.00(Ac.)
 Catchment Lag time = 0.460 hours
 Unit interval = 5.000 minutes
 Unit interval percentage of lag time = 18.1159
 Hydrograph baseflow = 0.00(CFS)
 Average maximum watershed loss rate(F_m) = 0.079(In/Hr)
 Average low loss rate fraction (Y_b) = 0.043 (decimal)
 VALLEY DEVELOPED S-Graph proportion = 0.000
 VALLEY UNDEVELOPED S-Graph proportion = 0.870
 FOOTHILL S-Graph proportion = 0.000
 MOUNTAIN S-Graph proportion = 0.000
 DESERT S-Graph proportion = 0.130

*T_c = 34.5 min per
 RATIONAL METHOD T_c
 CALCULATIONS*

Computed peak 5-minute rainfall = 0.629(In)
 Computed peak 30-minute rainfall = 1.288(In)
 Specified peak 1-hour rainfall = 1.700(In)
 Computed peak 3-hour rainfall = 3.067(In)
 Specified peak 6-hour rainfall = 4.450(In)
 Specified peak 24-hour rainfall = 11.610(In)

Rainfall depth area reduction factors:
 Using a total area of 8995.00(Ac.) (Ref: fig. E-4)

| | |
|--------------------------|--------------------------------|
| 5-minute factor = 0.694 | Adjusted rainfall = 0.437(In) |
| 30-minute factor = 0.702 | Adjusted rainfall = 0.905(In) |
| 1-hour factor = 0.704 | Adjusted rainfall = 1.198(In) |
| 3-hour factor = 0.950 | Adjusted rainfall = 2.914(In) |
| 6-hour factor = 0.976 | Adjusted rainfall = 4.341(In) |
| 24-hour factor = 0.987 | Adjusted rainfall = 11.454(In) |

Unit Hydrograph

| Interval Number | 'S' Graph Mean values | Unit Hydrograph ((CFS)) |
|-----------------------|-----------------------|-------------------------|
| (K = 108783.28 (CFS)) | | |
| 1 | 1.494 | 1625.397 |
| 2 | 5.671 | 4543.437 |
| 3 | 12.859 | 7819.680 |
| 4 | 23.578 | 11660.317 |
| 5 | 36.712 | 14287.489 |

100146ex100yr24hrVOLUME.out

| | | |
|----|---------|-----------|
| 6 | 49.359 | 13758.364 |
| 7 | 58.836 | 10309.194 |
| 8 | 65.337 | 7072.185 |
| 9 | 70.170 | 5256.681 |
| 10 | 73.730 | 3873.455 |
| 11 | 76.565 | 3083.268 |
| 12 | 79.052 | 2705.434 |
| 13 | 81.192 | 2328.036 |
| 14 | 83.051 | 2022.145 |
| 15 | 84.733 | 1830.397 |
| 16 | 86.249 | 1648.713 |
| 17 | 87.554 | 1419.640 |
| 18 | 88.678 | 1222.703 |
| 19 | 89.759 | 1176.707 |
| 20 | 90.774 | 1104.017 |
| 21 | 91.594 | 891.994 |
| 22 | 92.394 | 869.624 |
| 23 | 93.101 | 769.201 |
| 24 | 93.686 | 636.492 |
| 25 | 94.270 | 635.050 |
| 26 | 94.821 | 600.294 |
| 27 | 95.356 | 580.966 |
| 28 | 95.878 | 568.353 |
| 29 | 96.293 | 451.687 |
| 30 | 96.682 | 423.309 |
| 31 | 97.055 | 405.066 |
| 32 | 97.367 | 340.005 |
| 33 | 97.675 | 334.233 |
| 34 | 97.959 | 309.662 |
| 35 | 98.209 | 271.233 |
| 36 | 98.457 | 270.282 |
| 37 | 98.667 | 228.749 |
| 38 | 98.853 | 202.195 |
| 39 | 99.038 | 201.240 |
| 40 | 99.213 | 190.481 |
| 41 | 99.386 | 187.464 |
| 42 | 99.558 | 187.464 |
| 43 | 99.730 | 187.464 |
| 44 | 99.896 | 180.355 |
| 45 | 100.000 | 113.158 |

 Total soil rain loss = 0.48(In)
 Total effective rainfall = 10.98(In)
 Peak flow rate in flood hydrograph = 13431.42(CFS)

+++++
 24 - H O U R S T O R M
 R u n o f f H y d r o g r a p h

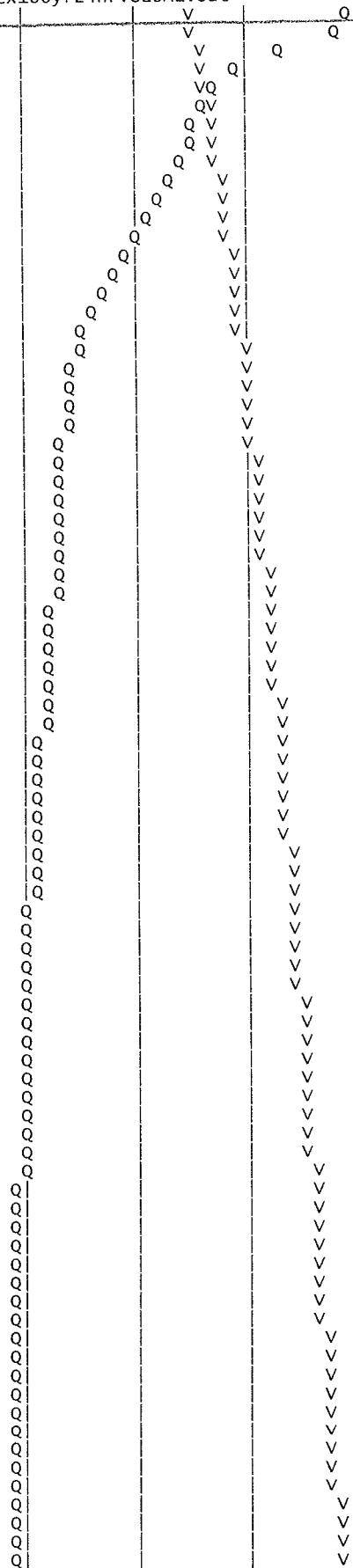
Hydrograph in 5 Minute intervals ((CFS))

| Time(h+m) | Volume | Ac.Ft | Q(CFS) | 0 | 3375.0 | 6750.0 | 10125.0 | 13500.0 |
|-----------|----------|---------|--------|---|--------|--------|---------|---------|
| 0+ 5 | 0.2984 | 43.33 | Q | | | | | |
| 0+10 | 1.4314 | 164.51 | Q | | | | | |
| 0+15 | 4.0017 | 373.20 | VQ | | | | | |
| 0+20 | 8.7165 | 684.59 | V Q | | | | | |
| 0+25 | 16.0614 | 1066.48 | V Q | | | | | |
| 0+30 | 25.9434 | 1434.87 | V Q | | | | | |
| 0+35 | 37.7334 | 1711.90 | V Q | | | | | |
| 0+40 | 50.8402 | 1903.11 | V Q | | | | | |
| 0+45 | 64.9328 | 2046.25 | V Q | | | | | |
| 0+50 | 79.7589 | 2152.76 | V Q | | | | | |
| 0+55 | 95.1749 | 2238.40 | V Q | | | | | |
| 1+ 0 | 111.1123 | 2314.12 | V Q | | | | | |
| 1+ 5 | 127.5029 | 2379.92 | V Q | | | | | |
| 1+10 | 144.2914 | 2437.69 | V Q | | | | | |
| 1+15 | 161.4433 | 2490.46 | V Q | | | | | |
| 1+20 | 178.9261 | 2538.50 | V Q | | | | | |
| 1+25 | 196.6983 | 2580.53 | V Q | | | | | |
| 1+30 | 214.7245 | 2617.39 | V Q | | | | | |
| 1+35 | 232.9967 | 2653.12 | V Q | | | | | |
| 1+40 | 251.5021 | 2686.99 | V Q | | | | | |
| 1+45 | 270.2024 | 2715.29 | V Q | | | | | |
| 1+50 | 289.0940 | 2743.06 | V Q | | | | | |
| 1+55 | 308.1589 | 2768.22 | V Q | | | | | |
| 2+ 0 | 327.3732 | 2789.92 | V Q | | | | | |
| 2+ 5 | 346.7370 | 2811.63 | V Q | | | | | |
| 2+10 | 366.2445 | 2832.49 | V Q | | | | | |
| 2+15 | 385.8925 | 2852.89 | V Q | | | | | |
| 2+20 | 405.6791 | 2873.01 | V Q | | | | | |

