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BETA Excel Version of the FACE-1 Financial Assurance Cost Estimate Form.
Please contact DMR if errors are found in this document.

FINANCIAL ASSURANCE COST ESTIMATE

FOR

CEMEX Eliot Facility

(Mine Name)

CA Mine ID # 91- 01-0009

Reclmation Plan #/Name SMP-23/Eliot Quarry

Prepared by: *(Name & Affiliation)*	This financial assurance cost estimate prepared and submitted pursuant to *(choose one)* :
Karen Spinardi Spinardi Associates Civil Engineering Consultant Date: 2/13/2019	☐ A new or amended reclamation plan approved on (Date): ☐ An annual mine inspection performed on (Date): ☒ Other: Please Specify: Proposed Rec. Plan Amend. (unapproved)

Most Recent Approved Financial Assurance Cost Estimate

Date: 10/25/2018

Amount: $ 9,898,317

Amount of existing Financial Assurance Mechansim(s)

Date: 11/16/2018

Amount: $ 9,898,317

I. SUPPORTING DOCUMENTS

This estimate represents the cost of conducting and completing reclamation in accordance with the Surface Mining and Reclamation Act (SMARA) and the following supporting documents:

Reclamation Plan Approval Date and Number

✍ Proposed Reclamation Plan Amendment submitted February 2019, pending approval.

Permits and/or Environmental Documents Approved as, or Conditional upon, the Reclamation Plan

✍ In progress

Other Agency Financial Assurances Securing Reclamation of Disturbed Lands

✍ N/A

Wage Rates used in Cost Estimate* *(cost estimates are required to use current 'General prevailing wage determinations made by the director of industrial relations' where applicable (http://www.dir.ca.gov/OPRL/PWD/index.htm) with employer labor surcharge added, or greater)*

✍General Prevailing Wage Determination made by the Director of Industrial Relations for Commerical, Builiding, Highway, Heavy Construction and Dredging projects, expiration June 24, 2019. (See Appendix)

Equipment Rates used in Cost Estimates* *(use current 'Labor Surchage and Equipment Rental Rates (Cost of Equipment Ownership)' equipment rates published by Caltrans (http://www.dot.ca.gov/hq/construc/equipmnt.html) or other publicly available and verifiable local rates)*

✍ State of California Department of Transportation, Labor Surcharge and Equipment Rental Rates expiration March 31, 2019. (See Appendix)

Equipment Production Rates used in Cost Estimate *(Use of current Caterpillar Performance Handbook or equivalent published production rates is required)*

✍ Caterpillar Performance Handbook version 48.

**Many mine sites are remote projects that require hours of travel (to and from) and sometimes require additional time to prepare for even the simplest of tasks. In accordance with labor Code Sections 1773.1 and 1773.9, contractors are required to make travel and/or subsistence (per diem) payments to each worker to execute the work. These arrangements can be quite variable and site specific.*

Attachments:

✍ 1) Site drawing entitled, Financial Assurance Cost Estimate, Reclamation Plan (Proposed), Eliot SMP-23, Cemex, Feb. 2019, 2) Table -1 Primary Reclamation Quantities, 3) Demolition and Salvage Quotes, 4) Topsoil, Hydroseeding and Landscaping Quotes, 5) Worksheets, 6) Water Conveyance Structures Worksheets and Estimates, 7) Prevailing Wages, 8) Equipment Rental Rates, 9) ENR CCI SF

(add additional pages as needed)

II. Description of Current Site Conditions

(i.e., disturbed acres, slope conditions, excavation depths, topsoil and overburden stockpiles, equipment and facilities, reclamation in progress, erosion control status, required corrective actions, etc.)

✍ The proposed CEMEX Eliot Reclamation Plan Project Boundary is a 920-acre active sand and gravel pit mining operation located within unincorporated Alameda County. 'Lake J' is being mined (current bottom elev 230 msl) and 'Lake B' (current bolttom elev 250 msl) is being mined intermittently. Slopes are excavated at 2:1 (hor to ver) with wet silts deposited in the 'Main Silt Pond' and dry overburden and clays placed on the 'Old Silt Pond'. Water is managed on-site and drainage is direced to the pits. Processing equipment, stockpiles and ancillary facilities are within the 'Plant Site Area'. Temporary slopes steeper than 2:1 will be graded to 2:1 as part of reclamation. Mining at Lake A is complete.

This FACE is based on the Proposed Reclamation Plan Amendment to be submitted February 2019 to the lead agency Alameda County. The FACE includes reclamation costs for Water Conveyance features in accordance with the goals of the LAV Quarry Area Reclamtation (Specific Plan).

III. Description of Anticipated Site Conditions (12 months from date of estimate)

(i.e., increase of disturbed acres, increase of depth, increases in amount of equipment and/or facilities, required corrective actions, etc.)

✍ The Lake J mining footpring is 22 acres. During the next 12 months the footprint will be increase by an additional 2 acres to 24 acres. The mining depth at Lake J will remain the same. There are no anticipated changes to the mining footprint, equipment and/or other facilities. The Arroyo del Valle realignment is not anticipated to be done during the next 12 months and therefore is not included in this estimate.

IV. Description/Justification of Cost Increase/Decrease

✍ The cost increases are due to preparing the estimate for the proposed Reclamation Plan amendment which includes new Water Conveyance Features.

V. PLANT STRUCTURES AND EQUIPMENT REMOVAL *(use multiple sheets as needed)*

Provide documentation showing that rates, prices, and wages are available locally to all persons, including the lead agency and/or the Department.

Current Site Condition:

✍ The Plant Site facility consists of the 1) main aggregate processing plant (crusher, wet scrubbers, blade mills, vibrating screens, cyclone separators, sand screws, 2) portable office, lab building, enclosed maintenance building, strorage sheds, scale, rumble grate, 3) Ready Mix Plant, 4) Asphalt Plant. At a contiguous but separate site there is a Global Positioning facility.

Reclamation Plan Performance Standard (End Use):

✍ The Plant Site area will be returned to open space and/or agriculture.

Describe tasks:

✍ The plant equipment and facilities will be demolished and salvaged by a third-party licensed contractor and cleared of all equipment, buildings, (except for a few buildings to be used for post reclamation), structures, foundations, fuel tanks, concrete, hazardous materials, pavement and utilites. (Cost to remove stockpiles, rough grade, decompact, grade to drain, topsoil and hydroseed are included in Sections VI and VII).

Equipment on site wholly owned by operator?: ☐ YES ☒ NO
(if no, please provide the name/s and contact information for any lien holder)

✍ Haul trucks for aggregate delivery are independently owned. Asphalt Plant and Golbal Positioning facility owned by third party.

