REVISED RECLAMATION PLAN
FOR THE
CACHE CREEK MINE
(MINE ID # 91-57-0008)

Operator:

CEMEX Construction Materials Pacific, LLC.
2365 Iron Point Road, Suite 120
Folsom, CA 95630

Prepared by:

Compass Land Group
3140 Peacekeeper Way, Suite 102
McClellan, CA 95652

December 2020

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RECLAMATION PLAN SUMMARY

Mine Name:	Cache Creek Mine
California Mine ID Number:	91-57-0008
Mine Operator:	CEMEX Construction Materials Pacific, LLC.
Mine Location:	30288 CA-16 Woodland, CA 95653 Latitude 38.69^{o} and Longitude -121.94^{o}
Site Contact:	Steve Grace
Contact Phone:	831.970.9559
Property Owner(s):	CEMEX Construction Materials Pacific, LLC.
Address:	2365 Iron Point Road Folsom, CA 95630
Contact Person:	Oscar Frias, VP Planning & Administration – West Region
Contact Phone:	602.416.2912
Assessor Parcel(s):	025-450-001, 049-060-004 & -007, 049-070-004, -005, -006, -009, -010, -011, -019, -020, -021
Total Parcel Size(s):	1,902± acres
Area to be Reclaimed:	837± acres
Type of Material to be Mined:	Sand and gravel
Quantity of Material to be Mined:	30 million tons (saleable)
Maximum Anticipated Depth:	70 feet below ground surface (“bgs”)
Maximum Anticipated Floor Elev:	64 feet mean sea level (“msl”)
Proposed Initiation Date:	Site is already active
Proposed Termination Date:	Est. December 31, 2047
Potential End Use(s):	Agriculture, permanent lakes, and wildlife habitat

1.0 INTRODUCTION

This Revised Reclamation Plan ("Plan") has been prepared in support of the continuation of surface mining and reclamation activities at the CEMEX Construction Materials Pacific, LLC. ("CEMEX") Cache Creek Mine ("Mine") in Yolo County, California. The Mine is located at 30288 CA-16, near the town of Madison, California in an unincorporated portion of the County (see Figure 1, Site Vicinity Map, and Figure 2, Existing Conditions Aerial Photograph).

Surface mining is planned to continue on ±485 acres and reclamation is planned to occur on ±837 acres (including formerly mined areas) on 12 parcels totaling ±1,902 acres, with the remainder left undisturbed (see Sheets M-01 through M-15 and R-01 through R-15). The Mine is planned to be developed and ultimately reclaimed in seven (7) phases, the first two of which have already been mined but not fully reclaimed. The planned end uses for the Mine are agriculture, permanent lakes and wildlife habitat (generally consistent with the original reclamation plan).

Consistent with the Surface Mining and Reclamation Act ("SMARA") Public Resources Code ("PRC") §2712, this Revised Plan has been developed to assure that:

(a) Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses.

(b) The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.

(c) Residual hazards to the public health and safety are eliminated.

While the purpose of this Plan is to describe reclamation activities, the surface mining activities (e.g., excavation, overburden handling, and transport) are also described and referenced throughout for contextual purposes.

1.1 Plan Organization

Section 2.0 of this Plan provides an overview of reclamation activities and is generally organized around SMARA requirements, beginning with SMARA's key statutory requirements. Section 3.0 of this Plan addresses specific Yolo County ("County" or "lead agency") requirements, where those requirements supplement or amplify the requirements covered in Section 2.0.

This Plan has been prepared pursuant to the following requirements associated with the reclamation of mined lands:

- California Surface Mining Reclamation Act of 1975, as amended (Public Resource Code §2710 et seq.);
- State Mining and Geology Board implementing regulations (California Code of Regulations, Title 14, §3500 et seq.);

- Yolo County General Plan and Zoning Code; and
- Yolo County Off-Channel Mining Plan ("OCMP") including its Off-Channel Surface Mining Ordinance ("OCSMO") and Surface Mining Reclamation Ordinance ("SMRO").

Many statutory and regulatory sections of SMARA are either presented verbatim or summarized to facilitate a better understanding of plan contents and requirements. Requirements found in Article 1 (14 CCR §3500 *et seq.*) and Article 9 (14 CCR §3700 *et seq.*) of SMARA's implementing regulations are addressed under combined resource headings where possible, to minimize duplication of plan contents. SMARA citations and standards that follow section headings in *italics* have been abbreviated.

1.2 Purpose for Revised Reclamation Plan

This Revised Reclamation Plan provides for:

1. The continuation of mining on ±485 acres with reclamation on ±837 acres;
2. A change in phasing to promote the efficient and continuous operation of the electric dredge, eliminating the need to disassemble and relocate the dredge between phases;
3. A minor change to the approved mining and reclamation plan footprint consistent with the Stipulated Order to Comply entered into between CEMEX and Yolo County on June 2, 2017;
4. A change to the boundary between Phases 3 and 4 to reconfigure the alluvial separator and facilitate the use of Phase 3 as a settling pond after mining is complete in that phase;
5. A change to the boundary between Phase 2 and the plant site to allow timely reclamation of Phase 2 and a designated stockpiling area;
6. Changes to the reclamation plan to increase the area of the amount of lake area by ±57 acres, an increase in shoreline and other habitat by ±37 acres, a decrease in the amount farmland by ±37 acres and a change in the type of agriculture from approximately 50% row crop and 50% tree crop to approximately 80% row crops and 20% tree crop; and
7. A 20-year extension of the mining permit to 2047 to allow for the extraction of aggregate reserves within the proposed mining footprint.

Except as outlined above, CEMEX proposes no change to any fundamental element of the existing operation (e.g., mining methods, maximum depth of mining, processing operations, use of settling ponds to contain and settle aggregate wash fines, water use, truck routes, or hours of operation).

2.0 SURFACE MINING AND RECLAMATION ACT REQUIREMENTS

2.1 Description of Mining Operations

2.1.1 Name and Address of Operator and Agent [PRC §2772(c)(1)]

Operator:

CEMEX Construction Materials Pacific, LLC.
2365 Iron Point Road
Folsom, CA 95630

Contact: Steve Grace
Telephone: 831.970.9559
Email: roberts.grace@cemex.com

2.1.2 Quantity and Type of Mineral to be Mined [PRC §2772(c)(2)]

The Mine will produce an anticipated 30,000,000 tons of sand and gravel (sold weight) and 34,483,000 million tons of sand and gravel (mined weight), assuming a 13% wash loss at the aggregate processing plant (that will be directed to settling ponds).[1]

2.1.3 Initiation and Termination Dates [PRC §2772(c)(3)]

The Mine is active and has been continuously mined since 1971. Operations subject to this Plan will begin as soon as all necessary County approvals are obtained. For the purposes of satisfying SMARA informational requirements, the estimated initiation date of the surface mining operation under this Plan is August 1, 2021, and the estimated termination date of the surface mining operation under this Plan is December 31, 2047. This estimated termination date represents a 20 year extension of the end date for mining approved in the 1996 County-issued mining permit. Final reclamation sign-off may not occur for an additional period of three to five years (e.g., to allow reclamation performance standards to be met), extending the estimated timeframe for final reclamation to December 31, 2052.

2.1.4 Maximum Anticipated Depth of Mining [PRC §2772(c)(4)]

The maximum anticipated depth of mining is approximately 70 feet bgs, with a finish mine floor corresponding to elevation 64 feet msl at Phase 6 (see Sheet M-07). Actual depths may vary depending on soil/geologic conditions. If economic or operating constraints are encountered during the mining operation, then the maximum depth of mining may not be achieved. Anticipated final reclamation grades are shown on Sheets R-04 through R-15.

[1] Mined weight = sold weight / (100% - 13% Wash loss)

2.1.5 Reclamation Plan Map Requirements [PRC §2772(c)(5)]

Size, Legal Description, and Owners of Surface and Mineral Interests [PRC §2772(c)(5)(A)]

The site legal description is included on Sheet R-01, Title Sheet. See also Sheet M-03, Property Information, which reflects the specific property boundaries of the Record of Survey, filed January 12, 2018, in 2018 Book of Maps at pages 2-4.

Property Lines, Setbacks, and Reclamation Plan Boundary [PRC §2772(c)(5)(B)]

See Sheets R-01 through R-15.

Existing and Final Topography [PRC §2772(c)(5)(C)]

See Sheets R-04 through R-15.

Geologic Description [PRC §2772(c)(5)(D)]

See Figure 3, Site Geology Map.

Railroads, Utilities, Access, and Roads [PRC §2772(c)(5)(E)]

The Mine will be accessed from the existing driveway entrance on California Highway 16. Access points are shown on Sheets M-03, M-04, R-03 and R-04. High-voltage transmission lines operated by Pacific Gas and Electric ("PG&E") run across a portion of the Mine site and will be avoided with appropriate setbacks, "Consent to Use" or "Joint Use Agreements." A windmill is also located on the Mine site and will continue to be avoided with a minimum 200-foot setback. Known utilities and easements are shown on Sheet M-03.

The most prominent drainage feature in the vicinity of the site is Cache Creek, which flows generally in a west to east direction at the north end of the site (see Figure 2). At its closest point, Cache Creek is approximately 200 feet from the Mine boundary. There are no railroads on or in proximity to the Mine.

Preparation by Licensed Professionals as Required [PRC §2772(c)(5)(F)]

As required by Yolo County, the mining and reclamation plan sheets have been prepared and stamped by a California-registered engineer.

2.1.6 Mining Description and Time Schedule [PRC §2772(c)(6)]

The following description of mining operations is provided primarily for contextual purposes to facilitate understanding of this Plan. Mining methods and practices will conform to the conditions of the long-term off-channel mining permit issued by Yolo County.

Mining Methods

The Mine is planned to be further developed and ultimately reclaimed in seven (7) phases, the first two of which have already been mined but not fully reclaimed. Except where mining has already occurred, mining operations will be initiated by the removal of vegetation, topsoil/growth media, and overburden materials that lie above marketable sand and gravel deposits. The overlying materials will be removed using scrapers aided by a motor grader and bulldozer, or excavator and off-road haul trucks as needed. After overlying materials are removed, marketable sand and gravel will be excavated using conventional mining equipment such as scrapers, excavators, and bulldozers (for dry mining) and electric dredge (for wet mining). Following excavation, the sand and gravel will be transported primarily by electric conveyor to the existing aggregate processing plant for washing, crushing, sorting and sale. Figure 2 shows the existing portions of the conveyor alignment that will be extended in the future to reach mine Phases 4, 5 and 6.