| | | | 100146ex100yr24hrVOLUME.out | | | |
|------|-----------|---------|-----------------------------|---|--|--|
| 2+25 | 425.5833 | 2890.09 | V | Q | | |
| 2+30 | 445.6003 | 2906.47 | V | Q | | |
| 2+35 | 465.7272 | 2922.42 | V | Q | | |
| 2+40 | 485.9523 | 2936.69 | V | Q | | |
| 2+45 | 506.2751 | 2950.86 | V | Q | | |
| 2+50 | 526.6913 | 2964.44 | V | Q | | |
| 2+55 | 547.1943 | 2977.04 | V | Q | | |
| 3+ 0 | 567.7844 | 2989.67 | V | Q | | |
| 3+ 5 | 588.4542 | 3001.25 | V | Q | | |
| 3+10 | 609.1992 | 3012.18 | V | Q | | |
| 3+15 | 630.0197 | 3023.13 | V | Q | | |
| 3+20 | 650.9140 | 3033.85 | V | Q | | |
| 3+25 | 671.8819 | 3044.55 | V | Q | | |
| 3+30 | 692.9239 | 3055.30 | V | Q | | |
| 3+35 | 714.0403 | 3066.10 | V | Q | | |
| 3+40 | 735.2302 | 3076.77 | V | Q | | |
| 3+45 | 756.4816 | 3085.70 | V | Q | | |
| 3+50 | 777.7741 | 3091.68 | V | Q | | |
| 3+55 | 799.1082 | 3097.70 | V | Q | | |
| 4+ 0 | 820.4840 | 3103.78 | V | Q | | |
| 4+ 5 | 841.9021 | 3109.91 | V | Q | | |
| 4+10 | 863.3628 | 3116.09 | V | Q | | |
| 4+15 | 884.8664 | 3122.32 | V | Q | | |
| 4+20 | 906.4133 | 3128.61 | V | Q | | |
| 4+25 | 928.0039 | 3134.96 | V | Q | | |
| 4+30 | 949.6386 | 3141.36 | V | Q | | |
| 4+35 | 971.3178 | 3147.81 | V | Q | | |
| 4+40 | 993.0418 | 3154.33 | V | Q | | |
| 4+45 | 1014.8111 | 3160.91 | V | Q | | |
| 4+50 | 1036.6261 | 3167.54 | V | Q | | |
| 4+55 | 1058.4873 | 3174.24 | V | Q | | |
| 5+ 0 | 1080.3949 | 3180.99 | V | Q | | |
| 5+ 5 | 1102.3496 | 3187.81 | V | Q | | |
| 5+10 | 1124.3516 | 3194.70 | V | Q | | |
| 5+15 | 1146.4016 | 3201.65 | V | Q | | |
| 5+20 | 1168.4998 | 3208.66 | V | Q | | |
| 5+25 | 1190.6468 | 3215.75 | V | Q | | |
| 5+30 | 1212.8431 | 3222.90 | V | Q | | |
| 5+35 | 1235.0891 | 3230.12 | V | Q | | |
| 5+40 | 1257.3853 | 3237.41 | V | Q | | |
| 5+45 | 1279.7322 | 3244.77 | V | Q | | |
| 5+50 | 1302.1303 | 3252.21 | V | Q | | |
| 5+55 | 1324.5802 | 3259.72 | V | Q | | |
| 6+ 0 | 1347.0823 | 3267.31 | V | Q | | |
| 6+ 5 | 1369.6373 | 3274.97 | V | Q | | |
| 6+10 | 1392.2455 | 3282.72 | V | Q | | |
| 6+15 | 1414.9077 | 3290.54 | V | Q | | |
| 6+20 | 1437.6242 | 3298.45 | V | Q | | |
| 6+25 | 1460.3958 | 3306.44 | V | Q | | |
| 6+30 | 1483.2230 | 3314.51 | V | Q | | |
| 6+35 | 1506.1064 | 3322.67 | V | Q | | |
| 6+40 | 1529.0466 | 3330.92 | V | Q | | |
| 6+45 | 1552.0442 | 3339.25 | V | Q | | |
| 6+50 | 1575.0999 | 3347.68 | V | Q | | |
| 6+55 | 1598.2143 | 3356.21 | V | Q | | |
| 7+ 0 | 1621.3880 | 3364.82 | V | Q | | |
| 7+ 5 | 1644.6217 | 3373.54 | V | Q | | |
| 7+10 | 1667.9161 | 3382.35 | V | Q | | |
| 7+15 | 1691.2719 | 3391.26 | V | Q | | |
| 7+20 | 1714.6898 | 3400.28 | V | Q | | |
| 7+25 | 1738.1706 | 3409.40 | V | Q | | |
| 7+30 | 1761.7149 | 3418.63 | V | Q | | |
| 7+35 | 1785.3235 | 3427.97 | V | Q | | |
| 7+40 | 1808.9972 | 3437.42 | V | Q | | |
| 7+45 | 1832.7368 | 3446.99 | V | Q | | |
| 7+50 | 1856.5431 | 3456.67 | VQ | | | |
| 7+55 | 1880.4169 | 3466.47 | VQ | | | |
| 8+ 0 | 1904.3590 | 3476.40 | VQ | | | |
| 8+ 5 | 1928.3703 | 3486.45 | VQ | | | |
| 8+10 | 1952.4517 | 3496.62 | VQ | | | |
| 8+15 | 1976.6041 | 3506.93 | VQ | | | |
| 8+20 | 2000.8284 | 3517.37 | VQ | | | |
| 8+25 | 2025.1256 | 3527.95 | VQ | | | |
| 8+30 | 2049.4965 | 3538.66 | VQ | | | |
| 8+35 | 2073.9423 | 3549.52 | Q | | | |
| 8+40 | 2098.4638 | 3560.53 | Q | | | |
| 8+45 | 2123.0622 | 3571.68 | Q | | | |
| 8+50 | 2147.7385 | 3582.99 | Q | | | |
| 8+55 | 2172.4937 | 3594.46 | Q | | | |
| 9+ 0 | 2197.3290 | 3606.09 | Q | | | |
| 9+ 5 | 2222.2456 | 3617.89 | Q | | | |
| 9+10 | 2247.2446 | 3629.85 | Q | | | |
| 9+15 | 2272.3271 | 3641.99 | QV | | | |
| 9+20 | 2297.4945 | 3654.31 | QV | | | |