(add additional pages as needed)

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V - PLANT SITE: Demo, salvage and remove all plants, equipment, structures by licensed contractor. Retain a few buildings for post reclamation. One crew week for general clean up.

(↑ Describe Reclamation Activity Being Estimated)

V. PLANT STRUCTURES & EQUIPMENT REMOVAL

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
CAT 988 50W serial loader	hours	$210.91	40.0	$8,436
Pick up truck	hours	$22.02	40.0	$881
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		Total Equipment Cost for this Task =		$9,317

B. Labor - List all labor categories to complete identified task

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
Operating Engineer	$74.79	$0.00	40.0	$2,992
Laborer	$54.49	$0.00	40.0	$2,180
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
		Total Labor Cost for this Task =		$5,171

C. Demolition - List all structures and equipment to be dismantled or demolished and removed from site

Structure/Equipment to be removed	Type of Material	Volume/ Quantity	Unit Cost Basis	Disposal Cost	Cost ($)
Demo and Salvage Net (4 plants) see quotes in appendix.		1.00	$151,149.00	$0.00	$151,149
Hazardous Waste Removal		1.00	$100,000.00	$0.00	$100,000
Misc. Costs		1.00	$20,000.00	$0.00	$20,000
		0.00	$0.00	$0.00	$0
		0.00	$0.00	$0.00	$0
			Total Materials Cost for this Task =		$271,149

D. Total Direct Cost of Structure and Equipment Removal (Total A+B+C)

Equipment Cost + Labor Cost + Demolition Cost = $285,637

E. Net Salvage Value* (Supported by properly prepared third party estimate, bid, or cost calculation)

Net Salvage Value = $ **0.00**

F. Total Cost of Structure and Equipment Removal (Subtract Line D from Line E)

Total Cost of Structure and Equipment Removal = **$285,637**

NOTE: Above **Total Cost** will display $0.00 if net of entered removal costs and salvage value is negative.

*Note: Salvage value may only be used to offset the direct cost of removing the single item for which salvage value is being claimed. Salvage value shall not be used to offset any other demolition, general cleanup, or reclamation costs.

VI. PRIMARY RECLAMATION ACTIVITY

Use multiple sheets as necessary to estimate the cost of each activity required. Provide documentation showing that rates, prices, and wages are available locally to the lead agency and/or the Department if necessary.

Current Site Conditions:

✍ Open pit mining to extract pit run material for sand and gravel. (See Site Plan in Appendix). The site contains active mining pits, silt ponds, freshwater ponds, a recycle concrete area, stockpiles. Slopes are mined to 2:1. Steeper temporary slopes will be flattened to 2:1.

Reclamation Plan Performance Standard (End Use):

✍ The site will be returned to open space and/or agriculture.

Describe tasks, methods, equipment, etc:

Decompaction, cut, fill, haul, slope reduction, compaction, grading, topsoil placement, drainage work, soil amendment, special requirements, etc. Separate sheets may be used for each task if necessary.

✍ VI -1-5: Move stockpiled materials (aggregate, recycled concrete, pea gravel) into the main silt pond. Remove pavement and skim rock pads and dispose in main silt ponds. Flatten or grade slopes to 2:1. Rough grade land area, decompact compacted surfaces, grade to drain, prepare for growth media cover.
VI-6: Lake A area reclamation to 1) create island in Lake A, 2) raise berms south of Lake A, 3) construct overflow at SW corner of Lake A and 4) fill percolation ponds. VI-7: Construct conduit Lake A to LakeB/C. VI-8: Lake A Diversion Structure. VI-9: 30" dia. pipe Lake B to Lake C. VI-10: Construct Overflow Outlet at SW corner of Lake B.

Provide Quantities:

Overburden and topsoil, cut and fill, import or export (cubic yards), area (acres), haul distance (feet), equipment production rates (cubic yards/hour, or as applicable), etc.

✍Quantities are shown at the top right of each activity.

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VI. PRIMARY RECLAMATION ACTIVITY

VI-1: REMOVE STOCKPILES: Doze stockpiles into main silt pond from 1) plant area, 2) recycle area, 3) pea gravel stockpile, 4) comeback concrete. 363,000 cy stockpile and 71,000 skimmed rock = 434,000 cy. Production 434,000 cy/700cy/hr = 620 hrs.

(↑ Describe Reclamation Activity Being Estimated)

Acres:		Overburden (cy):	363,200 cy + 71,000 cy = 434,00 cy
Haul Distance (ft):	770 ft - 1000 ft	Topsoil (cy):	N/A
Production Rate (cy/hr):	620 cy/hr	*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
CAT D9L dozer	hours	$212.07	620.0	$131,483
CAT 988 B50W loader	hours	$210.91	620.0	$130,764
Water truck	hours	$39.96	620.0	$24,775
Pick up truck	hours	$22.02	620.0	$13,652
		$0.00	0.0	$0
		$0.00	0.0	$0
			Total Equipment Cost for this Task =	$300,675

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
Operating engineer - dozer	$74.49	$0.00	620.0	$46,184
Operating engineer - loader	$74.49	$0.00	620.0	$46,184
Operating engineer	$74.49	$0.00	620.0	$46,184
Laborer	$54.49	$0.00	620.0	$33,784
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Labor Cost for this Task =	$172,335

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Materials Cost for this Task =	$0

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $473,010

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VI-2: TOPCON: Skim/remove rock pad at TopCon Global Positioning facility, truck to plant site and end dump into silt pond. 18cy/truck x 6trips/hr = 108 cy/hr; 4000cy/108cy/hr = 37 hrs. use 40 hours

(↑ Describe Reclamation Activity Being Estimated)

VI. PRIMARY RECLAMATION ACTIVITY

Acres:	6 acres	Overburden (cy):	4000 cy
Haul Distance (ft):		Topsoil (cy):	
Production Rate (cy/hr):	6 trips/hr	*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
CAT D9L dozer	hours	$212.07	40.0	$8,483
CAT 988B 50W loader	hours	$210.91	40.0	$8,436
Dump truck (5 axle)	hours	$76.23	40.0	$3,049
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		Total Equipment Cost for this Task =		$19,968

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
Operating engineer - dozer	$74.49	$0.00	40.0	$2,980
Operating engineer - loader	$74.49	$0.00	40.0	$2,980
Teamster	$60.77	$0.00	40.0	$2,431
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
		Total Labor Cost for this Task =		$8,390

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
		Total Materials Cost for this Task =		$0

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $28,358

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VI. PRIMARY RECLAMATION ACTIVITY

VI-3: PAVEMENT DISPOSAL: Remove pavement at Ready Mix plant and Asphalt plant site, break up and dispose in Main Silt Pond (8,000 cy). Entrance and circulation pavement to remain. Break up comeback concrete and doze into Main Silt Pond (40,000 cy).