Alluvial Separators

The Mine design includes 1) a "constructed" alluvial separator between Phases 3 and 4 (see Sheet M-02 for typical detail and Sheets M-04 and M-05 for location); and 2) the development of a "natural" alluvial separator between Phases 4 and 5 (see Sheets M-06 and M-07). The "constructed" alluvial separator will be comprised of gravel and/or clay and the "natural" alluvial separator will consist undisturbed, natural ground between existing and future mining pits. The purpose of the constructed alluvial separator is to re-purpose Phase 3 as a settling pond (to accept and settle process wash fines). The purpose of the natural alluvial separator between proposed Phases 4 and 5 is to facilitate backfilling of Phase 4 for a return to agriculture while maintaining a stable separation for the future open water lake in future Phase 5.

Anticipated Sequence of Mining and Reclamation

Mining will continue to progress in a manner that will allow for concurrent reclamation to be initiated at the earliest possible time on those portions of the mined lands that will not be subject to further surface mining disturbances. No further mining is planned to occur in Phases 1 and 2. Phase 1 is partially reclaimed with a large portion already in active agricultural production. The remainder of Phase 1 is in the process of reclamation. A portion of Phase 2 has been repurposed as an extension of the aggregate processing plant site for purposes of product stockpiling and will be reclaimed at the end of Mine life along with the remainder of the plant site. The remainder of Phase 2 is planned to be reclaimed in the next five years.

The Operator currently anticipates that mining will continue to progress in the following general sequence: Phase 3 / Phase 4 (to be mined concurrently), Phase 5, Phase 6, and Phase 7. Once fully mined, Phase 3 will be repurposed as a silt pond (with a constructed alluvial separator separating it from Phase 4) to accept wash fines from the aggregate production process, ultimately facilitating a reclamation backfill to agriculture. After Phase 6 is mined, the Operator will perform limited additional mining in Phase 5 to develop a small habitat island as part of reclamation (see Sheets M-07 and R-06 for detail).

Reclamation will be initiated at the earliest possible time on those portions of the site that will not be subject to further disturbance by mining. An estimated time schedule for mining and reclamation is provided in Table 1, below.

TABLE 1
ANTICIPATED PROGRESSION OF MINING AND RECLAMATION

Area	Mining (Start)	Mining (End)	Reclamation (Start)	Reclamation (End)
1. Phase 1	--	Completed	In process	2022-2024
2. Phase 2**	--	Completed	2024	2025; 2050-2052
3. Phase 3	In process	2021	2022	2025-2027
4. Phase 4	In process	2025	2024	2027-2029
5. Phase 5	2025	2036	2035	2038-2040
6. Phase 6	2036	2047	2046	2049-2051
7. Phase 7	2047	2047	2047	2050-2052
8. Processing Plant Site	--	--	2047	2050-2052
5. Conveyor Alignment	--	--	2047	2050-2052

Notes:

** Reclamation will begin within the next five years for the portion of Phase 2 that will not be used for stockpiling.

1. Anticipated mining schedule assumes annual production of approximately 1,000,000 tons per year (sold weight). CEMEX's annual production limit under this revised Plan would be 1,500,000 tons per year so it is possible that reclamation would start/end sooner than estimated above.
2. Anticipated progression is approximate only. Actual timelines will vary depending on market and geologic conditions.
3. Final reclamation may occur three to five years after anticipated progression of mining and reclamation (e.g., to allow reclamation performance standards to be met).

2.1.7 Public Health and Safety (Exposure) [CCR §3502(b)(2)]

Implementation of this Plan is not expected to jeopardize public health and safety. The Mine is already active and located on private property. No substantial change from existing operations (mining or reclamation activity) is anticipated through adoption of this Plan. The public is neither presently exposed to the site, nor will be during mining or reclamation activity. The potential health and safety exposure of the mine was fully analyzed in the 1996 Environmental Impact Report ("EIR") for the Solano Long-Term Off-Channel Mining Permit Application ("1996 EIR") adopted as part of the existing entitlements (pursuant to CEQA) with appropriate mitigations requiring compliance with the County OCSMO and SMRO ordinances.

All visitors to the site are required to sign-in and undergo site-specific safety training as appropriate. Safety measures such as fencing, signs, and setbacks are implemented to ensure public safety. For example, existing fencing is in place around all areas of open excavation, which goes above and beyond the County's SMRO requirement for fencing around open water areas. While fencing may be used for public safety, it is not intended to prevent access for wildlife foraging (avian species).

No portals, shafts, tunnels or other openings to underground workings are mapped or proposed.

2.2 End Land Use

2.2.1 Proposed or Potential End Uses [PRC §2772(c)(7)]

The planned end uses for the Mine are agriculture, permanent lakes and wildlife habitat. The permanent lakes are ultimately planned to be dedicated to the County. The Owners' acknowledgment of the potential end uses is evidenced by execution of its Statement of Reclamation Responsibility (see Section 2.12.1, below).

Table 2 summarizes reclamation end uses by mining phase or disturbance area:

TABLE 2
RECLAMATION END USES AND ACRES

Phase / Area	Agriculture (± acres)	Habitat (± acres)	Lakes (± acres)	Slopes & Roads (± acres)	Total (± acres)
1	124.5	5.8		0.4	130.7
2	63.7				63.7
3	91.7	5.4		2.9	100.0
4	111.3	8.1			119.4
5		27.5 (shoreline) 5.6 (other)	106.6	5.9	145.6
6		32.0 (shoreline) 6.1 (other)	103.8	4.1	146.0
7	20.0	1.0			21.0
Plant Site	27.4	6.2		1.3	34.9
Creek Setback		68.7			68.7
Other Buffer				4.6	4.6
I-505 Buffer		2.3			2.3
Total	**438.6**	**168.7**	**210.4**	**19.2**	**836.9**

2.2.2 Reclamation Measures Adequate for the End Use [PRC §2772(c)(8)]

Reclamation will be conducted in the following manner to support the potential end uses:

1. During reclamation, redistribute stockpiled topsoil/growth media in preparation for revegetation.
    - *Note: Prior to overburden removal and mining, approximately 12 inches of salvageable topsoil will be excavated in a separate lift and either used immediately for reclamation or stockpiled/segregated (with signage as needed) for use in future reclamation (see Sheets M-06 and M-07 for anticipated stockpile locations).*
2. Rip, disc and/or scarify revegetation areas as needed to establish a suitable root zone in preparation for plantings.

3. For areas reclaimed to an end use of wildlife habitat, revegetate disturbed surfaces with seed mixes and plantings as set forth in this Plan.

4. For areas reclaimed to an end use of agriculture, backfill and/or level fields as appropriate, conduct soil testing (if needed to fulfill reclamation success criteria), grade for positive drainage, and disc/prep for crop plantings.

5. Remove facilities, structures, stockpiles and equipment associated with mining. The following may be left in place to facilitate the potential end uses: water supply wells, fencing, perimeter berms, access roads, and conveyor network maintenance roads.

6. Unless left in place to facilitate the potential end uses, reclaim all temporary interior haul roads, and conveyor corridors similar to other reclamation areas. Specific reclamation practices would include removing road base materials, ripping, discing, and reseeding as appropriate.

7. Implement best management practices as needed to minimize erosion and sedimentation pursuant to applicable standards.

8. Collect and dispose of any incidental refuse or garbage in accordance with applicable standards.

2.2.3 Impact of Reclamation on Future Mining in the Area [PRC §2772(c)(9)]

This Plan will not preclude future mining in the area in the event marketable resources are found.

2.3 Environmental Setting [CCR §3502(b)(1)]

2.3.1 Assessor Parcels, Ownership, Zoning and General Plan Designations

Mine Assessor Parcel Numbers ("APNs"), ownership, Zoning and General Plan land use designations are shown on Table 3, below.

2.3.2 Access and Utilities

The Mine will be accessed from the existing driveway entrance on California Highway 16. Access points are shown on Sheets M-04, M-08, R-03 and R-07. On-site utilities are limited to power. High-voltage transmission lines operated by PG&E run across the Mine site and will continue to be avoided with appropriate setbacks from Phases 5 and 6. "Consent to Use" or "Joint Use Agreements" may be executed with PG&E for work within easement areas. A windmill is also located on the Mine site in Phase 3 and will continue to be avoided with a minimum 200-foot setback (see Sheet M-05). Utilities and easements are shown on Sheet M-03.

TABLE 3
ASSESSOR PARCELS, OWNERSHIP, ZONING AND GENERAL PLAN DESIGNATIONS

APN	Assessor Acres[1]	ROS Acres[2]	Ownership[3]	Zoning[4]	General Plan[5]
025-450-001	291.1	280.0	United Metro Materials Inc	A-N (SG)	AG, OS
049-060-004	6.3	6.3	Solano Concrete Co Inc	A-N (SG)	AG, OS
049-060-007	142.8	142.4	Solano Concrete Co Inc	A-N (SG)	AG
049-070-004	112.7	110.7	United Metro Materials Inc	A-N (SG)	AG, OS
049-070-005	98.5	112.8	United Metro Materials Inc	A-N (SG)	AG, OS
049-070-006	200.2	200.1	United Metro Materials Inc	A-N (SG)	AG, OS
049-070-009	444.0	461.6	United Metro Materials Inc	A-N (SG)	AG, OS
049-070-010	17.1	17.1	Solano Concrete Co Inc	A-N (SG)	AG, OS
049-070-011	26.2	26.5	Solano Concrete Co Inc	A-N (SG)	AG, OS
049-070-019	53.9	48.0	Solano Concrete Co Inc	A-N (SG)	AG, OS
049-070-020	212.2	218.5	United Metro Materials Inc	A-N (SG)	AG
049-070-021	276.4	278.3	Solano Concrete Co Inc	A-N (SG)	AG
Total:	**1,881.4**	**1902.3**			

Notes:

1. Source: Yolo County Assessor, accessed November 28, 2017.
2. Source: Record of Survey, filed January 12, 2018, in 2018 Book of Maps at pages 2-4.
3. United Metro Materials, Inc. and Solano Concrete Co Inc. are fully-owned subsidiaries of CEMEX.
4. A-N = Agricultural Intensive. The Sand and Gravel (SG) overlay zone applies to State designated mineral resource zones (MRZ-2) containing critical geological deposits needed for economic use in the future, as well as applying to existing mining operations. The portions of the parcels that are subject to mining already have the SG overlay.
5. Source: 2030 Countywide General Plan, with verification thru Yolo County GIS Public Viewer. AG = Agriculture. OS = Open Space. The Open Space land use designation applies to the portions of the parcels associated with Cache Creek.

2.3.3 Geology

The geology of the site is shown on Figure 3. The Mine is located in the northern portion of the Great Valley Geomorphic Province of California. The Mine is located on an alluvial terrace surface south of Cache Creek and is underlain by Quaternary alluvial deposits of the creek. The northern portion of the site is mapped as part of the active stream channel, while the central area is underlain by Holocene alluvial deposits. The southern portion of the site is underlain by older alluvium units. Mineral resources consist primarily of sand and gravel.