Page 5

| | | |
|-------|-----------|----------|
| 16+25 | 5218.9413 | 13431.42 |
| 16+30 | 5307.7938 | 12901.39 |
| 16+35 | 5385.8450 | 11333.04 |
| 16+40 | 5454.6245 | 9986.78 |
| 16+45 | 5518.7418 | 9309.83 |
| 16+50 | 5579.9640 | 8889.47 |
| 16+55 | 5639.4284 | 8634.22 |
| 17+ 0 | 5697.6761 | 8457.56 |
| 17+ 5 | 5754.3798 | 8233.39 |
| 17+10 | 5809.1802 | 7957.01 |
| 17+15 | 5861.8644 | 7649.75 |
| 17+20 | 5911.9774 | 7276.41 |
| 17+25 | 5959.0521 | 6835.25 |
| 17+30 | 6003.2424 | 6416.43 |
| 17+35 | 6045.3042 | 6107.37 |
| 17+40 | 6085.5592 | 5845.02 |
| 17+45 | 6123.9627 | 5576.20 |
| 17+50 | 6161.0904 | 5390.94 |
| 17+55 | 6196.9196 | 5202.40 |
| 18+ 0 | 6231.5083 | 5022.27 |
| 18+ 5 | 6265.2786 | 4903.44 |
| 18+10 | 6298.3912 | 4807.96 |
| 18+15 | 6331.0729 | 4745.37 |
| 18+20 | 6363.5218 | 4711.59 |
| 18+25 | 6395.7223 | 4675.51 |
| 18+30 | 6427.9063 | 4673.11 |
| 18+35 | 6459.9600 | 4654.20 |
| 18+40 | 6491.6694 | 4604.21 |
| 18+45 | 6523.0968 | 4563.25 |
| 18+50 | 6554.1507 | 4509.03 |
| 18+55 | 6584.7936 | 4449.34 |
| 19+ 0 | 6615.1033 | 4400.97 |
| 19+ 5 | 6645.0109 | 4342.59 |
| 19+10 | 6674.5880 | 4294.59 |
| 19+15 | 6703.8936 | 4255.17 |
| 19+20 | 6732.9138 | 4213.74 |
| 19+25 | 6761.6681 | 4175.12 |
| 19+30 | 6790.1516 | 4135.81 |
| 19+35 | 6818.3550 | 4095.13 |
| 19+40 | 6846.2362 | 4048.35 |
| 19+45 | 6873.6467 | 3980.00 |
| 19+50 | 6900.5307 | 3903.56 |
| 19+55 | 6927.1806 | 3869.57 |
| 20+ 0 | 6953.6210 | 3839.14 |
| 20+ 5 | 6979.8578 | 3809.59 |
| 20+10 | 7005.8756 | 3777.79 |
| 20+15 | 7031.6834 | 3747.29 |
| 20+20 | 7057.2906 | 3718.17 |
| 20+25 | 7082.6997 | 3689.39 |
| 20+30 | 7107.9162 | 3661.45 |
| 20+35 | 7132.9460 | 3634.32 |
| 20+40 | 7157.7925 | 3607.72 |
| 20+45 | 7182.4697 | 3583.12 |
| 20+50 | 7206.9959 | 3561.20 |
| 20+55 | 7231.3747 | 3539.81 |
| 21+ 0 | 7255.6113 | 3519.15 |
| 21+ 5 | 7279.7083 | 3498.88 |
| 21+10 | 7303.6689 | 3479.08 |
| 21+15 | 7327.4972 | 3459.87 |
| 21+20 | 7351.1966 | 3441.16 |
| 21+25 | 7374.7708 | 3422.98 |
| 21+30 | 7398.2233 | 3405.31 |
| 21+35 | 7421.5575 | 3388.12 |
| 21+40 | 7444.7763 | 3371.36 |
| 21+45 | 7467.8792 | 3354.55 |
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| 23+25 | 7908.0804 | 3070.03 | | | | | V |
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| 26+15 | 8218.1264 | 137.96 | | | | | V |
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| 27+40 | 8224.2428 | 3.02 | | | | | V |

EXHIBIT H

Jurisdictional Waters Delineation Report

JURISDICTIONAL WATERS DELINEATION FOR LUCERNE VALLEY PIT

APN 0449-111-33

**CONDITIONAL USE PERMIT
10507SM1/DN334-89**

SAN BERNARDINO COUNTY, CALIFORNIA
(USGS Lucerne Valley, CA Quad., Township 4 North, Range 1 East, Section 30)



Prepared for:

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Project Number: #2011-72**

December 15, 2011

FILE COPY

EXECUTIVE SUMMARY

RCA Associates LLC was retained by Hi-Grade Materials, Inc. to conduct a jurisdictional waters delineation in support of their Conditional Use Permit for the proposed mine expansion area located immediately south of the existing mine on Meridian Road, 1.3 miles south of State Highway 18 in :Lucerne Valley, San Bernardino County, California. The proposed expansion area, which is composed of lands owned by the State of California, is approximately 113-acres in size and is located in Section 30, Township 4 North, Range 1 East.

The purpose of the jurisdictional delineation on the proposed expansion area was to determine the location and size of the areas that are defined as waters of the U.S. (WoUS) and waters of the State (WoS), and to calculate impacts to jurisdictional waters. The data provided in this report will be utilized, if necessary, to apply to the U.S. Army Corps of Engineers for a Clean Water Act Section 404 Nationwide or Individual Permit for temporary and permanent impacts to WoUS, to the California Regional Water Quality Control Board for a Section 401 Water Quality Certification and/or a Report of Waste Discharge under California Water Code Section 13260, and to the California Department of Fish and Game (CDFG) for a Streambed Alteration Agreement as required by California Fish and Game Code Sections 1602 and 1603.

Based on the delineation conducted on the project site, it has been determined that a total of 19.7-acres of WoUS/WoS occur within the proposed property boundaries plus 1.8-acres of WoUS/WoS acres off-site which will also be affected by mining activities. The total acreage of 21.5 of WoUS/WoS are located within an unnamed ephemeral dry desert wash and a smaller tributary. The desert wash and its tributary were determined to be WoUS/WoS since both channels met the characteristics that define a nexus to the nearest Traditional Navigable Water (TNW) (i.e., Lucerne Lake). Lucerne Lake is located approximately 5.5 miles northwest of the property and is considered a TNW since may support populations of Federal species (i.e., fairy shrimp), drains a larger watershed, is used for various recreational uses, and is utilized by a wide variety of waterfowl.

The proposed mine expansion would impact CDFG-regulated streambed and banks corresponding to the 21.5-acres of COE WoUS described above. A Streambed Alteration Agreement permit (SAA) may be required prior to project implementation. Mitigation may also be required in order to satisfy conditions of the CDFG permit. A Report of Waste Discharge must also be filed with the RWQCB in order to obtain Waste Discharge Requirements for actions that may affect groundwater in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land). A Permit Registration Documents package must be submitted to the RWQCB to obtain a General Permit for Discharges of Storm Water Associated with mining activity.)

1.0 INTRODUCTION

The purpose of the jurisdictional delineation within the proposed mine expansion area was to determine the location and size of the areas that are defined as waters of the U.S. (WoUS) and waters of the State (WoS). The collected data was used in conjunction with other technical documents to calculate impacts to jurisdictional waters. If necessary, the data provided in this report will be used to apply to the U.S. Army Corps of Engineers (USACE) for a Clean Water Act (CWA) Section 404 Nationwide or Individual Permit for temporary and permanent impacts to WoUS, to the California Regional Water Quality Control Board (RWQCB) for a Section 401 Water Quality Certification and/or a Report of Waste Discharge under California Water Code Section 13260, and to the California Department of Fish and Game (CDFG) for a Streambed Alteration Agreement (SAA) as required by California Fish and Game Code Sections 1602 and 1603.