(↑ Describe Reclamation Activity Being Estimated)

Acres:		Overburden (cy):	48,000 cy of concrete of pavement
Haul Distance (ft):		Topsoil (cy):	
Production Rate (cy/hr):	48,000cy/600cy/hr= 80hr	*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
CAT 988B 50W loader	hours	$210.91	80.0	$16,873
CAT 988B 50W loader	hours	$210.91	80.0	$16,873
Case Backhoe 780 with hammer	hours	$49.50	80.0	$3,960
CAT D9 dozer	hours	$212.07	80.0	$16,966
		$0.00	0.0	$0
		$0.00	0.0	$0
			Total Equipment Cost for this Task =	$54,671

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
Operating engineer - loader	$74.49	$0.00	80.0	$5,959
Operating engineer - loader	$74.49	$0.00	80.0	$5,959
Operating engineer - backhoe	$74.49	$0.00	80.0	$5,959
Operating engineer - dozer	$74.49	$0.00	80.0	$5,959
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Labor Cost for this Task =	$23,837

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Materials Cost for this Task =	$0

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $78,508

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VI-4: GRADING: rough grade all disturbed land surface areas, decompact, slope to drain and prepare for topsoil. 3 crew-weeks. Cap wells and remove sewer leach field.

(↑ Describe Reclamation Activity Being Estimated)

VI. PRIMARY RECLAMATION ACTIVITY

Acres:	158	Overburden (cy):	
Haul Distance (ft):		Topsoil (cy):	
Production Rate (cy/hr):	158ac/1.3ac/hr=120hrs	*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
CAT D9L dozer	hours	$212.07	120.0	$25,448
CAT 988B 50W loader	hours	$210.91	120.0	$25,309
Water truck	horus	$39.96	120.0	$4,795
Pic up truck	hours	$22.02	120.0	$2,642
		$0.00	0.0	$0
		$0.00	0.0	$0
		Total Equipment Cost for this Task =		$58,195

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
Operating engineer	$74.49	$0.00	120.0	$8,939
Operating engineer	$74.49	$0.00	120.0	$8,939
Operating engineer	$74.49	$0.00	120.0	$8,939
Laborer	$54.49	$0.00	120.0	$6,539
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
		Total Labor Cost for this Task =		$33,355

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
Cap wells and remove sewer field	$50,000.00	$0.00	1.0	$50,000
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
		Total Materials Cost for this Task =		$50,000

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $141,550

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VI-5: SLOPES: Grade steep slopes at area 7C to 2:1 . (North slope doze 100,000 cy stockpile from top of slope down and for east slope, scraper over 120,000 cy of stockpiled material from the plant site. 120,000cy/250cy/hr = 480 hours

(↑ Describe Reclamation Activity Being Estimated)

VI. PRIMARY RECLAMATION ACTIVITY

Acres:		Overburden (cy):	100,000 cy + 120,000cy = 220,000 cy
Haul Distance (ft):	4600'	Topsoil (cy):	
Production Rate (cy/hr):	120kcy/250cy/hr=480hr	*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
CAT 633D scraper	hours	$204.96	480.0	$98,381
CAT 988B 50W loader	hours	$210.91	480.0	$101,237
Water truck	hours	$39.96	480.0	$19,181
Pick up truck	hours	$22.02	480.0	$10,570
		$0.00	0.0	$0
		$0.00	0.0	$0
			Total Equipment Cost for this Task =	$229,368

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
Operating engineer	$74.49	$0.00	480.0	$35,755
Operating engineer	$74.49	$0.00	480.0	$35,755
Teamster	$60.77	$0.00	480.0	$29,170
Laborer	$54.49	$0.00	480.0	$26,155
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Labor Cost for this Task =	$126,835

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Materials Cost for this Task =	$0

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $356,203

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VI-6 (1): Lake A grading: 1) Create island by cutting two drainage notches in Lake A berm. VI-6(2): Raise the berm between Lake A and the ADV. V-6(3): Construct Overflow Outlet at SW corner of Lake A. VI-6(4) Fill percolation ponds. Use estimate from construction manager Shewmaker - see appendix.

VI. PRIMARY RECLAMATION ACTIVITY

(↑ Describe Reclamation Activity Being Estimated)

Acres:	14,800 cy cut at island	Overburden (cy):	15,000 cy fill raise berm
Haul Distance (ft):	15,000 cy fill per ponds	Topsoil (cy):	900 cy rip rap
Production Rate (cy/hr):	14.8kcy/212cy/hr=70hr	*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
1 - CAT 349 excavator	hours	$174.66	120.0	$20,959
2 - CAT 745 haul trucks (2 x $240.36 = $480.72) (160 hours total)	hours	$480.72	80.0	$38,458
2 - water trucks and 1 pick up (2 x $39.96 + $22.02= $101.94)	hours	$101.94	120.0	$12,233
1 - CAT D8 dozer	hours	$146.27	104.0	$15,212
CAT 966 loader and CAT 825 compactor ($155.54+$177.96=$333.50	hours	$333.50	112.0	$37,352
1 - CAT 14H grader	hours	$111.66	104.0	$11,613
		Total Equipment Cost for this Task =		$135,826

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
6 - Operating engineers (6x $74.49 = $446.94)	$446.94	$0.00	200.0	$89,388
1 - Laborer	$54.49	$0.00	40.0	$2,180
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
		Total Labor Cost for this Task =		$91,568

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
Rock rip rap	$75.00	$0.00	900.0	$67,500
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
		Total Materials Cost for this Task =		$67,500

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $294,894

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VI. PRIMARY RECLAMATION ACTIVITY

VI-7: Construct pipeline from Lake A to Lakes B and C.

(↑ Describe Reclamation Activity Being Estimated)

Acres:		Overburden (cy):	
Haul Distance (ft):		Topsoil (cy):	
Production Rate (cy/hr):		*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
				$0
				$0
				$0
				$0
				$0
				$0
				$0

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%		Cost ($)
		$0.00		$0
		$0.00		$0
	$0.00	$0.00		$0
	$0.00	$0.00		$0
	$0.00	$0.00		$0
	$0.00	$0.00		$0
			Total Labor Cost for this Task =	$0

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
Brown and Caldwell estimate for pipeline with structures	$1.00	$0.00	6,141,000.0	$6,141,000
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Materials Cost for this Task =	$6,141,000

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $6,141,000

Version: 8-31-18

VI. PRIMARY RECLAMATION ACTIVITY

VI - 8: Diversion Structure at SE corner of Lake A.