The site is not located in any currently established official geologic hazard zones (e.g., liquefaction, active faulting, landslides) established by the California Geologic Survey ("CGS") or local agency specific plan element.

2.3.4 Soils

The Natural Resources Conservation Service ("NRCS") has mapped eight soil units on the Mine site, as shown on Table 4, below (see also Figure 4, Soils Map).

TABLE 4
NRCS SOIL SUMMARY

Map Unit Symbol	Map Unit Name	Typical Profile
Within surface mining disturbance boundary:		
BrA*	Brentwood silty clay loam, 0 to 2 percent slopes	H1 - 0 to 10 inches: silty clay loam H2 - 10 to 35 inches: silty clay loam H3 - 35 to 60 inches: silty clay loam
Ya*	Yolo silt loam, 0 to 2 percent slopes	Ap1 - 0 to 2 inches: silt loam Ap2 - 2 to 8 inches: silt loam A1 - 8 to 19 inches: silt loam A2 - 19 to 26 inches: silt loam C1 - 26 to 33 inches: silt loam C2 - 33 to 41 inches: silt loam Ab - 41 to 58 inches: silty clay loam C'3 - 58 to 65 inches: silt loam
So**	Sycamore silt loam, 0 to 1 percent slopes	H1 - 0 to 14 inches: silt loam H2 - 14 to 60 inches: silt loam
Rh	Riverwash, 0 to 2 percent slopes	H1 - 0 to 6 inches: gravelly sand H2 - 6 to 60 inches: stratified gravelly coarse sand to sandy loam
Outside of surface mining disturbance boundary:		
Ca*	Capay silty clay, 0 percent slopes	Ap - 0 to 11 inches: silty clay A - 11 to 18 inches: silty clay Bss1 - 18 to 36 inches: silty clay Bkss - 36 to 49 inches: silty clay B'ss2 - 49 to 64 inches: silty clay
Lm	Loamy alluvial land, 0 to 2 percent slopes	H1 - 0 to 10 inches: gravelly sandy loam H2 - 10 to 30 inches: stratified sand to gravelly loam H3 - 30 to 60 inches: stratified gravelly sand to gravelly loam
Mf*	Marvin silty clay loam, 0 to 1 percent slopes	H1 - 0 to 12 inches: silty clay loam H2 - 12 to 41 inches: silty clay H3 - 41 to 60 inches: silty clay loam
Sh	San Ysidro loam, 0 to 5 percent slopes	Ap - 0 to 8 inches: loam A - 8 to 15 inches: clay loam Bt1 - 15 to 26 inches: clay Bt2 - 26 to 34 inches: clay Bt3 - 34 to 54 inches: silty clay Ck - 54 to 80 inches: silty clay loam

Notes:

* Soil type meets the criteria for "prime farmland" as outlined in the U.S. Department of Agriculture's Land Inventory and Monitoring Project for the Yolo County soil survey.

** Soil types meets the criteria for "prime farmland" if drained.

2.3.5 Seismicity

The site is not located within a currently established Alquist-Priolo Earthquake Fault Zone. There are no active faults mapped within the Mine limits and the site is not within an Earthquake Fault Zone as mapped by the California Geological Survey. The Great Valley Fault System and a

segment of the Dunnigan Hills Fault, located approximately 6 miles to the west and northwest, respectively, are the closest known active faults to the site (Geocon, 2018).

2.3.6 Biological Resources and Communities

CEMEX retained Zentner Planning & Ecology ("Zentner") to assess the potential for sensitive biological communities, special-status plant and wildlife species, and sensitive biological resources at the site (see Appendix A, Biological Resources Update). The key findings of Zentner's updated assessment are summarized below.

Biological Communities:

Zentner identified the following biological communities on-site:

1. Perennial Marsh. Perennial marsh is restricted to the periphery of the deeper pools found within Cache Creek. These pools usually are formed within eroded cuts near the toe of the creek banks or within beaver dams that are common throughout the channel. These marshes support deep-rooted perennials such as bulrush (*Schoenoplectus acutus*), cattail (*Typha sp.*) and rushes (J*uncus sp.*).

2. Riparian. The riparian vegetation on site is primarily located near the toe of the creek banks along Cache Creek. It is also found in old carved out creek meanders on both the north and south banks, with some of the old meanders relatively high in elevation compared to the existing channel bed. A few of these old meanders are located within the project site within a distance of approximately 150 feet of the channel bed. These riparian areas are dominated by various species of willows (*Salix sp.*), Fremont cottonwood (*Populus fremontii*) and mulefat (*Baccharis salicifolia*).

3. Oak Savanna. The oak savanna runs along a relatively narrow band near the top of the southern bank of Cache Creek. This habitat, which is dominated by valley oak (*Quercus lobata*) with an understory of annual grassland, likely covered much of the region in proximity to Cache Creek prior to human disturbances.

4. Annual Grassland. Perennial grassland habitat, along with oak savanna, likely once co-dominated the entire site from the banks of Cache Creek to the southern edge of the property along Highway 16. The existing grassland is dominated by non-native, annual grasses such as wild oat (*Avena fatua*), soft chess (*Bromus hordeaceus*), ripgut (*Bromus diandrus*), and rye (*Festuca perennis*). It is found along the upper banks of Cache Creek and on the terrace between the creek and the active mining areas and agricultural areas. A more ruderal form of the annual grassland is found along the margins of these mined areas and the agricultural parcels.

5. Ruderal. A portion the annual grassland habitat is dominated by ruderal (weedy) vegetation. These areas are generally located near the CEMEX operating plant or in disturbed areas adjacent to mining or agricultural fields. Habitat in these areas are

dominated by thistles (milk thistle, *Silybum marianum*; bull thistle, *Cirsium vulgare*), starthistle (*Centaurea solstitialis*) and other weedy species.

6. Agriculture. The majority of the site consists of agricultural land that is currently being mined or will be mined in the future. Recently the site was in wheat and oat hay crop production. In prior years crops have included corn, sunflowers, and tomatoes.

Special-Status Species:

Zentner identified four special-status species that are either known to occur or that have the appropriate habitat to occur on site:

1. Bank swallow (*Riparia riparia*), State Threatened. Present nesting.
2. Swainson's hawk (*Buteo swainsoni*), State Threatened. Observed foraging or flying over the site.
3. Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*), Federally Threatened. Present along Cache Creek.
4. Western red bat (*Lasiurus blossevillii*), Western Bat Working Group – High Priority, CDFW Species of Special Concern. Limited potential habitat occurs within the habitat depressions and along the banks of Cache Creek.

Pursuant to PRC §2772.1, the County will evaluate the potential for impacts to these species and outline appropriate mitigations as needed in the project CEQA document.

2.3.7 Hydrology

Surface Waters and Drainage

Cache Creek, which flows generally from west to east, is located to the north of the Mine boundary (see Figure 2). Mining activity will continue to be setback a minimum of 200 feet from the creek. No wetlands or other Waters of the U.S. have been mapped within the Mine boundary.

In 2016, CEMEX retained Cunningham Engineering ("Cunningham") to utilize the County's current Cache Creek hydraulic model to plot the 100-year water surface profile along the entire mining reach. Cunningham concluded that the 100-year water surface is effectively contained within the creek (see Appendix B, Hydraulic Analysis of the CEMEX Reach).

Groundwater

CEMEX retained Luhdorff & Scalmanini Consulting Engineers ("LSCE") to prepare a groundwater assessment in support of this Plan and a 20 year mining use permit extension (see Appendix C, Groundwater Assessment). LSCE's assessment provides detailed documentation of historic and current groundwater conditions at the site, which is summarized below.

The groundwater monitoring well network at the site presently consists of a total of 19 wells, including 15 dedicated observation wells and 4 production wells. Continuous groundwater monitoring has been taking place in on-site wells since 1990 and LSCE has been preparing annual monitoring reports with cumulative data evaluation since 2003, with the most recent one dated October 26, 2017 (LSCE, 2017). Results of the ongoing monitoring efforts provide a comprehensive data set of groundwater conditions in the vicinity of the Mine including pre-mining conditions and conditions throughout mining and reclamation activities that have occurred to date. The entirety of this record shows no evidence or indication that the mining and plant operations have caused any changes in groundwater levels or quality to date. (LSCE, 2018).

In March 2017, the principal direction of groundwater flow was to the east, with groundwater elevations ranging from 126' msl to 108' msl (see Appendix C at Figure 7). During this time, groundwater levels were above Cache Creek's theoretical thalweg elevations indicating that the groundwater was acting as a source of recharge to the creek. The conditions are typical for times of higher groundwater levels (winter and early spring) in the vicinity of the CEMEX properties, and are consistent with the historical water level record. In September 2017, the principal direction of groundwater flow was to the east, with groundwater elevations ranging from 120' msl to 102' msl (see Appendix C at Figure 8). During this time, groundwater levels were near to or below Cache Creek's theoretical thalweg elevations indicating that the creek acted as a source of recharge to the local groundwater. These conditions are typical for times of low groundwater levels (late summer and fall) in the vicinity of the CEMEX Madison properties, and are consistent with the historical water level record.

CEMEX also retained LSCE to provide an estimate of average high and average low groundwater levels to inform the engineering designs for this Plan (see Appendix D, Estimation of Average High Groundwater Levels, and Appendix E, Estimation of Average Low Groundwater Levels). The average high and average low groundwater level estimates were obtained to ensure this Plan meets the following County code requirements:

1. County SMRO Section 10-5.516, which requires that reclaimed agricultural fields be backfilled to an elevation at least five feet above the average high groundwater level; and

2. County SMRO Section 10-5.530, which requires that final slopes less than five feet below the average low groundwater level shall not be steeper than 2H:1V.

The estimated average high and average low groundwater levels have been incorporated into project design, as appropriate.

2.4 Effect on Surrounding Land Uses [CCR §3502(b)(1)]

2.4.1 Surrounding Land Uses

The predominant land uses in the vicinity of the Project include aggregate mining and processing, agriculture and open space associated with Cache Creek (see Figure 2). To the north, the site is

bound by Cache Creek and agricultural lands that lie beyond it. To the east, the site is bound by agriculture as well as a rural residential / commercial land use. To the south, the site is bound by California Highway 16 and agriculture, with a few rural residences. To the west (with the exception of Phase 7), the site is bound by Interstate 505. Phase 7 is bound to the west by agriculture and rural residences.

2.4.2 Effect that Reclaimed Site Conditions May Have on Surrounding Land Uses

Reclamation to the planned end uses of agriculture, permanent lakes and wildlife habitat are not anticipated to have any substantial effect on existing and future uses of surrounding lands. In fact, many of the surrounding lands currently exhibit similar land uses.