1.1 PROPERTY DESCRIPTION

Hi-Grade Materials, Inc. is proposing to expanded their existing mine site into an area immediately south of the existing mine onto lands owned by the State of California (Figures 1, 2, 3 and 4). The proposed expansion area is 113-acres in size and is located along the east side of Meridian Road in Section 30, Township 4 North, Range 1 East about 1.3 miles south of State Highway 18 in Lucerne Valley, California (Figures 1 and 2). The site is relatively flat with a slight slope to the north at an elevation ranging from about 3,400 to 3,500 feet MSL. The USGS Lucerne Valley Quadrangle (1971) shows a blueline channel bisecting the area in a north-south direction, and a relatively large desert wash was identified during the field investigations conducted on November 28 and 29, 2011 consistent with the USGS Lucerne Valley quadrangle.

The property is located within the Mojave Desert and is subject to the rain shadow of the San Gabriel and San Bernardino mountain ranges, with an annual precipitation average of 8-inches (WRCC, 2010). Seasonal precipitation patterns consist with occasional winter storms which cross the mountains and summer monsoon events. Soils within the property are generally sandy, and most precipitation immediately infiltrates the ground; however, some sheet flow traverses the site during large storm events, with most of the on-site flow occurring in the large channel and the small ephemeral washes that cross the property in a north-south direction (Figure 5).

The site currently supports a relatively undisturbed creosote bush community typical of the area (Holland, 1986) (Figure 3) (Table 1). Dominant perennials consisted of creosote bush (*Larrea tridentata*), burrobrush (*Franseria dumosa*), matchweed (*Gutierrezia sarothrae*) that are moderately spaced with minimal vegetation in between the shrubs. Other common perennials present on the site included Whipple's yucca (*Yucca whipplei*), Spanish dagger (*Yucca schidigera*), Joshua tree (*Yucca brevifolia*), and cotton-thorn (*Tetradymia spinosa*). Annuals were relatively diverse with erodium (*Erodium texanum*), schismus (*Schismus barbatus*), fiddleneck (*Amsinckia tessellata*), and buckwheat (*Eriogonum fasciculatum*). Other annuals noted included California poppy (*Eschscholzia californica*) wild oats (*Avena fatua*), and various grass species (*Bromus* sp.). Creosote bush communities typically occurs on well-drained soils with very low available water-holding capacity.

1.2 PROJECT DESCRIPTION

Hi-Grade Materials is proposing to expand their current sand and gravel mine into an area immediately south and adjacent to the existing mine (Figure 4). Operations which are currently occurring within the existing mine boundaries will continue, and will consist of standard open pit sand and gravel mining techniques in order to extract the minerals. Vegetation and overburden material will be removed during the initial mining activities with removal to be accomplished by dozers and front-end loaders. Once mining activities begin, the excavated material will be deposited into haul trucks or onto a conveyor system which will move the minerals to the processing plant to be crushed, screened, washed, then stockpiled as aggregate for sale or diverted to the concrete batch plant or asphalt batch plant for processing. The mining operations within the proposed expansion area will be operated at a level commensurate with market demands. The project may operate up to seven days a week, 12-months a year, and possibly 24-hours a day depending upon market demands. The various types of vehicles which will be present on the site include loaders, dozers, dump trucks, water trucks, bobcat, and pick-up trucks.

The mining activities will produce three types of waste including processing fines, waste oils/solvents, and domestic garbage (Hi-Grade Materials, 2011). The plant processing waste fines will be utilized for reconstruction of the over-steepened slopes on the property. The fine-textured dry sand waste materials separated during the crushing/screening operations will be placed in deposit areas for future sale or will be incorporated into slope reconstruction activities. Equipment and vehicle maintenance will generate some waste oils and lubricants. All waste oils/lubricants will be collected and transferred to a County approved hazardous waste handler. Garbage will be collected in trash bins and will be emptied and transported off-site by a local trash collector.

1.3 REGULATORY OVERVIEW

Activities within streams, wetlands, and riparian areas are regulated by Federal, State, and regional agencies. The U.S. Army Corps of Engineers (COE) regulates Waters of the US (WoUS) and wetlands under Section 404 of the Clean Water Act. The California Department of Fish and Game (CDFG) regulates activities within the streambed, bank, and associated habitat of stream channels under Fish and Game Code 1600-1616. The California Regional Water Quality Control Board regulates discharge not “waters of the U.S.” under Section 4501 of the Federal Clean Water Act and the “waters of the State” under the California Porter-Cologne Water Quality Act.

1.3.1 U.S. ARMY CORPS OF ENGINEERS (COE): WATERS OF THE U.S. (WoUS)

The COE oversees activities associated with Section 404 which includes permits, jurisdictional determinations, and enforcing Section 404 regulations. Specifically, the jurisdictional scope of Section 404 of the Clean Water Act was defined by the U.S. Supreme Court in 2006 in their decision in *Rapanos v. U.S.* and *Carbell v. U.S.* The decisions in these two cases outlined the specific analytical standards for determining jurisdictional issues associated with WoUS.

1.3.2 REGIONAL WATER QUALITY CONTROL BOARD (RWQCB)

The California RWQCB regulates the discharge of waste that could affect WoUS under the California Porter-Cologne water Quality Act or WoUS under Section 401 of the Federal Clean Water Act (CWA). A Report of Waste Discharge (RWD) must be submitted prior to the discharge of any waste which could affect the quality of Waters of the State (California Water Code Section 13260). Waters of the State are defined as any surface water or groundwater that are within the boundaries of the State (Public Code Section 71200), which differs from the CWA definition of WoUS by its inclusion of groundwater and waters outside of the ordinary high water mark in its jurisdiction.

1.3.3 CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG)

CDFG asserts jurisdictional over the bed and banks of a stream channel and associated wildlife and habitats as per CDFG Code Sections 1600-1616. The CDFG jurisdictional area is defined as the top of bank of the channel or to the limit (outer dripline) of the adjacent riparian vegetation. CDFG regulates any activities that will “substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, ground pavement where it will pass into any river, stream, or lake” (Section 1602 of the CDFG Code [Streambed Alteration]). A project proponent is required to notify CDFG prior to the start of any on-site activities. In addition, CDFG will determine after notification if the proposed activities will substantially adversely affect an existing fish and wildlife resource as per Section 1603 of the CDFG Code.

2.0 DELINEATION METHODOLOGY

The delineation of the WoUS, WoS, and associated CDFG jurisdictional areas on the project site was completed by conducting a literature review prior to initiation of field work followed by field surveys on November 28 and 29, 2011. The literature review was used to guide the field surveys and to locate areas of potential jurisdictional waters on available aerial photos.

2.1 LITERATURE REVIEW

The following literature was used to identify areas that may fall under agency jurisdiction and the following resources were reviewed or used prior to the field surveys.

- The Corps of Engineers Wetlands Delineation Manual (USACE 1987)
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (USACE 2008)
- A Field Guide to the Identification of the Ordinary High Water mark (OHWM) in the Arid West Region of the Western United States (Lichvar and McColley 2008)
- U.S. Geological Survey 7.5 Minute Series Topographical Quadrangle, Lucerne Valley (1971) and Fawnskin (1971)
- California Soils Resources Lab's Soil Web Google Earth interface, queried to determine the soils that been mapped on the project site:
<http://casoilresource.lawr.ucdavis.edu/drupal/node/902>
- U.S. Fish and Wildlife Service, Department of Habitat and Resource Conservation, Wetland Geodatabase: <http://wetlandsfws.er.usgs.gov/NWI/index.html>
- Natural Resources Conservation Services, Hydric Soils List of California, 2010:
<http://soils.usda.gov/use/hydric/lists/state.html>

2.2 FIELD SURVEYS

Field surveys were conducted on November 28 and 29, 2011, to determine the structure and composition of on-site streambeds and vegetation in order to verify all potential jurisdictional areas. Vegetation communities observed during the surveys were initially viewed on aerials photos, evaluated during the field investigations, and described and classified using Holland's system (1986).