(↑ Describe Reclamation Activity Being Estimated)

Acres:	3,000 cy excavation	200cy backfill	8,000 sf finish grade
Haul Distance (ft):		Topsoil (cy):	
Production Rate (cy/hr):	1640 hrs	*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
1 - CAT 349 excavator	hours	$174.66	164.0	$28,644
1 - CAT 966 loader	hours	$155.54	168.0	$26,131
1 - Gradall	hours	$79.77	60.0	$4,786
1 - CAT 825 compactor	hours	$177.96	40.0	$7,118
Pick up	hours	$22.02	352.0	$7,751
Water Truck	hours	$39.96	144.0	$5,754
			Total Equipment Cost for this Task =	$80,185

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
Operating engineers (Crew 4)	$74.49	$0.00	1093.0	$81,418
Laborer (Crew 2)	$54.49	$0.00	547.0	$29,806
	$0.00	$0.00	0.0	$0
Pump rental	$0.00	$0.00	0.0	$1,500
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Labor Cost for this Task =	$112,724

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
Rock Rip Rap (cy)	$75.00	$0.00	225.0	$16,875
Gravel (cy)	$25.00	$0.00	3,850.0	$96,250
Pipe (lf) 12" - 18" dia	$25.00	$0.00	4,000.0	$100,000
Pipe (lf) 36" - 84" dia.	$100.00	$0.00	600.0	$60,000
Concrete (cy)	$75.00	$0.00	50.0	$3,750
			Total Materials Cost for this Task =	$276,875

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $469,783

Version: 8-31-18

VI. PRIMARY RECLAMATION ACTIVITY

VI-9: Construct 30" dia. pipeline Lake B to Lake C

(↑ Describe Reclamation Activity Being Estimated)

Acres:	150 ft	Overburden (cy):	
Haul Distance (ft):		Topsoil (cy):	
Production Rate (cy/hr):	5 days, Crew 9	*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
1 - CAT 349 excavator	hours	$174.66	40.0	$6,986
1 - CAT 966 loader	hours	$155.54	40.0	$6,222
1 - Gradall	hours	$79.77	40.0	$3,191
1 - Water truck	hours	$39.96	40.0	$1,598
1 - Pick up truck	hours	$22.02	40.0	$881
		$0.00	0.0	$0
			Total Equipment Cost for this Task =	$18,878

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
Operating engineers Crew 6	$74.49	$0.00	240.0	$17,878
Laborers Crew 3	$54.49	$0.00	120.0	$6,539
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Labor Cost for this Task =	$24,416

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
30" dia pipe	$80.00	$0.00	425.0	$34,000
Slide gate (1 - 36" x 36")	$3,000.00	$0.00	1.0	$3,000
Blind flange 1- 30" dia.	$500.00	$0.00	1.0	$500
Stem pedestral (ls)	$5,000.00	$0.00	1.0	$5,000
Control Structure	$5,000.00	$0.00	1.0	$5,000
			Total Materials Cost for this Task =	$47,500

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $90,794

Version: 8-31-18

VI. PRIMARY RECLAMATION ACTIVITY

VI-10: LAKE B OVERFLOW OUTLET: Construct overflow outlet at SW corner of Lake B. Build access road ramp, finegrade overflow, place rock rip rap.

(↑ Describe Reclamation Activity Being Estimated)

Acres:	36,000 acres finegrade	Overburden (cy):	1944 cy cut
Haul Distance (ft):		Topsoil (cy):	900 cy rip rap
Production Rate (cy/hr):	8 days, Crew 6	*(NOTE: no automatic calculations occur to data in this upper table)*	

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation jobs, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
1 - CAT 349 excavator	hours	$174.66	64.0	$11,178
1 - CAT D8 dozer	hours	$146.27	24.0	$3,510
1 - CAT 966	hours	$155.54	64.0	$9,955
Pick up truck	hours	$22.02	64.0	$1,409
Water truck	hours	$39.96	64.0	$2,557
		$0.00	0.0	$0
			Total Equipment Cost for this Task =	$28,610

B. Labor - List all labor categories to complete identified tasks

Labor Category	$/Hour (prevailing wage)	Labor Surcharge/Hr *(where applicable)* (enter % of wage) 0.0%	# of Hours	Cost ($)
Operating engineers Crew 5	$74.47	$0.00	350.0	$26,065
Laborer Crew 1	$54.49	$0.00	58.0	$3,160
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Labor Cost for this Task =	$29,225

C. Materials - List all materials required to complete identified task

Item	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
Rock rip rap (cy)	$75.00	$0.00	900.0	$67,500
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Materials Cost for this Task =	$67,500

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $125,335

VII. REVEGETATION *(use multiple sheets as needed)*

Provide documentation showing that rates, prices, and wages are available locally to the lead agency and/or the Department.

Current Site Condition:

✍ The land surrounding the mining pits, ponds, and lakes are disturbed due to the mining and hauling operations. Some areas have revegetated naturally.

Reclamation Plan Performance Standard (End Use):

✍ The site will be returned to open space and/or agriculture.

Describe Tasks:

✍ The ground under the rock pads or pavement will receive 6" of growth media cover and hydroseeded. Areas disturbed but on natural ground will be rough graded, decompacted and hydrosseded. (Rough grading and decompaction costs included in VI-4). There is no on-site stockpiled topsoil. The Lake A area, north of Vineyard Ave. and south of the Arroyo del Valle will be landscaped. (VII-3)

(add additional pages as needed)

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VII. REVEGETATION *(use multiple sheets as needed)*

VII - 1: Place 3" of growth media cover over disturbed, de-compacted area. Approximately 64 acres. 64 x 0.25' = 25,800 cy of growth media cover.

(↑ Describe Revegetation Activity Being Estimated)

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation projects, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
2 - CAT 966 loader (2 x $155.54 = $311.08)	hours	$311.08	80.0	$24,886
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
			Total Equipment Cost for this Task =	$24,886

B. Labor - List all labor categories to complete identified task.

Labor Category	$/Hour (prevailing wage)	Labor Surcharge /HR (where applicable) (enter % of wage) 0.0%	# of Hours	Cost ($)
2 - Operating engineer (2X$74.49 = $148.98)	$149.98	$0.00	80.0	$11,998
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
			Total Labor Cost for this Task =	$11,998

C. Materials - List all materials required to complete identified task

Item/Plant Species	Unit of measure	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
Growth Media Cover	cy	$15.00	$0.00	25,800.0	$387,000
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
			Total Materials Cost for this Task =		$387,000

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $423,885

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VII. REVEGETATION *(use multiple sheets as needed)*

VII - 2: Hydroseed disturbed areas. 174 acres

(↑ Describe Revegetation Activity Being Estimated)

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation projects, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		Total Equipment Cost for this Task =		$0

B. Labor - List all labor categories to complete identified task.

Labor Category	$/Hour (prevailing wage)	Labor Surcharge /HR (where applicable) (enter % of wage) 0.0%	# of Hours	Cost ($)
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
		Total Labor Cost for this Task =		$0

C. Materials - List all materials required to complete identified task

Item/Plant Species	Unit of measure	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
Hydroseed	acres	$1,910.00	$0.00	174.0	$332,340
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		Total Materials Cost for this Task =			$332,340

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $332,340

Version: 8-31-18

VII. REVEGETATION *(use multiple sheets as needed)*

VII - 3: Landscape area north of Lake A trail.