2.5 Slope Stability and Disposition of Fill Materials

2.5.1 Final Slopes; Slope Angles Flatter than Critical Gradient [CCR §3502(b)(3)]

CCR §3704(f). *Final cut slopes have minimum factor of safety for end use and conform with surrounding topography and/or approved end use.*

CEMEX retained Geocon Consultants ("Geocon") to perform a slope stability evaluation in support of this Plan (see Appendix F, Slope Stability Evaluation).

Geocon assessed the following final cut slope parameters of the Mine design for a maximum slope height of 70 feet:

Slope:	**Gradient (H:V):**
Finish cut slopes, from surface to 5 feet below average low groundwater levels	2:1
Finish cut slopes, >5 feet below average low groundwater levels	1:1

Geocon concluded that these recommended reclamation slope angles will be stable with adequate static (≥ 1.5) and seismic (≥ 1.1) factors of safety for the proposed end uses.

2.5.2 Fill Slopes and Compaction Standards

CCR §3502(b)(4). *Disposition of fill materials considered. Foundation fills for end use in conformance with good engineering practice.*

CCR §3704(a). *For urban use, fill compacted in accordance with UBC, local grading ordinance, or other methods approved by the lead agency.*

CCR §3704(b). *For resource conservation, compact to standard for that end use.*

CCR §3704(d). *Final reclamation fill slopes not exceed 2:1, except when allowed by site-specific engineering analysis, and can be revegetated.*

CCR §3704(e). *At closure, final landforms of fills conform with surrounding topography and/or approved end use.*

Phases 1, 2, 3, 4 and 7 will receive backfill for reclamation to agriculture. Phases 5 and 6 will be reclaimed to permanent lakes and will generally not require backfill (unless performed at the direction of the project habitat restoration consultant to flatten perimeter lake slopes for future habitat value). Backfill with overburden and topsoil will be performed using conventional mobile equipment such as scrapers and bulldozers that will provide an appropriate level of compaction for the planned end uses. Reclaimed (backfilled) agricultural fields will have lowered elevations relative to original ground. However, as required by SMRO Section 10-5.516, the final distance between lowered surfaces reclaimed to agriculture and the average high groundwater will not be less than five feet (see Sheets R-04, R-05 and R-07). Final landforms of fills conform to County requirements and will be compatible with the end use. Final reclamation fill slopes will not be steeper than 2H:1V.

As previously described, the Mine design includes a "constructed" alluvial separator between Phases 3 and 4, which will be comprised of gravel and clay with 4H:1V side slopes, to re-purpose Phase 3 as a settling pond (see Sheet M-05). Geocon specifically analyzed stability for the constructed alluvial separator and found that it would have adequate static and seismic factors of safety of 2.9 and 1.6, respectively (see Appendix F for detail).

No backfill for urban uses or resource conservation purposes is proposed.

2.6 Hydrology and Water Quality

2.6.1 Surface and Groundwater Quality Protected in Accordance with Porter-Cologne and Clean Water Acts [CCR §3710(a)]

CCR §3706(a). *Mining and reclamation to protect downstream beneficial uses.*

CCR §3706(b). *Water quality, recharge, and groundwater storage that is accessed by others shall not be diminished, except as allowed by plan.*

CCR §3503(b)(2). *Substantially prevent siltation of groundwater recharge areas.*

Surface and groundwater will continue to be protected from siltation and pollutants as required by the Federal Clean Water Act, the Porter-Cologne Water Quality Control Act, County ordinances, Regional Water Quality Control Board (RWQCB) and the State Water Resources Control Board.

The site is subject to storm water events but does not discharge surface water from mined areas. The mining areas effectively function as self-contained basins. If required in the future, the Operator will comply with National Pollutant Discharge Elimination System ("NPDES") Industrial Storm Water General Permit requirements, including implementation of a Storm Water Pollution Prevention Plan ("SWPPP") with Best Management Practices ("BMPs") to control erosion,

sedimentation, and pollution. In addition, the Operator will continue to comply with its existing Waste Discharge Requirements Order No. R5-2003-0113 ("Order," issued by the RWQCB Central Valley Region), as may be amended from time to time, governing the discharge of process water and process wash fines to land.

As required, the Operator will implement a Spill Prevention, Control, and Countermeasure Plan ("SPCC Plan") and Hazardous Materials Business Plan pursuant to 40 CFR Part 112 and 19 CCR Section 2729, respectively.

Based on the results of LSCE's groundwater assessment (Appendix C), surface mining and reclamation activities are not expected to affect downstream beneficial uses of water, or the quality of water, recharge potential, or storage capacity of groundwater aquifers. LSCE concluded that the entirety of the site record shows no evidence or indication that the mining and plant operations have caused any changes in groundwater levels or quality to date, or that they would in the future.

2.6.2 Drainage, Sediment and Erosion Control [PRC §2773(a)]

CCR §3503(a)(3). *Erosion control facilities constructed and maintained where necessary.*

CCR §3503(b)(1). *Settling ponds used where they will provide significant benefit to water quality.*

CCR §3503(e). *Grading and revegetation to minimize erosion and convey surface runoff to natural drainage courses or interior basins. Spillway protection.*

CCR §3706(c). *Erosion and sedimentation controlled during all phases of construction, operation, reclamation, and closure of surface mining operation to minimize siltation of lakes and water courses per RWQCB/SWRCB.*

CCR §3706(d). *Surface runoff and drainage controlled to protect surrounding land and water resources. Erosion control methods designed for not less than 20 year/1 hour intensity storm event.*

CCR §3706(e). *Altered drainages shall not cause increased erosion or sedimentation.*

Drainage and Erosion Control

This Plan is designed to minimize erosion and retain direct precipitation and run-on in interior basins including the existing riparian depressions along the north side of the Mine. As required by CCR §3706(d), erosion control methods have been designed for the 20 year/1 hour intensity storm event (see Sheet M-02, at Note 11).

The Mine is located in the vicinity of Cache Creek (see Figure 2) and mining will continue to be set back a minimum of 200 feet from the creek. Drainage patterns for mining and reclaimed conditions are represented by arrows on Sheets M-05 through M-08 and Sheets R-04 through R-

07. Erosion control facilities, such as rip-rap run downs with velocity dissipation have been incorporated into drainage design (see Sheet M-02 for typical detail).

During mining operations, surface runoff that collects in the mine floor will be allowed to evaporate, infiltrate, or be used on-site (e.g., for dust control). Berms and ditches will be used to prevent off-site drainage (e.g., from adjacent agricultural fields) from entering open water excavations. Erosion control facilities will be monitored at least annually during routine engineering evaluations of the site, as required by the County.

Per Zentner's recommendation, upland areas above the existing open water pits (north side of Phases 3, 4, and 5, within the 200-foot creek buffer) have been designed to drain into the existing riparian depressions located between the open water pits and the creek (see Appendix G, Letter Recommendation for Drainage to Riparian Depressions). Zentner assessed these riparian depressions as part of its habitat restoration plan update (described later in this Plan) and advised that their high infiltration rates and small watersheds would not sustain long-term habitats without supplemental hydrology. Zentner noted that this may be why a number of trees died within the depressions during the recent extended drought. This drainage plan also serves to direct runoff from mined areas away from the open water pit excavations in Phases 3 and 4, consistent with the requirements of County code.

Natural drainage courses will not be covered, restricted, rerouted or otherwise impacted by surface mining activities.

If required, the Operator will comply with the NPDES General Permit requirements, which involves preparation and implementation of a SWPPP, including BMPs to control erosion, sedimentation, and pollution. During initial surface disturbance activities, customary BMPs, as well as the requirements of a SWPPP, if needed, will be implemented to ensure that water courses are protected from erosion, gullying, sedimentation and potential contamination. Slopes will be vegetated with appropriate native seed mixes once final reclamation grades are achieved.

Settling Ponds

Settling ponds (accepting and settling aggregate process wash fines, or silts) have been used at the site since the onset of aggregate processing activities in the 1970s. Portions of Phase 1, which have already been substantially reclaimed to agriculture, were once used as settling ponds. Currently, a small pond in the northeast corner of Phase 1 serves as the active settling pond that receives wash fines discharged from the aggregate processing plant (see Sheet M-05). The Operator will continue to use this pond as a settling pond until it reaches its capacity.

Once mining in Phase 3 is complete, the Operator will construct an alluvial separator (dike) at the east end of Phase 3 to re-purpose the area as the Mine's ultimate settling pond. The Phase 3 and alluvial separator configuration was specifically designed for sufficient capacity to accommodate the wash fines that are projected to be generated from the anticipated life of the Mine (i.e., aggregate wash fines silts generated from the production of 30 million tons of sealable sand and

gravel). Discharge of wash fines will continue to be conducted pursuant to the WDR Order No. R5-2003-0113.

2.6.3 Contaminant Control and Mine Waste Disposal [PRC §2772(c)(8)(A)]

CCR §3503(a)(2). *Overburden stockpiles managed to minimize water and wind erosion.*

CCR §3503(d). *Disposal of mine waste and overburden shall be stable and not restrict natural drainage without suitable provisions for diversion.*

CCR §3712. *Mine waste and tailings, and mine waste disposal units governed by SWRCB/IWMB (Article 1, Subchapter 1, Chapter 7, Title 27, CCR).*

Mine waste will be limited to overburden (to be used on-site for reclamation) and general refuse (which will be disposed of in accordance with applicable standards). Fill slopes (if any), perimeter berms, and temporary stockpiles will be seeded and wetted as needed to minimize water and wind erosion, and will not restrict natural drainage courses. No material stockpiles will be left following reclamation. However, any berms installed for safety along roads may be left in place, where those roads remain to facilitate the planned end uses.

2.6.4 In-stream Activities [CCR §3710(b)]

PRC §2772(c)(8)(B). *Rehabilitation of streambanks/beds to minimize erosion.*

CCR §3502(b)(6). *Temporary stream and water diversions shown.*

CCR §3706(f)(1). *Stream diversions constructed in accordance with Fish and Game Code.*

CCR §3706(f)(2). *Stream diversions constructed in accordance with Federal Clean Water Act and Rivers and Harbors Act of 1899.*

CCR §3706(g). *All temporary stream diversions eventually removed.*

CCR §3710(c). *In-stream channel elevations and bank erosion evaluated annually using extraction quantities, cross-sections, aerial photos.*

CCR §3710(d). *In-stream mining not cause fish to be trapped in pools or off-channel pits, or restrict migratory or spawning activities.*

The Mine is located south of Cache Creek, and mining will continue to be set back a minimum of 200 feet from the creek. No in-stream mining or work in the active waterway is proposed. Temporary stream and water diversions are not required.

2.7 Protection of Fish and Wildlife Habitat [CCR §3503(c)]

CCR §3703(a). Sensitive species conserved or mitigated.