Transect data was collected using a handheld Global Positioning System (GPS) unit and the GPS coordinates were recorded along the eastern and western edges of the main channel (Figure 5 and Table 2). Transect "A" was delineated along the western edge of the channel and the "B" transect was delineated along the eastern edge of the channel (Figure 5 and Table 2). The centerline of the small tributary was delineated and was designated "C" transect (Figure 5 and Table 2). Stakes and flagging were placed along each transect approximately every 100-feet and were labeled accordingly for future identification as necessary.

2.3 POTENTIAL WATERS OF THE U.S. AND STATE

Federal jurisdiction over a non-wetland WoUS extends to the ordinary high-water mark (OHWM), defined in 33 CFR Part 328.3 of the Code of Federal regulations as “the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris.” In the Arid West region of the United States, waters are variable and include ephemeral/intermittent and perennial channel forms. The most problematic ordinary high-water (OHW) delineations are associated with the commonly occurring ephemeral/intermittent channel forms that dominate the desert landscape.

The hydrology, channel-forming processes and distribution of OHWM indicators are significantly influenced by the desert climate which can make delineations difficult. Typically, the OHWM zone in a low-gradient, alluvial ephemeral/intermittent channel is considered the active floodplain. The dynamics of channels in the arid regions and the frequent transitory nature of traditional OHW indicators in arid environments render the limit of the active floodplain the only reliable and repeatable feature in terms of OHW delineation according to Lichvar and McColley (2008). This conclusion was also supported by recent additional research in Vegetation and Channel Morphology Responses to ordinary High Water Discharge Events in Arid West Stream Channels (Lichvar et Al. 2009).

For the main channel and tributary found on the property, the floodplain and channels were identified using recent aerial photography and by identifying changes in the characteristics of vegetation and substrate composition, and the presences of well-defined OHWMs. The boundaries of each channel were walked while recording GPS data points every 100-feet (approximate) along the various transects (i.e., A, B, and C transects). Soil sampling was recorded within the main channel near transect point “A-4” (Figure 5). It was determined in the field that the CDFG jurisdictional areas coincided with the OHWM because of the lack of riparian vegetation along the main channel as well as along the small tributary (Figure 5).

2.4 DELINEATION RESULTS

A large desert wash which bisects the site in a north-south direction as depicted on Figure 5, and a small well defined tributary also enters the main channel about 600-feet north of the southern boundary of the property (Figure 5). The main channel and tributary have relatively well defined banks and the length of the main channel within the boundaries of the site is about 3,480 linear feet. The width of the main channel varies from about 150 to 270 feet with numerous sand bars located within the center of the channel as depicted in Figure 5. The vegetation within the center-portion of the channel consisted of limited desert vegetation (i.e., creosote bush, burrobush) similar to the vegetation in the adjacent areas. The depth of the main channel varies from 3 to 5 feet with well-defined ordinary high water marks (OHWM) along the banks of the channel. The portion of the small tributary on the property which is connected to the main channel is about 600-feet long with an average channel width of about six feet. The tributary also supports well a defined OHWM along its banks with channel depths ranging from

about 2 to 4 feet. The main channel and tributary are part of an unnamed watershed encompassing approximately 4,200-acres.

The main channel enters a man-made drainage channel running east-west along the southern boundary of the existing mine site with the water directed along the east edge of Meridian Road for about 200 feet. Water flows across Meridian Road during major storm events and enters an existing blueline channel west of Meridian Road (Figures 2 and 5). This off-site blueline channel flows in a north-south direction through Sections 3, 11, 14, 24, and 25, Township 4 North, Range 1 West, and eventually empties into Lucerne Lake. Lucerne Lake is located approximately 5.5 miles north of the property.

2.4.1 U.S. ARMY COPRS OF ENGINEERS DETERMINATION

Based on a review of the U.S. Army Corps of Engineers Jurisdictional Determination Instruction Guidebook (COE, 2007), 33 CFR Part 328, and the results of the field work conducted on November 28 and 29, 2011, it was determined that the main channel and the small tributary described above are WoUS. Both channels are considered “relatively permanent waters” (RPWs) given the fact that the channels likely have continuous flow at least seasonally during major storm events. In addition, the main channel connects to an additional blueline channel off-site directly west of the property which empties into Lucerne Lake which is located about 5.5 miles north of the property. Lucerne Lake is considered to be a “Traditional Navigable Waters” (TNWs). This assumption is based on the potential presence of State and Federal listed fairy shrimp in the lake (personal communication, Carl Benz, USFWS Ventura office, December 1, 2011) and the fact that Lucerne Dry Lake also drains a very large watershed. The lake also supports various recreational uses and the lake is also utilized each year by a variety of waterfowl when water is present. A detailed discussion of the NEXUS determination is provided below.

A total of 21.5-acres of jurisdictional waters were delineated on the property and in adjacent areas that will be affected by mine activities (Figure 5). The limits of the OHWM of the main channel and small tributary were distinct due to the substantial water flows which typically occur each year during major storm events in the fall and spring months. Additionally, there was a relatively well defined change in vegetation from the OHWM and the surrounding upland area.

No other waters were delineated on the property; however, several small desert washes/swales were present on the site (Figure 5). These areas were relatively shallow that may convey water infrequently across uplands areas during major storm events. In addition, these small desert washes/swales support desert vegetation throughout most of the washes/swales.

2.4.2 REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

Based on the field investigations and a review available data, the RWQCB jurisdiction corresponds with the 21.5-acres of COE WoUS described in Section 2.4.1.

2.4.3 CALIFORNIA DEPARTMENT OF FISH AND GAME DETERMINATION

The CDFG jurisdiction corresponds with the 21.5-acres of COE WoUS located on the site and as described in Section 2.4.1.

2.4.4 SIGNIFICANT NEXUS DETERMINATION

As referenced above, Lucerne Lake is a seasonally flooded lake bed which may contain State and Federally listed biological species, drains a very large drainage basin, supports various recreational uses and is used by waterfowl during periods when water is present. These characteristics, in total, result in Lucerne Lake being classified as a Traditional Navigable Water (TNW) which is considered by Corps of Engineers Guidelines a Water of the United States.

The large desert wash (designated Channel A-B) which lies on the east side of the mine expansion property is a tributary of Lucerne Lake. With its likely hydrology of flowing during winter rains and after large storm events, the wash is considered to be a Relatively Permanent Water (RPW) which feeds the TNW of Lucerne Lake. Hydrology of the wash is assumed to be present during periods lasting a few days up to a few weeks at a time. Total days with surface water present have not been determined by observation, but may be in the vicinity of 4-12 weeks annually. The wash is extremely large (up to 200 feet in width in some areas) and drains a significant basin on the north side of the San Bernardino Mountains. There is also a smaller, but significant wash tributary to the main wash (designated as channel C) which is a tributary to an RPW.

Corps Guidelines suggest that a significant nexus exists with the TNW (Lucerne Lake). First, the wash provides significant flows into Lake Lucerne on a seasonal and periodic basis. This is one of the largest washes in this area of the basin containing Lake Lucerne. The wash thus conveys both significant amounts of surface water on a periodic basis and significant amounts of sediment into the Lake. This provides for nutrient cycling and related processes (sediment retention and transport etc.) in the Lake.

The wash also provides groundwater flow along its flow route. Due to its size, the wash undoubtedly provides water to nearby desert plants and wildlife during an extended time period when smaller washes are dry. Groundwater flow extends this further in time, particularly for deeper rooted plant species and digging or burrowing animals. There is therefore an ecological refuge area present, even when the wash is not actively flowing.

The wash also may provide some degree of pollutant trapping and filtration, thus improving water quality in the Lake. Fulfillment of these various functions during key life stages of wildlife and aquatic organisms can improve ecological function and survivability particularly in terms of foraging and breeding for certain organisms. Thus a strong hydrologic and ecological nexus is believed to exist for this unnamed desert wash.