(↑ Describe Revegetation Activity Being Estimated)

Methods to be used:

A. Equipment - List equipment to complete identified task. For large reclamation projects, separate mine areas.

Equipment	Unit of Measure	$/Unit	# of Units	Cost ($)
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		$0.00	0.0	$0
		Total Equipment Cost for this Task =		$0

B. Labor - List all labor categories to complete identified task.

Labor Category	$/Hour (prevailing wage)	Labor Surcharge /HR (where applicable) (enter % of wage) 0.0%	# of Hours	Cost ($)
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
	$0.00	$0.00	0.0	$0
		Total Labor Cost for this Task =		$0

C. Materials - List all materials required to complete identified task

Item/Plant Species	Unit of measure	$/Unit	Sales tax (enter local rate in %) 0.0%	Quantity	Cost ($)
Landscape north of Lake A trail Cunningham est.).	ls	$420,000.00	$0.00	1.0	$420,000
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		$0.00	$0.00	0.0	$0
		Total Materials Cost for this Task =			$420,000

D. Total Direct Cost for this task

Equipment Cost + Labor Cost + Materials Cost = $420,000

VIII. MISCELLANEOUS COSTS *(use multiple sheets as needed)*

Provide documentation showing that rates, prices, and wages are available locally to all persons, including the lead agency and/or the Department.

Examples of this type of cost may include temporary storage of equipment and materials off site, special one-time permits (i.e. transportation permits for extra wide overweight loads, etc.), decommissioning a process mill (i.e. decontamination of equipment), disposal of warehouse inventories, well abandonnment, remediation of fueling and waste oil storage sites, septic system removal, costs to prepare closure and monitoring reports, site security, preserving potable water and maintaining utilities, etc.

Item/Task	Quantity	$/Unit	Cost ($)
	0.0	$0.00	$0
	0.0	$0.00	$0
	0.0	$0.00	$0
	0.0	$0.00	$0
	0.0	$0.00	$0
	0.0	$0.00	$0
	0.0	$0.00	$0
	0.0	$0.00	$0
	0.0	$0.00	$0
	0.0	$0.00	$0

Total Miscellaneous Costs = $0

IX. MONITORING COSTS

Monitoring Task	$/Visit	# of Visits/Year	# of Monitoring Years	Cost ($)
Revegetation	$5,000.00	2.0	5.0	$50,000
Geotechnical	$5,000.00	2.0	5.0	$50,000
Water Quality	$5,000.00	2.0	5.0	$50,000
	$0.00	0.0	0.0	$0
	$0.00	0.0	0.0	$0
	$0.00	0.0	0.0	$0
	$0.00	0.0	0.0	$0

Total Monitoring Costs = $150,000

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X. SUMMARY OF COSTS

This section shall be used to summarize all the cost sheets in one place.

(V) Total of all Plant Structures & Equipment Removal Costs	$	285,637
(VI) Total of all Primary Reclamation Activities Costs	$	8,199,437
(VII) Total of all Revegetation Costs	$	1,176,225
(VII) Total of all Miscellaneous Costs	$	0
(IX) Total of all Monitoring Costs	$	150,000
Total of Direct Costs	$	**9,811,299**

XI. SUPERVISION / PROFIT & OVERHEAD / CONTINGENCIES / MOBILIZATION

(A) Supervision (3.3 %)		$	324,816
(B) Profit/Overhead (6.1 %)		$	594,463
(C) Contingencies (4.0 %)		$	392,452
(D) Mobilization (1.0 %)		$	98,113
Total of Indirect Costs		$	**1,409,844**
Total of Direct and Indirect Costs		$	**11,221,143**
(E) Lead Agency and/or Dept. of Conservation Administrative Costs	5%	$	561,057

Total Estimated Cost of Reclamation $ **11,782,201**

SITE PLAN

APPENDIX 1

LEGEND

PROPERTY LINE

LAKE BOUNDARY

AREA DESIGNATIONS (1)

AREA LIMIT

CREEK BED

FLATTEN SLOPES

0 600

SCALE: 1"=600'

GRANITE ASPHALT PLANT

STANLEY BLVD.

CONCRETE READY MIX

2 SILT POND

3C

3B

12 MINING

3A PLANT SITE

1 SMP-23 SILT POND

SLOPE A1

STOCKPILES

VULCAN SMP-16 LAKE D

CEMEX

7B

4B

4A

5 RECYCLE

6 INACTIVE SILT POND

7A

INACTIVE MINING 7D

SLOPE B1

7C

SLOPE B1

8

VULCAN SMP-16 LAKE C

ISABEL AVENUE

VI-10

VINEYARD AVENUE

LAKE B

10 ACTIVE MINING

VI-9

9 INACTIVE MINING (TruCon lessee)

ARROYO DEL VALLE

VI-7

VI-6

13

11

ARROYO DEL VALLE

VI-8

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RECLAMATION USE

AREA	CURRENT FUNCTION	RECLAMATION USE
1	Main Silt Pond	Water Storage Pond
2	Clean Fill disposal	Open Space
3A	Aggregate Plant	Open Space
3B	Ready Mix Plant	Open Space
3C	Asphalt Concrete Plant	Open Space
4A	Pea Gravel Stockpile	Open Space
4B	Comeback Concrete pile	Open Space
5	Recycled Materials	Open Space
6	Old Silt Pond	Open Space
7A	Fresh Water Pond	Water Storage Pond
7B	Fresh Water Pond	Water Storage /Future Lake D
7C	Fresh Water Pond	Water Storage/Future Lake C
7D	Fresh Water Pond	Water Storage Pond
8	Old Silt Pond	Open Space
9	Survey Positioning Co.	Open Space
10	Lake B Active Mining	Water Storage/ Lake B
11	Lake A Inactive Mining	Water Storage/Lake A
12	Lake J Active Mining	Water Storage/Lake J
13	Area between ADV and Vineyard	Landscaping/Open Space