CCR §3703(b). Wildlife habitat at least as good as pre-project, if approved end use is habitat.

CCR §3703(c). Wetlands avoided or mitigated at 1:1 minimum.

CCR §3704(g). Piles or dumps not placed in wetlands without mitigation.

The Operator will avoid sensitive habitats and protected trees (as identified in Appendix A) until such time as it obtains the required approvals from appropriate regulatory agencies (e.g., Yolo County, U.S. Fish and Wildlife Service, Corps of Engineers, Central Valley Regional Water Quality Control Board and California Department of Fish and Wildlife). No wetlands have been mapped on-site and the undisturbed portions of future mining Phases 5, 6 and 7 are in active agricultural production. If wetlands are identified in the future, then they will either be avoided or mitigated at 1:1 minimum ratios. For any sensitive avian species, active nests will be avoided during the nesting season or appropriate mitigation will be implemented as required by the responsible regulatory agency.

2.8 Resoiling [CCR §3503(f)]

CCR §3704(c). Mine waste stockpiled to facilitate phased reclamation and separate from growth media.

CCR §3503(a)(1). Removal of vegetation and overburden preceding mining kept to a minimum.

CCR §3711(a). All salvageable topsoil removed. Topsoil and vegetation removal not precede mining by more than one year.

CCR §3711(b). Topsoil resources mapped prior to stripping, location of stockpiles on map. Topsoil and growth media in separate stockpiles.

CCR §3711(c). Soil salvage and phases set forth in plan, minimize disturbance, designed to achieve reveg success.

CCR §3711(d). Topsoiling phase ASAP. Topsoil stockpiles not be disturbed until needed. Topsoil stockpiles clearly identified and planted with vegetation or otherwise protected.

CCR §3711(e). Topsoil redistributed in stable site and consistent thickness.

CCR §3707(b). Segregate and replace topsoil by horizon.

CCR §3705(e). Soil altered or other than native topsoil, requires soil analysis. Amend if necessary.

CEMEX retained Zentner to prepare an updated Habitat Restoration Plan, which includes recommendations on resoiling and substrate preparation that have been incorporated in this Plan (see Appendix H, Habitat Restoration Plan). Resoiling will occur in mined areas south of the 200-foot Creek buffer, primarily to return mined areas back to agriculture production. Some resoiling will also occur in the buffer areas around the reclaimed agricultural fields and the permanent lakes for habitat restoration.

Consistent with Zentner's recommendations, prior to revegetation the Operator will generally handle soils and prepare a revegetation substrate in the following manner:

1. Remove soils only as necessary to access new mining areas and use them for reclamation as soon as it can be accommodated by the mining schedule.

2. To the extent practicable, limit topsoil and vegetation removal to within one year of fill placement.

3. Where possible, place soils that have been removed for direct use in reclamation. Where salvaged topsoil cannot be used immediately for reclamation, stockpile it separately from other overburden and do not disturb until needed for reclamation.

4. Seed soil stockpiles with an appropriate seed mixture as needed to prevent water and wind erosion and to discourage weed growth.

5. Prior to resoiling, rip, disc and/or scarify fill areas as needed to relieve compaction and remove rills, ruderal vegetation, or other surface irregularities.

    - For areas to be reclaimed to agriculture, rip all A-horizon and B-horizon soils to a depth of three (3) feet after every (2) foot layer of soil placement, per SMRO §10-5.531.

6. Redistribute topsoil in preparation for revegetation, with a target thickness of 12-inches of topsoil atop overburden and/or other native substrate materials in the mine floor.

    - The thickness of topsoil salvaged and redistributed on the site during reclamation will vary. The target thickness of 12-inches is only a guideline based on available site specific soil information.

    - For areas to be reclaimed to agriculture, where distinct soil horizons are present, the sequence of horizons will have the A atop the B, the B atop the C, and the C atop the graded surface.

7. Following resoiling, where soil has been compacted, till or scarify the ground surface to create a favorable seedbed.

Growth media for revegetation will consist of native topsoil and overburden. The average thickness of overburden and topsoil replaced on the site during reclamation will vary depending on the reclamation use of an area. Where salvaged topsoil and growth media cannot be used immediately, topsoil (A horizon) and other growth media (e.g., B and C horizon) will be stockpiled separately and will not be disturbed until needed for reclamation. Stockpiles will be properly identified to help ensure topsoil and other growth media are not mistakenly blended. Soil stockpiles will have maximum heights of 40 feet and maximum side slopes of 2H:1V. These stockpiles will be seeded with an appropriate seed mixture as needed to prevent water and wind erosion and to discourage the growth of weeds.

Soil amendments, if required during revegetation efforts, will be applied according to manufacturer's specifications.

2.9 Revegetation [CCR §3705]

2.9.1 Vegetative Cover and Planting Procedures

CCR §3503(g). *Revegetation and plant survival (use available research).*

CCR §3705(a). *Vegetative cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness.*

CCR §3705(c). *Decompaction of site.*

CCR §3705(g). *Use native plant species, unless exotic species meet end use.*

CCR §3705(h). *Plant during correct season.*

CCR §3705(i). *Use soil stabilizing practices and irrigation, when necessary to establish vegetation.*

CCR §3707(d). *Fertilizers and amendments not contaminate water.*

Revegetation Goals and Objectives

The Mine site will be reclaimed to agriculture, permanent lakes and wildlife habitat end uses. In support of these end use objectives, CEMEX retained Zentner to prepare an updated Habitat Restoration Plan, which includes detailed recommendations on restoration and revegetation that have been incorporated in this Plan (see Appendix H). Restored wildlife habitats will feature lakes, riparian woodland, perennial marsh, oak savannah, and native grasslands. Supplemental tree-screening is also planned along Interstate-505. Zentner's plan includes the following principles to create quality, self-sustaining habitats that provide native plant diversity for native wildlife:

1. Provide for a diversity of native habitat types and vegetative communities that have the potential to support a variety of native wildlife including special status species.

2. Provide native grassland buffers around reclaimed agricultural parcels as well as a wide, continuous native buffer between Cache Creek and reclaimed habitats.

3. Provide a continuous corridor between the lakes and Cache Creek.

4. Provide for a structurally diverse shoreline around the lakes with variable slopes and communities.

5. Provide diverse riparian habitats around the lakes and within the preserved depressions to provide important roosting and nesting habitats.

Site Preparation for Revegetation

As disturbed areas become available for reclamation, habitat restoration areas will generally be prepared for revegetation as follows (see Appendix H at Section III for detail):

1. *Preconstruction Activities.* The restoration contractor will establish and stake the limits of planting areas. Where necessary, preconstruction surveys will be conducted and orange construction fencing or similar visible barrier will be installed to delimit sensitive areas adjacent to construction areas.
2. *Site Preparation.* Non-native vegetation, trash, debris, and weeds will be cleared. Prior to habitat restoration in the riparian depressions, grading within the adjacent oak savannah and upland mining areas will be completed to enlarge the watersheds for the riparian depressions as much as practicable (see also Appendix G). Unless already completed as a component of mining, the shoreline of the Phase 5 and Phase 6 lakes will be scalloped to provide a variety of slopes as well as shallow water habitats.
3. *Resoiling*. As described in Section 2.8 above, each area to be re-vegetated will undergo resoiling as necessary or applicable to the end use with substrate scarification to promote revegetation efforts.

4. *Application of Herbicides*. Application of herbicides may be used ahead of planting to minimize potential for weed growth, as directed by the restoration contractor.

General Revegetation Practices

Revegetation will generally proceed in the following manner:

1. *Seeding and Planting*. Following site and substrate preparation for each area to be reclaimed, seeding and planting will occur as summarized below and detailed in Appendix H. Specific planting techniques are set forth in Appendix H at Chapter V, Section 9.

2. *Timing*. To the extent practicable, seeding and planting will take place between October 1st and the end of February in order to take advantage of early season rainfall.

3. *Supplemental Irrigation*. Native trees and shrubs to be planted (e.g., in the riparian, oak savannah and native grassland habitats) will be irrigated through a simple, temporary drip system. Drip irrigation will be supplied for the planted trees and shrubs for up to two years from their initial planting with a gradual tapering in the third year and no irrigation in the fourth and fifth years. The species chosen for inclusion in the seed mixes (described below) are intended to be self-sustaining without dependence on long-term irrigation or ongoing applications of soil amendments or fertilizers.

Restoration Plantings

The following restoration planting details are taken from Appendix H at Section V, Restoration Planting.

Riparian Woodland

Riparian woodland will be planted around the perimeter of the lakes in Phases 5 and 6 and within the riparian depressions that are located within the geographic limits of the 200-foot Cache Creek setback. Within the lake area, riparian woodland will be planted on the slopes buffering the lake starting at or just inside of average high water (AHW). This habitat will slowly transition to oak savannah and native grassland. The result will be a complete system of grasslands and woodlands that will provide native diversity and cover for wildlife foraging and movement.

The riparian depressions will also be planted with riparian woodland. The surrounding slopes within the oak savannah and upland mining areas between Phases 3 and 4 and the riparian depressions will be graded such that they drain into these areas and help support the riparian hydrology of these depressional habitats. Invasive vegetation including tamarisk will be removed and treated with an herbicide prior to revegetation work.

Table 5 provides the planting pallet for restoration to Riparian Woodland. See Appendix H at Figure 3 for an illustrative typical cross-section.

TABLE 5
RIPARIAN WOODLAND PLANT LIST

Common Name	Scientific Name	Size	lbs/Acre
TREES			
red Willow	*Salix laevigata*	tree pot	32
arroyo willow	*Salix lasiolepis*	tree pot	25
black willow	*Salix gooddingii*	tree pot	15
Fremont cottonwood	*Populus fremontii*	tree pot	27
N. California walnut	*Juglans hindsii*	tree pot	10
boxelder	*Acer negundo*	tree pot	8

Common Name	Scientific Name	Size	lbs/Acre
SHRUBS			
buttonbush	*Cephalanthus occidentalis*	1 gal	35
mugwort	*Artemesia douglasiana*	1 gal	40
mulefat	*Baccharis salicifolia*	1 gal	35
Calif. rose	*Rosa californica*	1 gal	23
Calif. blackberry	*Rubis ursinus*	1 gal	10
wild grape	*Vitis californica*	1 gal	10
		TOTAL	**270**
GRASSES			
creeping wildrye	*Elymus triticoides*	Plug	800

Perennial Marsh

Native perennial marsh vegetation will be planted around the Phase 5 and 6 lakes. This habitat most naturally occurs between average high water (AHW) and average low water (ALW), which is the zone where planting will take place. Vegetation will consist of relatively deep-rooted perennials that are adapted to perennially wet conditions. This vegetation will transition naturally to riparian woodland.

Table 6 provides the planting pallet for restoration to Perennial Marsh. See Appendix H at Figure 3 for an illustrative typical cross-section.