2.5 IMPACTS AND REGULATORY PERMITTING

A total of 21.5-acres of jurisdictional waters will be impacted by the proposed mine expansion and these impacts will be permanent. The impacts will consist of removal of all vegetation within the boundaries of the 113-acre site, and excavation of the minerals (sand and gravel) down to a depth of approximately 200-feet. Based on the field investigations and analysis of available data and a nexus determination, the main channel and its tributary may have an affect or substantial effect on the chemical, physical, and biological integrity of the nearest TNW (Lucerne Lake). Therefore, these channels will qualify as a WoUS based on the criteria established by the COE (2007) and CDFG (Code Section 13260); however, the final determination will be at the discretion of the agencies.

2.5.1 US ARMY COPRS OF ENGINEERS PERMITS

The COE regulates discharge of dredged fill materials into WoUS pursuant to Section 404 of the Clean Water Act. If the COE agrees that the delineated waters on the site are jurisdictional and the project will result in the discharge of material into WoUS, a 404 permit may be required and will need to be obtained from the Los Angeles COE District office. A pre-construction notification (PCN) should be submitted to the COE District office early in the environmental process.

2.5.2 REGIONAL WATER QUALITY CONTROL BOARD

The RWQCB regulates discharge to surface waters under the CWA and the California Porter-Cologne Water Quality Act; therefore, a Section 401 permit may be required in conjunction with the 404 permit, if the COE concurs that the site supports WoUS. Effective July 1, 2010, all dischargers are required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. A Section 401 water quality certification may be required as part of the approval by the COE, if a 404 permit is deemed necessary by the COE.

2.5.3 CALIFORNIA DEPARTMENT OF FISH AND GAME

The proposed mine expansion project will impact 21.5-acres of WoUS which would also fall under the jurisdiction of CDFG which regulated as streambed and banks. Therefore, a streambed alteration permit (Section 1600-1616) will be required which will outline the various mitigation measures and avoidance measures that will be required as part of the proposed project. As part of the process, a "Notification of Lake or Streambed Alteration" form will need to be submitted to CDFG for review and comment.

3.0 REFERENCES

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APPENDIX A

Tables and Figures

Table 1: Vegetation present within the proposed expansion area.

| COMMON NAME | SCIENTIFIC NAME | LOCATION |
|--------------------|---------------------------------|--------------------|
| Erodium | <i>Erodium texanum</i> | On-site & off-site |
| Brome grasses | <i>Bromus sp.</i> | “ |
| Wild oats | <i>Avena fatua</i> | “ |
| Schismus | <i>Schismus barbatus</i> | “ |
| California poppy | <i>Eschscholzia californica</i> | “ |
| Fiddlenck | <i>Amsinckia tessellata</i> | “ |
| Buckwheat | <i>Eriogonum fasciculatum</i> | “ |
| Creosote bush | <i>Larrea tridentata</i> | “ |
| Burrobush | <i>Franseria dumosa</i> | “ |
| Joshua tree | <i>Yucca brevifolia</i> | “ |
| Whipple's yucca | <i>Yucca whipplei</i> | “ |
| Spanish dagger | <i>Yucca schidigera</i> | “ |
| Matchweed | <i>Gutierrezia sarothrae</i> | “ |
| Cotton-thorn | <i>Tetradymia spinosa</i> | “ |

Table 2: GPS location data for delineated transects.

| TRANSECT | GPS COORDINATES |
|----------------------|----------------------------|
| “A” TRANSECTS | |
| A-1 | N34° 24.368’ W116° 55.532’ |
| A-2 | N34° 24.361’ W116° 55.529’ |
| A-3 | N34° 24.330’ W116° 55.519’ |
| A-4 | N34° 24.311’ W116° 55.513’ |
| A-5 | N34° 24.294’ W116° 55.504’ |
| A-6 | N34° 24.273’ W116° 55.492’ |
| A-7 | N34° 24.250’ W116° 55.479’ |
| A-8 | N34° 24.236’ W116° 55.464’ |
| A-9 | N34° 24.217’ W116° 55.446’ |
| A-10 | N34° 24.194’ W116° 55.429’ |
| A-11 | N34° 24.194’ W116° 55.421’ |
| A-12 | N34° 24.169’ W116° 55.400’ |
| A-13 | N34° 24.150’ W116° 55.383’ |
| A-14 | N34° 24.131’ W116° 55.366’ |
| A-15 | N34° 24.112’ W116° 55.348’ |
| A-16 | N34° 24.097’ W116° 55.322’ |
| A-17 | N34° 24.083’ W116° 55.301’ |
| A-18 | N34° 24.071’ W116° 55.280’ |
| A-19 | N34° 24.054’ W116° 55.260’ |
| A-20 | N34° 24.041’ W116° 55.246’ |
| A-21 | N34° 24.033’ W116° 55.231’ |
| A-22 | N34° 24.018’ W116° 55.215’ |
| | |
| “B” TRANSECTS | |
| B-1 | N34° 24.023’ W116° 55.195’ |
| B-2 | N34° 24.067’ W116° 55.187’ |
| B-3 | N34° 24.083’ W116° 55.208’ |
| B-4 | N34° 24.087’ W116° 55.226’ |
| B-5 | N34° 24.088’ W116° 55.244’ |
| B-6 | N34° 24.100’ W116° 55.261’ |
| B-7 | N34° 24.112’ W116° 55.277’ |
| B-8 | N34° 24.126’ W116° 55.270’ |
| B-9 | N34° 24.140’ W116° 55.311’ |
| B-10 | N34° 24.152’ W116° 55.329’ |
| B-11 | N34° 24.164’ W116° 55.344’ |
| B-12 | N34° 24.175’ W116° 55.356’ |
| B-13 | N34° 24.185’ W116° 55.355’ |
| B-14 | N34° 24.193’ W116° 55.361’ |
| B-15 | N34° 24.205’ W116° 55.378’ |
| B-16 | N34° 24.220’ W116° 55.391’ |

| | |
|----------------------|-----------------------------|
| B-17 | N34° 24.235' W116° 55.403' |
| B-18 | N34° 24.250' W116° 55.415' |
| B-19 | N34° 24.265' W116° 55.423' |
| B-20 | N34° 24.282' W116° 55.434' |
| B-21 | N34° 24.298' W116° 55.440' |
| B-22 | N34° 24.308' W116° 55.453' |
| B-23 | N34° 24.321' W116° 55.462' |
| B-24 | N34° 24.340' W116° 55.476' |
| B-25 | N34° 24.362' W116° 55.486' |
| | |
| "C" TRANSECTS | |
| C-1 | N34° 24.021' W116° 55.345'; |
| C-2 | N34° 24.032' W116° 55.339' |
| C-3 | N34° 24.040' W116° 55.340' |
| C-4 | N34° 24.045' W116° 55.336' |
| C-5 | N34° 24.066' W116° 55.345' |
| C-6 | N34° 24.074' W116° 55.343' |
| C-7 | N34° 24.089' W116° 55.345' |
| C-8 | N34° 24.102' W116° 55.350' |
| C-9 | N34° 24.114' W116° 55.358' |
| C-10 | N34° 24.124' W116° 55.364' |