RECLAMATION USE – WATER CONVEYANCE

AREA	RECLAMATION ACTIVITY
VI – 6(1)	Create Island from Lake A berm
VI – 6(2)	Raise berm between Lake A and ADV
VI – 6(3)	Construct Overflow Outlet at SW corner of Lake A
VI – 6(4)	Fill Percolation Ponds at Lake A
VI – 7	Construct pipeline from Lake A to Lakes B and C
VI – 8	Construct Diversion Structure at Lake A
VI – 9	Construct 30" dia conduit from Lake B to Lake C
VI – 10	Construct Overflow Outlet at SW corner of Lake B

Spinardi Associates
Civil and Environmental Engineering
265 Sea View Avenue, Piedmont, California 94610

FINANCIAL ASSURANCE COST ESTIMATE
RECLAMATION PLAN (PROPOSED)
ELIOT - SMP-23

ALAMEDA COUNTY

CEMEX

SCALE:	1"=600'
DATE:	FEB., 2019
DESIGN BY:	KDS
DRAWN BY:	ML/MH
CHECKED BY:	KDS

REV.	DATE	DESCRIPTION	BY

SHEET NUMBER 1 OF 1 SHTS.

JOB NUMBER 153.00

C:\emex\Financial 2012\FACE-2019

TABLE 1 – PRIMARY RECLAMATION QUANTITIES

APPENDIX 2

Table 1
PRIMARY RECLAMATION QUANTITIES
Proposed Reclamation Plan Amendment Eliot SMP-23
CEMEX - Financial Assurance Estimate 2019

2/14/2019

SECTION		V-1	VI-1A	VI-1B	VI-2	VI-3	VI-4	VI-5	VII-1	VII-2	VII-3
No.	Area	Plant ($)	Doze piles to Silt Pond (cy)	Doze Rock Pad into Silt Pond (cy)	Truck Rock Pads (cy)	Remove Pave/Conc (cy)	Grading (ac)	Slopes (cy)	Topsoil (ac)	Hydroseed (ac)	Landscape ($)
1	Main Silt Pond	0	0	0	0	0	0	0	0	2	0
2	Front Silt Pond	0	0	0	0	0	7	0	0	7	0
3A	Agg Plant	28,743	180,000	17,000	0	8,000	21	0	15	21	0
3B	Ready mix	32,424	Inc. w/ 3A	4,000	0	0	5	0	5	5	0
3C	Granite AC Plant	44,004	Inc. w/ 3A	11,300	0	0	14	0	14	14	0
4A	Pea Gravel Pile	0	150,000	0	0	0	8	0	0	8	0
4B	Comeback conc	0	3,200	0	0	40,000	8	0	0	8	0
5	Recycle Area	0	30,000	26,600	0	0	33	0	20	33	0
6	Inactive Silt Pond	0	0	0	0	0	33	0	0	33	0
7A	Pond	0	0	0	0	0	0	0	0	0	0
7B	Pond	0	0	0	0	0	0	0	0	0	0
7C	Pond	0	0	0	0	0	0	220,000	0	2	0
8	Old Utility Vault	0		12,100	0	0	15	0	4	15	
9	TopCon/Pits	46,320	0		4,800	0	6	0	6	6	0
10	Lake B	0	0	0	0	0	0	0	0	5	0
11	Lake A	0	0	0	0	0	8	0	0	8	420,000
12	Lake J	0	0	0	0	0	0	0	0	7	0
	Subtotals	**151,491**	**363,200**	**71,000**	**4,800**	**48,000**	**158**	**220,000**	**64**	**174**	**420,000**

STRUCTURES AND EQUIPMENT REMOVAL

APPENDIX 3

Aggregate Plant

VARGAS DEMOLITION
CA State License # 960358
1524 Willard Garden Court
San Jose, CA 95126
209-772-3398 (home office)
408-393-1282 (Joel Vargas)

August 9, 2012

Ronald D Wilson
Manager Land Use Permits – Pacific Region
5180 Golden Foothills Parkway
El Dorado Hills, CA 95762

Re: Demolition of the Cemex Construction Materials LP *Eliot Plant*, located at 1544 Stanley Blvd, Pleasanton, CA

Revised Proposal To Dismantle & Salvage Plant Equipment and Structures

Scope of Work:

Cemex will secure all necessary city and county permits. All utilities will be disconnected and marked by Cemex. Cemex will remove as much sand and gravel from the storage containers as possible. Cemex will be responsible for all hazardous materials.

Vargas Demolition will remove all equipment, concrete and debris from the site. The office and garage areas will be demolished and all debris removed. All site utilities from the plant site area, including at the Cemex Aggregate Plant, the Granite Construction Asphalt Plant and the Cemex Ready Mix Plant, will be located, disconnected, and removed from the plant site. All concrete will be broken and removed from site by Vargas Demolition.

After demolition and removal of debris is complete, the areas will be rough graded to conform with surrounding property. Any dangerous or hazardous areas remaining will be marked and taped or fenced off by Cemex.

The material, labor, equipment, dump fees, and supervision will be provided by Vargas Demolition.

All MSHA, Cal-OSHA, and plant safety work rules will be followed during the demolition and clean up process. Vargas Demolition will provide certificates of insurance for liability, auto and workers compensation for this project.

Estimated time for completion of work is 210 days.

Vargas Demolition will sell and recycle all metal salvaged from the plant; and dismantle, sell or recycle any process equipment, retaining all proceeds from the salvaged materials.

Estimated cost for demolition of the process plant, office and garage:	$279,000
Estimated salvage value for equipment and metals:	$254,200
Cost to Cemex for the completion of this project:	$ 24,800

USE

$28,743

PLEASE NOTE: The cost of fuel and the price of salvaged metals is volatile, and therefore the cost for the completion of this project may have to be re-evaluated based on any future changes.

Please contact me if you have any questions regarding the information provided above.

Sincerely,

ENR CCI SF - June 2018 = 12,014.72
- Aug 2012 = 10,366.54

Gloria Wilkins

Gloria Wilkins
Office Administrator

Inflate to June 2018

ENR CCI-SF $\frac{12,014.72 - 10366.54}{10,366.54} = 15.9\%$

$ 24,800 x 1.159 = $28,743

Cemex Ready Mix

VARGAS DEMOLITION
CA State License # 960358
1524 Willard Garden Court
San Jose, CA 95126
408-393-1282
www.vargasdemolition.com

April 13, 2012

Ronald D Wilson
Manager Land Use Permits – Pacific Region
5180 Golden Foothills Parkway
El Dorado Hills, CA 95762

Re: Demolition of the Cemex Ready Mix Plant, located at 1644 Stanley Blvd, Pleasanton, CA

Proposal To Dismantle and Salvage Plant Equipment and Structures

Scope of Work:

Cemex will secure all necessary city and county permits. All utilities will be disconnected and marked. Cemex will remove as much sand and gravel from the storage containers as possible. Cemex will be responsible for all hazardous materials.