TABLE 6
PERENNIAL MARSH PLANT LIST

Common Name	Scientific Name	Size	lbs/Acre
bulrush	*Schoenoplectus acutus*	tree band	15
bulrush	*Schoenoplectus americanus*	tree band	15
cattail	*Typha domingensis*	tree band	20
baltic rush	*Juncus balticus*	rose-pot	100
common rush	*Juncus effuses*	tree band	15
dense sedge	*Carex densa*	rose-pot	100
horsetail	*Equisetum hyemale*	1 gal	10
		TOTAL	**275**

Oak Savannah and Native Grassland

The Oak Savannah habitat will be restored within the 200-foot buffer between Cache Creek and the mined areas. This habitat will contain relatively sparse trees with denser shrubs and a native grassland understory. This habitat better approximates the vegetation that existed in this zone prior to habitat conversion associated with human disturbances. As well, this vegetation is better adapted to the soils in this zone. The planting pallet below allows for planting appropriate vegetation based upon soil micro-habitats as well as native grassland that is adapted to all of these soils. This vegetation will also be planted in the upper banks around the Phase 5 and 6 lakes above the riparian woodland vegetation and just up to the top of bank.

Table 7 provides the tree and shrub planting pallet for oak savannah. The grassland seed mix component is detailed further below. See Appendix H at Figure 3 for an illustrative typical cross-section.

TABLE 7
OAK SAVANNAH PLANT LIST

Common Name	Scientific Name	Size	lbs/Acre
TREES			
Valley oak	*Quercus lobata*	tree pot	5
buckeye	*Aescuslus californica*	tree pot	7
interior live oak	*Quercus wizlensii*	tree pot	2
SHRUBS			
coyote bush	*Baccharis pilularis*	1 gal	48
yerba santa	*Eriodictyon californicum*	1 gal	37
		TOTAL	**99**
GRASSES			
*See Native Grassland Plant List **(Table 8)** below*			

Native Grassland Buffer

The native grassland buffer habitat restoration will be located in areas that abut restored habitats including the lakes and the oak savannah. This habitat is meant to provide both a buffer from agricultural land uses and a habitat transition to other restored habitats and is dominated by grasses and forbs. The restoration will occur by drill-seed in areas 3:1 or flatter and broadcast seeding in other instances. Rose-pots will generally be planted in clusters of between five to seven plants.

Table 8 provides the plant and seed mix for the native grassland lake buffer. See Appendix H at Figure 3 for an illustrative typical cross-section.

TABLE 8
NATIVE GRASSLAND BUFFER PLANT LIST

Common Name	Scientific Name	Size	lbs/Acre
creeping wild rye	*Elymus triticoides*	seed	9
purple needlegrass	*Stipa pulchra*	seed	6
blue wildrye	*Elymus glaucus*	seed	8
six-weeks fescue	*Festuca microstachys*	seed	2.5
meadow barley	*Hordeum brachyantherum*	seed	4
yarrow	*Achillea millefolium*	seed	2.5
California poppy	*Eschscholzia californica*	seed	3
gumplant	*Grindelia camporum*	seed	3
		TOTAL	**38**
milkweed	*Asclepias fascicularis*	rose pot	40
mugwort	*Artemesia douglasiana*	rose pot	15
		TOTAL	**55**

Note: Composition of seed mix (and appropriate modifications) to be determined based on availability from suppliers, test plot results (if applicable) and species determined most suitable at the time planting occurs.

For the above habitats, grass and grass-like plug plantings will be placed on one-foot centers. Trees and shrubs will be placed in clusters of approximately 3-5 plants except within the oak savannah, where trees will be relatively widely spread over the habitat.

Interstate 505 Tree Screen

Fremont cottonwoods will be planted to fill in the gaps of the existing cottonwoods that make up the Interstate 505 tree screen. A total of 40 trees will be planted to fill in these areas. In addition, a small portion of the screen closest to Cache Creek will be planted with California walnut, as these have been successful in this portion of the project area, and they will integrate into those that already exist.

Table 9 provides the planting pallet for the Interstate 505 tree screen.

Soil Stabilizing Practices and Temporary Erosion Control

Should any supplemental soil stabilizing practices be needed, straw mulch, fiber rolls, erosion control blankets and/or other BMPs will be used as necessary to control soil erosion. Table 10 provides a fast growing erosion control seed mix that may be used for temporary disturbances (e.g., long-term overburden storage stockpiles).

TABLE 9
INTERSTATE 505 SCREENING PLANT LIST

Common Name	Scientific Name	Size	Number
TREES			
Fremont cottonwood	*Populus fremontii*	tree pot	40
California walnut	*Juglans hindsii*	tree pot	15

TABLE 10
NATIVE EROSION CONTROL BROADCAST SEED MIX

Common Name	Scientific Name	Size	lbs/acre
blue wildrye	*Elymus glaucus*	seed	6
California brome	*Bromus carinatus*	seed	6
meadow barley	*Hordeum brachyantherum*	seed	5
six-weeks fescue	*Festuca microstachys*	seed	3.5
California poppy	*Eschscholzia californica*	seed	2.5
		TOTAL	**23**

Note: Composition of seed mix (and appropriate modifications) to be determined based on availability from suppliers, test plot results (if applicable) and species determined most suitable at the time planting occurs.

Agriculture Areas

For areas reclaimed to agriculture (e.g., row crop), fields will be backfilled/leveled as appropriate, graded for positive drainage, and prepared for crop plantings. The ultimate crop type to be planted is at the discretion of the landowner.

2.9.2 Revegetation Test Plots [CCR §3705(b)]

Disturbed mining slopes (in Phase 3) and agricultural backfill areas (in Phase 1) that have reached their final configuration and will not be further disturbed will serve as test plots for the respective revegetation seed mixes. If a portion of the Phase 4 area is seeded with the erosion control mix (from Table 10 above), then test plots may be set up in this area as a substitute for one of the above areas. For detail, see Appendix H at Section VIII, Test Plots.

2.9.3 Revegetation of Roads and Traffic Routes

CCR §3705(d). Roads stripped of roadbase materials, resoiled and revegetated, unless exempted.

CCR §3705(f). Temporary access not bladed. Barriers installed.

The existing and future perimeter road network are planned to be left in place for safety, fire protection, access between properties, and to facilitate the potential end uses. Temporary roads in the mine floor will be stripped of any roadbase materials, resoiled and revegetated as described above. No temporary access routes are anticipated as part of reclamation.

2.9.4 Noxious Weed Management [CCR §3705(k)]

During the revegetation establishment period, noxious weeds will be managed: (1) when they threaten the success of the proposed revegetation; (2) to prevent spreading to nearby areas; and (3) to eliminate fire hazard. Noxious weeds will be removed using a combination of herbicides, mechanical controls, and hand weeding. In some cases, complete eradication may not be feasible unless the weed-infested patches are small. Noxious weed identification and management will be an element of the revegetation monitoring period overseen by a qualified biologist.

For additional detail, see Appendix H at Section IX, Weed Control Plan.

2.9.5 Plant Protection Measures, Fencing, Caging [CCR §3705(l)]

Shrubs may be subject to herbivory that could result in damage or loss of plants. At the direction of the restoration contractor, any or all of the following corrective measures may be implemented during plant installation if it is determined that plants may be jeopardized by wildlife:

- Plants susceptible to browsing will be protected using wire cages, tree shelters (e.g., hardware wire cages, etc.), or exclosure fencing (e.g., temporary rabbit fences).
- Wire screening will be installed around the roots of plants to prevent damage attributed to subterranean herbivores (e.g., gophers).
- Protective devices will be maintained in place for at least three years, or until herbivory is no longer a threat to the survival of the plants.
- During annual monitoring visits, the restoration contractor will observe for evidence of browsing and direct implementation of the measures outlined above as appropriate.

2.9.6 Revegetation Performance Standards and Monitoring [PRC 2773(a)]

CCR 3705(m). Success quantified by cover, density and species-richness. Standards proposed in plan. Sample method set forth in plan and sample size provide 80 percent confident level, as minimum.

CCR §3705(j). If irrigated, demonstrate self-sustaining without for two years minimum.

Monitoring

For wildlife habitat end uses, qualified biologists or botanists will monitor re-vegetated areas annually for a minimum of three years or until the final performance standards outlined below are met. The monitoring program shall be considered complete if during the last two years plantings required no human intervention. If intervention is necessary after the second year of monitoring, then remedial measures will be implemented and monitoring will continue until such time as the performance standards can be met or this Plan is modified.

Monitoring reports will summarize the reclamation responsibilities, construction and revegetation completed, monitoring implemented, and revegetation results compared to established success criteria. Photo documentation and field data will also be provided in appendices to the monitoring reports. If it is apparent that some reclamation features may not achieve intended success criteria, potential remediation opportunities will be evaluated or suggested and provided in the report. Monitoring results, including photographs, will be submitted as an annual report to the County by November 1 of each monitoring year. For additional detail see Appendix H at Section VII, Monitoring and Reporting.

For agriculture end uses, the Operator will monitor crop yields for two years as described in more detail below.

Revegetation Performance Standards

For areas reclaimed to wildlife habitat, reclamation will be measured against the following year five success criteria (see Appendix H for detail). Vegetation monitoring of the marsh, grassland, and understory (non-trees and shrubs) will be conducted in the same fashion for all of the habitat types, using permanent 1 square meter (approx. 10' x 10') plots.

The revegetation success criteria outlined below will be updated, if necessary, in consultation with the County following monitoring of the proposed test plot.

Perennial Marsh

Habitat Element	Performance Criteria
Vegetation Cover	≥60% per plot avg
Relative hydrophyte Cover	≥60% per plot avg
Relative cover of Native Species	≥60% per plot avg
Average number of Native Species (Species Richness)	≥3 native species per plot avg
Invasive cover	<10%

Riparian Woodland and Oak Savannah

Habitat Element	Performance Criteria
Woodlands	
Average Number of Native Trees	70% of target density *
Height of Trees	≥6’
Shrubs	
Number of Shrubs	70% of target density *
Height of Shrubs	≥2’

* Performance criteria can be met via planted materials or recruitment of native species or a combination of both

Native Grassland Buffer and Savannah Understory

Habitat Element	Performance Criteria
Vegetation Cover (Across all stratums)	≥60% per plot avg
Average Number of Natives (Across all stratums) (Species Richness)	≥3 native species per plot avg
Relative Cover of Natives (Across all stratums)	≥20% per plot avg
Invasive cover (Across all stratums)	<10% per plot avg

2.9.7 Agricultural Fertility Performance Standards [CCR §3707 and CCR §3708]

CCR §3707(a). *Return prime agriculture to fertility level specified in approved plan.*

CCR §3707(c). *Productivity rates equal pre-project or similar site for two consecutive years. Rates set forth in plan.*

CCR §3708. *Other ag capable of sustaining crops common to area.*

The Mine operates on prime agricultural lands as defined by the U.S. Soil Conservation Service (see Table 4 for reference). Table 2 shows the post-reclamation land uses for the seven mining phases, as well as the plant site and remaining disturbed areas (e.g., conveyor alignment and creek buffer). Of the total site reclamation, ±439 acres are planned for a return to agriculture. The reclaimed agricultural fields will be backfilled to an elevation at least five feet above the average high groundwater level, consistent with the requirements of SMRO Section 10-5.516. Crops will be grown in the reclaimed areas in rotations as appropriate to sound farming practices in the area. Row crop types are likely to include tomatoes, grains (e.g., wheat), corn and sunflower.