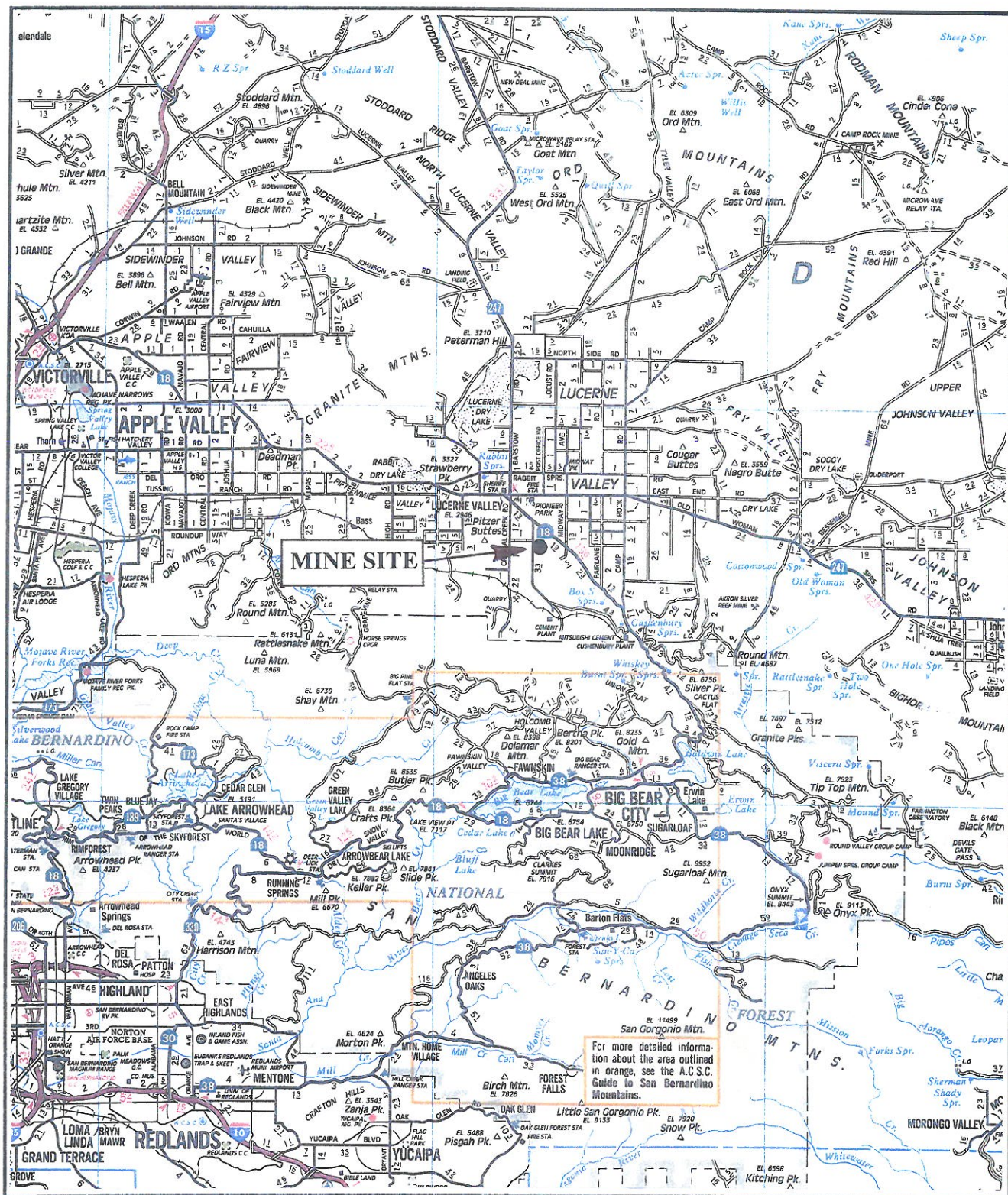


FIGURE 1

VICINITY MAP

(Lucerne Valley Pit, Conditional Use Permit 10507SM1/DN334-89)
(APN 0449-111-33; Source: ACSC Map Source, 2011)



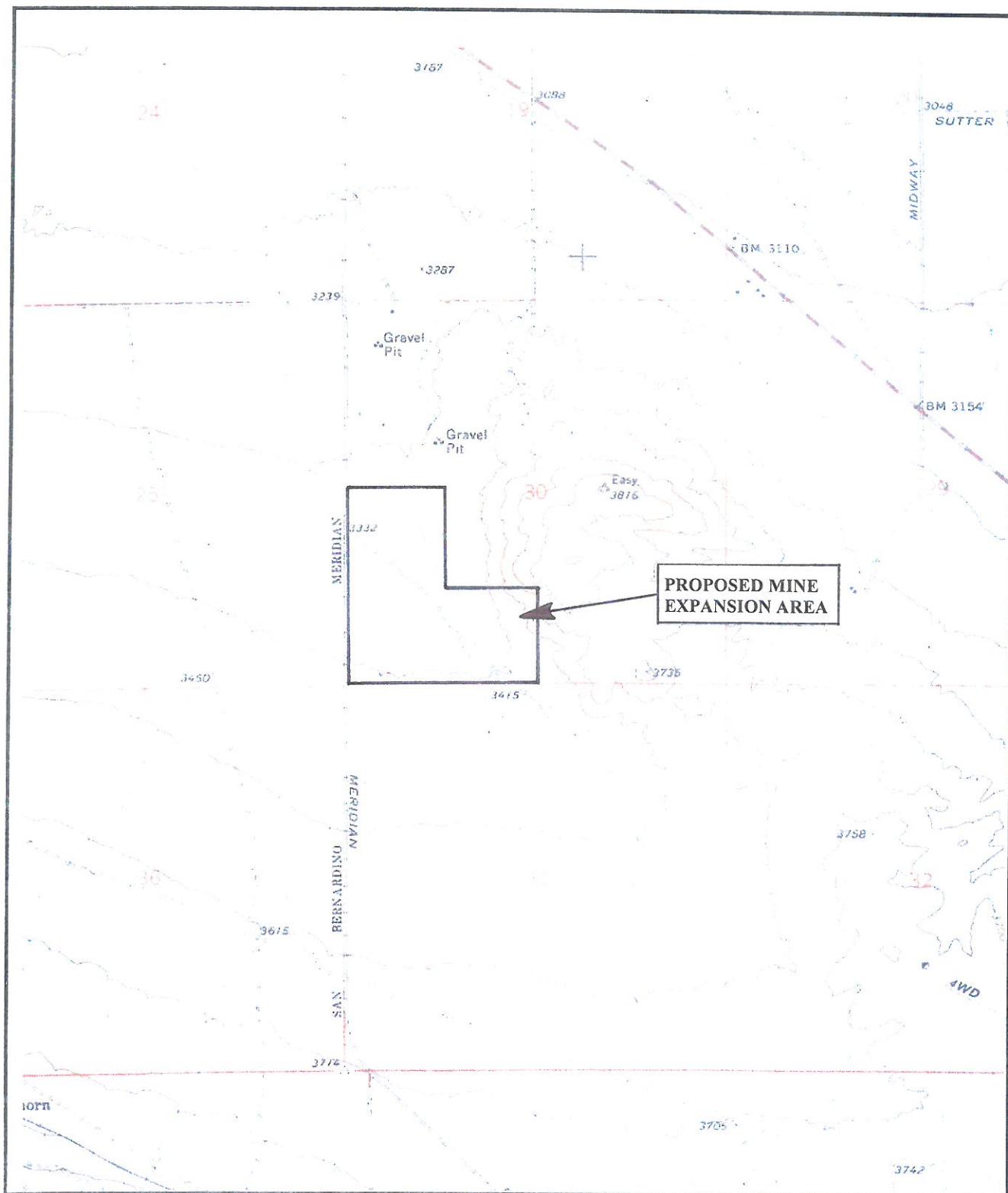


FIGURE 2

PROPERTY LOCATION

(Lucerne Valley Pit, Conditional Use Permit 10507SM1/DN334-89)
 (APN 0449-111-33; Source: USGS Lucerne Valley, CA Quad., 1971)





TRANSECT POINT A-3, LOOKING SOUTH



TRANSECT POINT A-3, LOOKING NORTH

FIGURE 3
LUCERNE VALLEY PIT
(Conditional Use Permit 10507SM1/DN334-89)
APN 0449-111-33