Vargas Demolition will remove all equipment, concrete and debris from the site. The structures will be demolished and all debris removed. All concrete will be broken and removed from site by Vargas Demolition.

After demolition and removal of debris is complete, the areas will be rough graded to conform with surrounding property. Any dangerous or hazardous areas remaining will be marked and taped or fenced off by Cemex.

The material, labor, equipment, dump fees, and supervision will be provided by Vargas Demolition.

All MSHA, Cal-OSHA, and plant safety work rules will be followed during the demolition and clean up process. Vargas Demolition will provide certificates of insurance for liability, auto and workers compensation for this project.

Estimated time for completion of work is 90 days.

Vargas Demolition will sell and recycle all metal salvaged from the plant; and dismantle, sell or recycle any process equipment, retaining all proceeds from the salvaged materials.

Estimated cost for demolition of the Ready Mix plant:	$88,000
Estimated salvage value for equipment and metals:	$60,000
Cost to Cemex for the completion of this project:	$28,000

use

$32,424

PLEASE NOTE: The cost of fuel and the price of salvaged metals is volatile, and therefore the cost for the completion of this project may have to be re-evaluated based on any future changes.

Please contact me if you have any questions regarding the information provided above.

ENR CCI-SF June 2018 - 12,014.72
Apr. 2012 - 10,371.29

Sincerely,

4-13-12

Joel Vargas
Owner

Inflate to current cost. June 2018

ENR CCI-SF $\frac{12,014.72 - 10,371.29}{10,371.29} = 15.8\%$

$28,000 \times 1.158 = \boxed{\$32,424}$

Granite Asphalt Plant

VARGAS DEMOLITION
CA State License # 960358
1524 Willard Garden Court
San Jose, CA 95126
408-393-1282
www.vargasdemolition.com

April 13, 2012

Ronald D Wilson
Manager Land Use Permits – Pacific Region
5180 Golden Foothills Parkway
El Dorado Hills, CA 95762

Re: Demolition of the Granite Construction Asphalt Plant, located at 1544 Stanley Blvd, Pleasanton, CA

Proposal To Dismantle and Salvage Plant Equipment and Structures

Scope of Work:

Cemex will secure all necessary city and county permits. All utilities will be disconnected and marked. Cemex will be responsible for all hazardous materials.

Use $44,004

Vargas Demolition will remove all equipment, concrete and debris from the site. The structures will be demolished and all debris removed. All concrete will be broken and removed from site by Vargas Demolition.

After demolition and removal of debris is complete, the areas will be rough graded to conform with surrounding property. Any dangerous or hazardous areas remaining will be marked and taped or fenced off by Cemex.

The material, labor, equipment, dump fees, and supervision will be provided by Vargas Demolition.

All MSHA, Cal-OSHA, and plant safety work rules will be followed during the demolition and clean up process. Vargas Demolition will provide certificates of insurance for liability, auto and workers compensation for this project.

Estimated time for completion of work is 90 days.

$38,000 x 1.158% = $44,004

Top Con

VARGAS DEMOLITION
CA State License # 960358
1524 Willard Garden Court
San Jose, CA 95126
408-393-1282
ww.vargasdemolition.com

April 19, 2012

Ronald D. Wilson
Manager Land Use Permits
Cemex Construction Materials
5180 Golden Foothills Parkway
El Dorado Hills, CA 95762

RE: Demolition of Topcan Leasehold on Vineyard Avenue, Pleasanton, CASMP 23 Eliot Quarry

Proposal to Remove Structures

Scope of Work

Cemex will secure all necessary city/county permits. All utilities will be disconnected and marked. Cemex will be responsible for all hazardous Materials if any exist.

Vargas Demolition will remove all structures, concrete and debris.

After demolition and removal of debris, the area will be rough graded to conform with surrounding property. Graded. Any dangerous or hazardous areas remaining will be marked or fenced off by Cemex.

The material, labor, equipment, dump fees and supervision will be provided by Vargas Demolition

All MASHA, Cal-Osha and plant safety work rules will be followed during the demolition and clean-up process. Vargas Demolition will provide certificates of insurance for liability, auto and workers compensation.

Estimated time for completion of work is 90 days.

Vargas Demolition will sell, recyle or dispose of all materials from the site, retain all proceeds from the salvaged materials.

Estimated cost for demolition	$ 50,000
Estimated Salvage Value	$ 10,000
Cost to Cemex for completion of the project	$ 40,000

Use $46,320

PLEASE NOTE: The costs of fuel and the price of salvaged materials is volatile and therefore the cost for the copletion of this project may have to be evaluated based on those changes.

Inflate to June 2018 ENR-CCI SF

Please contact me if you have any questions regarding the information provided above.

$\frac{12,014.72 - 10,371.29}{10,371.29} = 15.8\%$

$40,000 \times 1.158 = \$46,320$

Sincerely,

Joel Vargas
Owner

4-20-12

REVEGETATION/LANDSCAPING

APPENDIX 4

Karen Spinardi

To: Noel Tristan
Subject: RE: Niles Canyon Quarry Revegetation

From: Noel Tristan [mailto:NTristan@valleycrest.com]
Sent: Thursday, November 17, 2011 1:57 PM
To: Karen Spinardi
Subject: RE: Niles Canyon Quarry Revegetation

Karen,

No problem.....To import topsoil...you are probably looking at $29-35/per cubic yard.

Noel

From: Karen Spinardi [mailto:spinardi@comcast.net]
Sent: Thursday, November 17, 2011 1:17 PM
To: Noel Tristan
Subject: RE: Niles Canyon Quarry Revegetation

Noel,
Thank you so much. I have one more question if you don't mind. What is the plug price to import topsoil by the cy or tn to Sunol, CA fob? Or if you can just give me the cost of topsoil by the cy or tn that would OK too.