Compass retained Dellavalle Laboratory, Inc. ("Dellavalle") to collect soil samples from existing overburden stockpiles at the Mine to test them for agricultural fertility (see Appendix I, Soil Fertility Results). Dellavalle concluded that there are no limitations to using any of the overburden or open field soils for agricultural crop production.

The following success criteria, consistent with CCR §3707 (performance standards for *prime* agricultural land) are proposed for the portions of the site to be returned to agriculture.

Fertility:	Reclaimed areas should be capable of providing sufficient fertility to support reclaimed row crop production, such as tomatoes and grains (e.g., wheat), based on soil testing.
Topsoil Handling:	Upon reconstruction of soils, the sequence of horizons will have the A atop the B, the B atop the C, and the C atop graded overburden.
Productivity Rates	Reclamation will be deemed complete when productive capability of the affected land is equivalent to or exceeds, for two consecutive crop years, that of the unmined agricultural lands adjacent to and south of the mining areas.
Amendments:	To prevent contamination of surface or groundwater, fertilizers and other soil amendments will be applied by qualified professionals in accordance with manufacturer specifications. In addition, reclaimed agricultural fields will be restricted from draining into the permanent lakes or Cache Creek.

2.10 Equipment Removal and Incidental Waste Disposal

CCR §3709(a). *Equipment stored in designated area and waste disposed of according to ordinance.*

CCR §3709(b). *Structures and equipment dismantled and removed.*

CCR §3502(b)(5). *Disposition of old equipment.*

Equipment used in mining and reclamation will be stored in designated areas near site access points and removed from the site following final reclamation.

Conveyor equipment will be dismantled and removed as part of reclamation unless needed to facilitate future mining in the area. Fences and roads providing access between properties will be left in place to facilitate the potential end uses.

Any incidental refuse or garbage will be collected, hauled off-site and disposed of in accordance with state and local standards.

The existing asphaltic concrete batch plant and ready-mix concrete batch plant are permitted and operate under separate County-issued entitlements and may be left in place at the Owner's discretion at the time of reclamation to continue to support future mining in the area and/or the construction materials needs of the region.

2.11 Closure of Portals, Shafts and Openings

CCR §3713(a). *Drill holes, water wells, monitoring wells completed or abandoned in accordance with laws.*

CCR §3713(b). *All portals, shafts, tunnels, or openings, gated or protected from public entry, but preserve access for wildlife.*

No portals, shafts, tunnels or other openings to underground workings are mapped or proposed. No drill holes (other than temporary drill holes used for exploration or quality testing purposes) are planned. Any water wells installed in support of surface mining or reclamation activities will be left in place to facilitate the potential end uses or abandoned in accordance with state and local laws and regulations.

2.12 Administrative Requirements

2.12.1 Statement of Reclamation Responsibility [PRC §2772(c)(10)]

Please see Appendix J, Statement of Reclamation Responsibility.

2.12.2 Financial Assurances [PRC §2773.1]

Financial assurances will remain in effect for the duration of the mining operation and any additional period until reclamation is complete. A Financial Assurance Cost Estimate will be updated annually following approval of this Plan and associated County Use Permit. Financial assurances may be adjusted up or down as appropriate based on updated estimates in future years.

2.12.3 Lead Agency Approvals and Annual Inspection [PRC §§2772.1 and 2774]

Upon Plan approval, the conditions of approval and/or mitigation measures pertinent to Plan requirements will be added to this Plan pursuant to PRC §2772.1(b)(7)(B) as Appendix K, Reclamation Related Conditions of Approval.

The Operator will submit a Mining Operation Annual Report to DMR and the County. This report will summarize the previous year's production and reclamation activities. SMARA also requires the County to conduct an annual inspection of the site to ensure compliance with the approved Plan.

2.12.4 All Mining Operations Since 1/1/76 Included in Reclamation Plan [PRC §2776]

Other than the processing plant site (portions of which have been in operation since approximately 1971) that is included in this Plan's boundary, no pre-1976 mining disturbances are apparent at the Mine.

2.12.5 Mining in 100-year Floodplain and Within One Mile of State Highway Bridge [PRC §2770.5]

Portions of Phase 1 of the Mine are located within the 100-year floodplain of Cache Creek, Zone A, as mapped by the Federal Emergency Management Agency ("FEMA") on its Flood Insurance Rate Map ("FIRM") No. 06113C0412G effective June 18, 2010. In addition, the Mine is located within one mile of the Interstate 505 bridge at Cache Creek. Therefore, because the Operator has requested a renewal (extension) of its permit in connection with approval of this Plan, the County (lead agency) is required to notify the State Department of Transportation ("DOT") that the application has been received. The DOT shall have a period of not more than 45 days to review and comment on the proposed surface mining operations with respect to any potential damage to the state highway bridge from the proposed surface mining operations. The lead agency shall not issue or renew the permit until the DOT has submitted its comments or until 45 days from the date the application for the permit was submitted, whichever occurs first.

3.0 LEAD AGENCY REQUIREMENTS [PRC §2772(C)(11)]

Section 3.0 of this Revised Plan addresses specific lead agency reclamation requirements, where it is believed those requirements either supplement or amplify the requirements of SMARA as outlined in Section 2.0. This part is not intended to restate or address every SMARA code section or policy related to the reclamation of mined lands.

Yolo County recognizes that the extraction of sand and gravel is essential to the continued economic well-being of the state and to the needs of society. Although the County encourages the production of sand and gravel, it believes that consideration must also be balanced by other societal values, including but not limited to recreation, water resources, wildlife, agriculture, and aesthetics.

For context, surface mining is regulated by Yolo County primarily through the Off-Channel Mining Plan (a component of the County's General Plan). The OCMP contains the structure and policies for implementing a program to manage the wide variety of resources associated with Cache Creek, including habitat, water resources, aggregate, agriculture, and recreation. The OCMP primarily regulates mine reclamation through the Surface Mining Reclamation Ordinance ("SMRO"), which contains detailed and specific reclamation performance standards. The SMRO also directs the information needed for reclamation plan applications, and provides regulations that relate to financial assurances, reporting, inspections, and violations.

This Section 3.0 only addresses requirements that specifically relate to the reclamation of mined lands, and not those requirements associated with regulation of the mining activities (e.g., development standards), including any associated environmental review or land use approvals.

3.1 Surface Mining Reclamation Ordinance

SMRO Section 10-5.601 sets forth minimum contents for reclamation plan applications, each of which is specifically addressed below.

3.1.1 Narrative Description of the Proposed Use of Mined Lands and the Manner in Which Reclamation will be Accomplished [§10-5.601(a)]

A narrative description of the proposed use of mined lands after reclamation has been completed and the manner in which reclamation will be accomplished are addressed in Sections 1.0 and 2.0, above.

3.1.2 General Plan, Zoning and SMRO Consistency [§10-5.601(a)(1)]

The Mine's General Plan and Zoning designations are provided in Table 3. The General Plan designation of Agriculture supports surface mining (see General Plan Policy LU-1.1 at page LU-14) and all areas proposed for mining have this designation. The portions of the site that carry the Open Space designation apply to the portions of the parcels associated with Cache Creek. Further, the General Plan supports the continuation of mining through the following policies:

Policy ED-1.2 Support the continued operation of existing aggregate mining activities within the county as well as new aggregate mining in appropriate areas, to meet the long-range construction needs of the region.

Policy ED-1.8 Retain and encourage growth in important economic export sectors, including mining, natural gas, tourism and manufacturing.

Surface mining is allowed in the A-N zone with approval of a Major Use Permit for lands that are in the OCMP area on lands within the mineral resources overlay zone (see Yolo County Code, Title 8, §8-2.304 and §8-2.306(t)). The Project site is within this area and carries a mineral resource zone "SG" (sand and gravel) overlay.

This Plan's consistency with the SMRO is detailed in Table 11, below. Other than the County General Plan and the County CCAP, which is implemented through the OCMP and its respective ordinances, the Operator is not aware of any other Specific Plan applicable to the Project.

TABLE 11
SMRO CONSISTENCY MATRIX

SMRO Performance Standard	Project Consistency
10-5.501. Scope.	Consistent. The Revised Reclamation Plan will return the site to end uses of agriculture, permanent lake, and wildlife habitat, which are consistent with the General Plan and Zoning designations for the site. Consistency with specific performance standards are set forth below, and described in more detail in the Revised Reclamation Plan.
10-5.502. Aesthetics.	Consistent. The Revised Reclamation Plan includes an updated Habitat Restoration Plan that promotes aesthetic quality for reclaimed conditions.
10-5.503. Backfilled excavations: groundwater flow impacts.	Consistent. No change (increase) in mining depth or reclamation backfill depths are proposed. Consistent with existing entitlements, the Revised Reclamation Plan proposes backfills for the purpose of reclaiming portions of the mine to agriculture, which is a high priority mine reclamation end use in the CCAP. Luhdorff & Scalmanini concluded the Project would not adversely impact off-site wells (see the groundwater assessment included as an appendix to the Revised Reclamation Plan).
10-5.504. Backfilled excavations: Improvements.	Consistent. No change. No new improvements are proposed to be constructed in reclaimed mining pits.
10-5.505. Backfilled excavations: Inspections.	Consistent. Acknowledged.