TRANSECT POINT C-5, LOOKING SOUTH



TRANSECT POINT C-5, LOOKING NORTH

FIGURE 3, cont.
LUCERNE VALLEY PIT
(Conditional Use Permit 10507SM1/DN334-89)
APN 0449-111-33

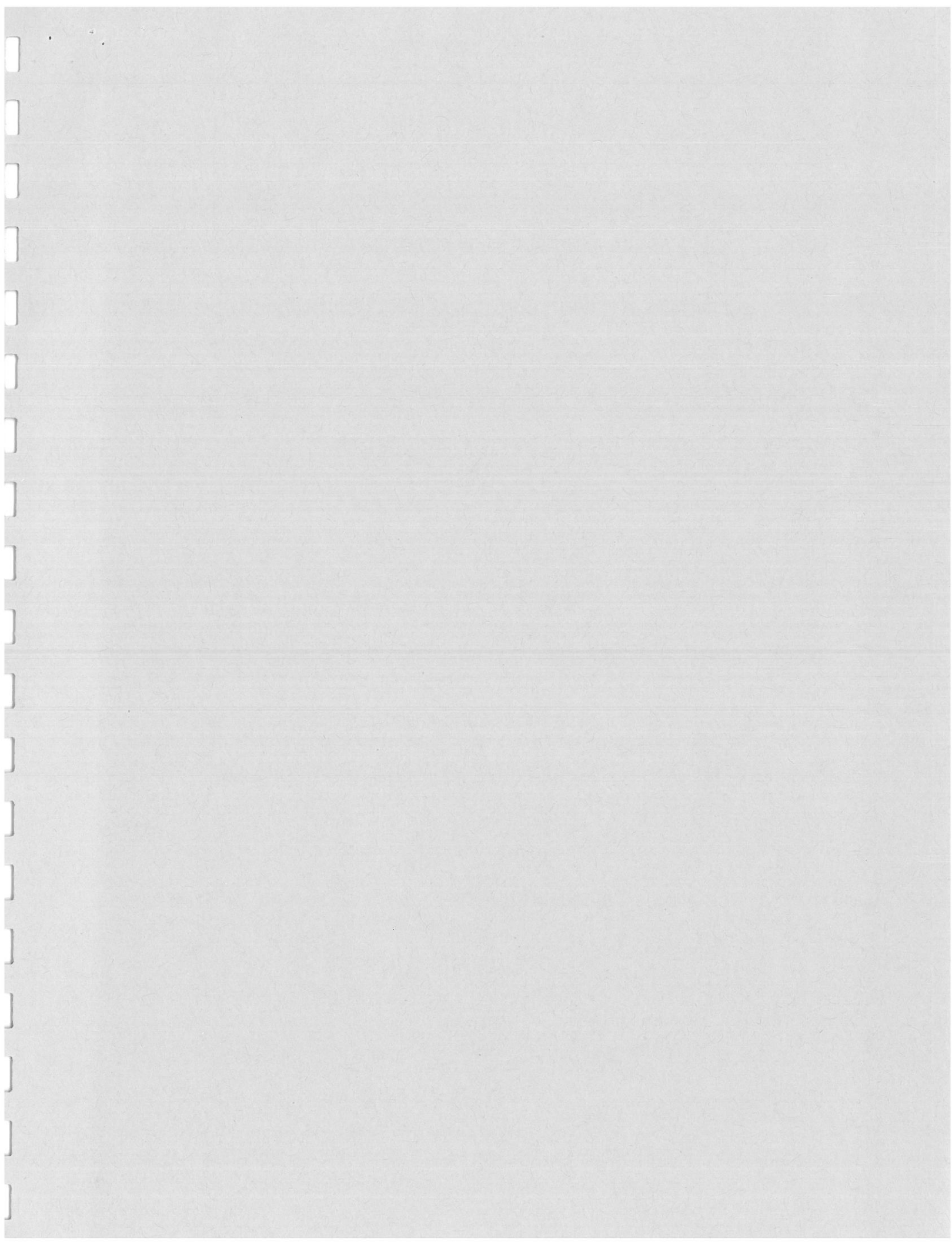


Figure 5

Jurisdictional Boundaries of Waters of the United States

Base Map: Google Earth (2009)







Reuben Arceo <rarceo56@gmail.com>

Lucerne Pit Copies4 messages

Ernest Perea <ernestperea@ymail.com>
To: Reuben Arceo <rarceo56@gmail.com>

Wed, Oct 16, 2013 at 3:27 PM

Hi Reuben,

Heads up. We need 17 copies made each of the following to send to the State Clearinghouse: In color.

1. General Biological Resources Assessment – Lucerne Valley Pit, May 24, 2012 by RCA Associates, LLC**2. Jurisdictional Waters Delineation for Lucerne Valley Pit, December 15, 2011 by Agcon, Inc.**

You can burn them onto a CD if you want.

Thanks again.

Ernie Perea

Reuben Arceo <rarceo56@gmail.com>
To: Ernest Perea <ernestperea@ymail.com>

Wed, Oct 16, 2013 at 5:35 PM

Thank you Ernie,

Will have them done tomorrow. Do I mail them to you or have admin mail the disks to the state clearinghouse?

Reuben
[Quoted text hidden]

Ernest Perea <ernestperea@ymail.com>
To: Reuben Arceo <rarceo56@gmail.com>

Wed, Oct 16, 2013 at 7:06 PM

Reuben,

I will need to prepare a NOC form and have it signed by you. Then we will submit 15 copies of the IS/MND and appendicies to the SCH. We will also send a separate copy to the State Lands Commission.

I will have the Draft IS/MND for you to proffread tonight and then we can coodinate more Thursday.
[Quoted text hidden]

Reuben Arceo <rarceo56@gmail.com>
To: Ernest Perea <ernestperea@ymail.com>

Wed, Oct 16, 2013 at 8:24 PM

Thank you Ernie,

I will be in tomorrow (Thursday) so I can complete the work and will review the NOC tonight.

thank you Ernie,



Reuben Arceo <rarceo56@gmail.com>

MUP for Trucking School: Case No. P2013001802 messages

Reuben Arceo <rarceo56@gmail.com>

Wed, Oct 16, 2013 at 12:28 PM

To: Nancy Ferguson <nancy.ferguson@thealtumgroup.com>, "Prusch, David - LUS" <david.prusch@lus.sbcounty.gov>

Nancy,

Noted below is the estimated time and cost I require to execute the staff report on the MUP and Variance for this project. I've included four hours for contingency purposes.

MUP Staff Report Preparation..... 8 hrs.
Variance Analysis.....3.5
Contingency.....4.0

Total Hrs:.....15.5

Estimated amount for completing project.....\$4,500.00
Overdrawn amount.....(\$1,333.90)

Please have your client submit a check for.....\$5,833.90 to cover the overdrawn account and staff costs for executing the project. Funds not utilized will be reimbursed.

If you have any questions on this Nancy, you may contact me directly at [909 677-9907](tel:9096779907).

Thank you.

Reuben J. Arceo
Contract Planner
SB County Land Services Department

Nancy Ferguson <nancy.ferguson@thealtumgroup.com>

Wed, Oct 16, 2013 at 2:03 PM

To: Reuben Arceo <rarceo56@gmail.com>, "Prusch, David - LUS" <david.prusch@lus.sbcounty.gov>

Hi Rueben. I just took a look at your cost estimate and either there are some line items missing or your billing rate is \$290/hr. Is the hourly rate correct?

I have not forwarded this to the applicant yet since I believe I will need a little more explanation so I can discuss this with him.

Thanks

EXHIBIT I

**Reclamation Plan
(Provided as a separate document)**