SMRO Performance Standard	Project Consistency
10-5.506. Bank stabilization maintenance.	Consistent. No change. No new bank stabilization features are proposed as part of the Project. CEMEX will continue to update its Financial Assurance Cost Estimate on an annual basis and submit it to the County for review and approval. CEMEX will also continue to have an annual inspection conducted by a Registered Civil Engineer as a component of its Annual Report pursuant to OCSMO §10-4.701 and SMRO §10-5.1205.
10-5.507. Drainage.	Consistent. The Revised Reclamation Plan provides for drainage to minimize erosion and convey runoff from reclaimed mining areas to natural outlets and interior basins (see Plan at Section 2.6.2). See also Revised Reclamation Plan Sheets R-02, and R-04 through R-07 for drainage detail.
10-5.508. Erosion control.	Consistent. No substantial change to current practices. Reclamation timing and revegetation practices are described in the Revised Reclamation Plan.
10-5.509. Fence row habitat.	Consistent. The Revised Reclamation Plan provides for ground cover along the margins of reclaimed agricultural fields (see Plan at Section 2.9).
10-5.510. Fencing.	Consistent. Fencing is in place around the perimeter of mining areas and will be expanded in the future as needed. See Revised Reclamation Plan Sheets R-04 through R-07 for fence locations.
10-5.511. Field drainage.	Consistent. Reclaimed agricultural surfaces are designed for positive drainage. See Revised Reclamation Plan Sheets R-04 through R-07.
10-5.512. Field releveling.	Consistent. No change. Acknowledged.
10-5.513. Floodplain development.	The Project proposes no new development in the floodplain.
10-5.514. Habitat management plan compliance.	Consistent. The Revised Reclamation Plan includes an updated Habitat Restoration Plan that complies with SMARA, the OCSMO and the SMRO.
10-5.515. Habitat plan referral.	Consistent. Acknowledged. The updated Habitat Restoration Plan can be presented to agencies for review as part of the Project CEQA process.
10-5.516. Lowered elevations for reclaimed agricultural fields.	Consistent. Reclaimed agricultural surfaces are designed to be at least five feet above average high groundwater. See Revised Reclamation Plan Sheets R-04 through R-07.

SMRO Performance Standard	Project Consistency
10-5.517. Mercury bioaccumulation in fish.	Consistent. No change. Permanent lake end uses were approved under existing entitlements and were fully analyzed in the 1996 EIR.
10-5.518. Mining in reclaimed lands.	Consistent. Acknowledged. Once reclamation is complete, no further mining will occur without approval of an amendment to the mining permit and reclamation plan.
10-5.519. Motorized watercraft prohibition.	Consistent. No change. With the exception of the existing dredge, no motorized watercraft are allowed on the lakes.
10-5.520. Operational areas.	Consistent. Operational areas and haul roads that are not required to facilitate future end uses will be reclaimed as set forth in the Revised Reclamation Plan. See, for example, Plan Section 2.2.2.
10-5.520.1. Parkway plan consistency.	Consistent. No change. Restoration along Cache Creek and development of permanent lake end uses were approved under existing entitlements and were fully analyzed in the 1996 EIR.
10-5.520.2. Permanent easements.	Consistent. No change. Upon completion of reclamation within each phase of the project, for land that will not be dedicated or deeded to the County, the operator will enroll each parcel reclaimed to agriculture in Williamson Act contract, or other equivalent long-term easement or deed restriction satisfactory to the County, for the purpose of protecting the agricultural use of the reclaimed land in perpetuity.
10-5.521. Permanent stockpiles.	Consistent. Mine waste and overburden stockpiles will be removed as described in the Revised Reclamation Plan at Section 2.6.3.
10-5.522. Phasing plans.	Consistent. Consistent with existing entitlements, the Revised Reclamation Plan proposes the mine to be developed and reclaimed in seven phases (see, for example, Sheet R-03).
10-5.523. Planting plans.	Consistent. An updated Habitat Restoration Plan prepared by a qualified biologist is included as an appendix to the Revised Reclamation Plan.
10-5.524. Post-reclamation groundwater monitoring.	Consistent. No change. CEMEX anticipates that the County will maintain and/or adopt conditions of approval as appropriate.
10-5.525. Prime farmland conversion.	Consistent. The Revised Reclamation Plan maximizes the acreage to be reclaimed to

SMRO Performance Standard	Project Consistency
	agriculture, while adhering to the requirement of SMRO 10-5.516. Potential impacts to prime farmlands will be evaluated in the Project CEQA document. If needed, CEMEX anticipates that the County will adopt mitigation measures and conditions of approval as appropriate.
10-5.526. Repair of damage due to natural disaster.	Consistent. No change. CEMEX will continue to update its Financial Assurance Cost Estimate on an annual basis and submit it to the County for review and approval.
10-5.527. Recreational and habitat uses of permanent wet pits.	Consistent. The updated Habitat Restoration Plan included as part of the Revised Reclamation Plan accounts for groundwater fluctuations in permanent wet pits.
10-5.528. Sewage storage prohibition.	Consistent. No change. The Project does not propose to use wet pits for storage and treatment of sewage effluent or for landfill purposes.
10-5.529. Shallow depths.	Consistent. The updated Habitat Restoration Plan included as part of the Revised Reclamation Plan provides for habitat restoration around the shoreline of the permanent lakes.
10-5.530. Slopes.	Consistent. Final reclaimed slopes have been evaluated in the Slope Stability Evaluation (Geocon 2018) included as an appendix to the Revised Reclamation Plan. Final slope angles have an adequate factor of safety for the proposed end uses.
10-5.531. Soil ripping.	Consistent. The requirement for ripping A- and B-horizon soils to a depth of three feet is included in the Revised Reclamation Plan at Section 2.8 (Resoiling).
10-5.532. Use of overburden and fine sediments in reclamation.	Consistent. No change. The Project does not propose to use sediment fines associated with processing for backfill or reclamation of permanent lakes. Aggregate process wash fines will continue to be pumped to settling ponds, which will ultimately be reclaimed to agriculture end uses.
10-5.533. Wetland habitat.	Consistent. The Revised Reclamation Plan provides for permanent lakes with scalloped basin perimeters, grassland margin habitat, and an island (in Phase 5). See Revised Reclamation Plan Sheets R-03 and R-06

SMRO Performance Standard	Project Consistency
10-5.534. Exceptions.	Consistent. No exceptions are currently proposed or believed to be necessary.

3.1.3 Contamination Control [§10-5.601(a)(2)]

See Sections 2.6.2 and 2.6.3.

3.1.4 Erosion Minimization for Affected Streambed Channels and Streambanks [§10-5.601(a)(3)]

See Sections 2.6.2 and 2.6.4. Flood protection is already in place (see Appendix B).

3.1.5 Effect that Reclamation will have on Future Mining [§10-5.601(a)(4)]

See Section 2.2.3.

3.1.6 Time Schedule of Reclamation Activities [§10-5.601(a)(5)]

See Table 1 in Section 2.1.6.

3.1.7 Compliance with Minimum Performance Standards [§10-5.601(a)(6)]

See Table 12 in Section 3.1.2.

3.1.8 Signed Statement of Reclamation Responsibility [§10-5.601(a)(7)]

See Appendix J.

3.1.9 Acreages of Proposed Reclaimed Uses [§10-5.601(a)(8)]

See Table 2 in Section 2.2.1.

3.1.10 Drainage and Erosion Control After Reclamation; 100-Year Flood Protection [§10-5.601(a)(9)]

See Section 2.6.2.

3.1.11 Maximum Disturbance at One Time [§10-5.601(a)(10)]

The Plan covers ±837 acres of maximum surface disturbance area, which will be reclaimed in a phased manner as set forth in Table 1 in Section 2.1.6.

3.1.12 Williamson Act Contracts or Agricultural Preserves [§10-5.601(a)(11)]

The Operator is not aware of any active Williamson Act contracts covering the site, or any agricultural preserves on the site. Mining in Phases 3 through 7 will occur on lands that have been at least partially defined as prime farmlands.

3.1.13 Narrative Description of the Type of Surface Mining to be Employed [§10-5.601(b)]

See Section 2.1.6.

3.1.14 Name and Address of Operator and Agent for Application Processing [§10-5.601(b)(1)]

See Section 2.1.1. In addition to itself, the Operator has designated Compass Land Group, this Plan's preparer, as an agent for application processing.

3.1.15 Anticipated Quantity and Type of Materials [§10-5.601(b)(2)]

See Section 2.1.2.

3.1.16 Proposed Dates for Initiation and Termination of the Surface Mining Operation [§10-5.601(b)(3)]

See Section 2.1.3.

3.1.17 Maximum Anticipated Depth [§10-5.601(b)(4)]

The maximum anticipated depth is 70 feet bgs, consistent with the original Solano Long-Term Off-Channel Reclamation Plan No. ZF #95-093.

3.1.18 Evidence that all Owners of Possessory Interest have given Authority to Mine and Reclaim in Accordance with Plan [§10-5.601(b)(5)]

CEMEX owns and operates the Mine. Please see also Appendix J.

3.1.19 Acreage of the Lands Affected and Legal Descriptions [§10-5.601(b)(6)]

See Tables 2 and 3, as well as Sheets M-01 and R-01.

3.1.20 Description of Geology [§10-5.601(b)(7)]

See Section 2.3.3, as well as Figure 3.

3.1.21 Names and Addresses of Owners [§10-5.601(b)(8)]

See Reclamation Plan Summary for Owner's address and contact information and Section 2.3.1 for a parcel-by-parcel listing of ownership. CEMEX owns all parcels to be mined and reclaimed.

3.1.22 Site Specific Technical Studies [§10-5.601(c)]

The following site-specific technical studies are appended to this Plan:

Appendix A	Biological Resources Update (Zentner)
Appendix B	Hydraulic Analysis of the CEMEX Reach (Cunningham Engineering)
Appendix C	Groundwater Assessment (Luhdorff & Scalmanini)
Appendix D	Estimation of Average High Groundwater Levels (Luhdorff & Scalmanini)
Appendix E	Estimate of Average Low Groundwater Levels (Luhdorff & Scalmanini)
Appendix F	Slope Stability Evaluation (Geocon)
Appendix G	Letter Recommendation for Drainage to Riparian Depressions (Zentner)
Appendix H	Habitat Restoration Plan (Zentner)
Appendix I	Soil Fertility Results (Dellavalle Laboratory)

3.1.23 Site Plan and Cross Sections [§10-5.601(d)-(f)]

See Sheets M-01 through M-15, and Sheets R-01 through R-15.

3.1.24 Estimate of Financial Assurances [§10-5.601(g)]

The Operator has an existing Financial Assurance Cost Estimate and Financial Assurance Mechanism (bond) on file with the County, which will continue to be updated annually and submitted to the County for review and approval.

3.1.25 Land Survey or Record of Survey [§10-5.601(h)]

Sheet M-03 reflects the Record of Survey filed January 12, 2018, in 2018 Book of Maps at pages 2-4.

3.1.26 Initial Environmental Assessment [§10-5.601(i)]

An “Applicant’s Draft Initial Study” was submitted to the County under separate cover as part of the project application filed in February 2018.

3.1.27 Discretionary Permits Required by Other Public Agencies [§10-5.601(j)]

CEMEX is not aware of any other applicable discretionary permits required by other public agencies to carry out mining and reclamation in the manner set forth in this Plan.

3.1.28 Chart of SMARA Contents [§10-5.601(k)]

See page “vi” at the beginning of this Plan.