Karen Spinardi

Nov. 2011 → June 2018 (most recent ENR CCI-SF)

$\frac{12,014.72 - 10204.29}{10204.29}$ = 17.7% increase × $30 = $35

Growth Media Cover (Amend onsite) $15

ECHO LANDSCAPE
Management and Construction - License # 776750
P.O. Box 20926, Castro Valley, CA 94546 – (510) 481-8614 Phone – (510) 481-5386 Fax

PROPOSAL CONTRACT

April 25, 2012

Submitted To:
Attn: Karen Spinardi
Spinardi Associates

Job Location:
CEMEX
Pleasanton, CA

Echo Landscape proposes to provide hydro seeding materials and installation as per plans and specifications as referenced and subject to special provisions, exclusions and terms as referenced below:

1. 154 Acres – 1 step application, basic specs. $1,650.00 per Acre. USE + − %/AL **$254,100.00**

SPECIAL PROVISIONS

1. Price is based on 8 hour work days and 40 hour work week. Overtime work is subject to additional charge and change order acceptance.
2. Access to all areas to be seeded by drivable roadway.
3. Echo Landscape assumes and accepts no liability for failure to complete or perform any contract or agreement arising from this quotation due to inaccessibility to the jobsite caused by inclement weather or construction delays.

EXCLUSIONS EHR CCI-SF $\frac{12,014.72 - 10371.29}{10371.29} = 15.8\%$

$1650 \times 15.8\% = \$1910/EA$

1. Soil preparation, post maintenance and re-seeding.
2. Traffic control.
3. Cost of bond, if required general to pay in full upon receipt of invoice.
4. All fees and permits.
5. Irrigation.
6. Barricade Erection.
7. Cost and source of water, owner shall provide access to fire hydrant within one half mile and arrange for necessary permits or provide water truck, available every thirty minutes (3,000 gallon capacity, minimum 200 GPM, approximately 3,000 gallons per acre.

Payment Terms:

Payment is due in full within 7 days after General Contractor receives payment from owner, or net 30 days from invoice date and will be subject to the "Prompt Payment Act". A service charge of 2% will be assessed on all past due invoices.

Clarifications:
Work not listed in specifications section will not be considered part of our work. **This proposal must be made part of the original and final contract.**

NOTICE TO OWNER

Under the Mechanics Lien Law, any contractor, subcontractor, laborer, materialman, or other person who helps to improve your property and is not paid for his labor, services or material has a right to enforce his claim against your property. Under this law, you may protect yourself against such claims by filing before commencing such work of improvement an original for the work of improvement or a modification thereof in the office of the county where the property is situated and requiring that a contractor's payment bond be recorded in such office. Said bond shall be in an amount not less than fifty percent (50%) of the contract price and shall in addition any conditions for the performance of the contract be conditioned for payment in full of the claims of all persons furnishing labor, services, equipment or materials for the work described in said contract.

ACCEPTANCE OF PROPOSAL- The above prices and specifications:

SIGNATURE:_____ **DATE:**_____

September 28, 2017

MEMORANDUM

SUBJECT: Eliot Quarry (SMP-23) – Lake A Trail Landscape Estimated Costs

Cunningham Engineering has been coordinating with CEMEX Construction Materials Pacific, LLC. ("CEMEX") on the development Lake A Landscaping and Revegetation Plan.

The Landscape and Revegetation Plan for Lake A consists of the planting and temporary irrigation of approximately 2,500 Trees, Shrubs and areas to receive Hydro seeding for 53 acres of land on the Lake A site.

Landscape Species

- Native to California – habitat distribution range including the East Bay / Alameda County
- Drought-tolerant and adapted to heat and low-precipitation climates
- Adapted to a variety of soils, including dry, well-draining, or gravelly
- Possess evergreen foliage and/or attractive flowers to provide year-long visual benefit
- Diverse size and growth habits to provide varied visual landscaping
- Not poisonous to humans or animals

Irrigation System

The irrigation system will be temporary to provide supplemental irrigation as needed for the first three years of plant establishment. The system will consist of drip irrigation with emitters placed at each shrub/tree to provide the most direct application of water to the root zone.

The estimated construction cost for this effort is: $420,000

CCI Sept. 2017 - 12,037.27
June 2018 - 12,014.72
~ 0.2% no change

Thank you,

Michael G. Engle, RLA, LEED AP
Senior Landscape Architect / Project Manager
Cunningham Engineering Corporation
Project Planning | Civil Engineering | Landscape Architecture
2940 Spafford Street, Suite 200 | Davis, CA 95618
(530) 758-2026 ext. 155
www.cecwest.com

WORKSHEETS

APPENDIX 5

Eliot Air Study

Proposed Reclamation Plan - Construction Equipment Use Estimates

Prepared by CEMEX with Input from Shewmaker Construction Management Consulting

			Days	Crew Size	Employee Trips	Labor Hours	Pickup Hrs	Cat 349 Exc	Cat 966 LDR	Water Truck	Gradall Forklift	F350 Crew Trk	Pad Drum Roller	Ten Wheeler	Cat 14H Blade	Cat 623 Scr	Cat D8 Dozer	Cat 330 Exc	Cat 815 Comp	Conc Pump	Cat 825 Comp	Cat D10 Dozer	Cat 631 Scraper
Realign Arroyo del Valle																							
(1) Install Pumps	up/down	5 dys x 4 ea	20	5	100	800																	
Foreman w/ pickup		(2 seasons)					160																
Cat 349 Exc								160															
Cat 966 Loader									160														
Laborer (2)																							
Ford F350 Crew Truck												160											
(2) Repair Breach			5	7	35	280																	
Foreman w/ pickup							40																
Cat 14H Blade															40								
Grdset																							
Cat 623 Scraper																40							
Cat 815 Compactor																			40				
Laborer																							
Water										40													
(3) Backfill and Rough Grade	687,784 CY		80	14	1120	8960																	
Foreman w/ pickup							640																
Cat 14H Blade															640								
Grdset																							
Cat 631 Scraper (4)																							2560
Cat D10 Dozer																						640	
Cat D8 Dozer																	640						
Cat 825 Compactor																					640		
Laborer																							
Water (3)										1920													
(4) Cut Low Flow	5800 LF		10	2	20	160																	
Cat 330 Exc																		80					
Grdset																							
Water										80													
(5) Fine Grade	1,300,000 SF		13	6	78	624																	
Foreman w/ pickup							104																
Cat 14H Blade															104								
Grdset																							
Cat 623 Scraper																104							
Laborer																							
Water										104													
(6) Remove Pumps	up/down	3 dys x 4 ea	12	5	60	480																	
Foreman w/ pickup		(2 seasons)					96																
Cat 349 Exc								96															
Cat 966 Loader									96														
Laborer (2)																							
Ford F350 Crew Truck												96											
Diversion Structure (Arroyo to Lake A)																							
(1) Install Pumps	up/down	2 dys	2	5	10	80																	
Foreman w/ pickup		(1 season)					16																
Cat 349 Exc								16															
Cat 966 Loader									16														
Laborer (2)																							
Ford F350 Crew Truck												16											

Eliot Air Study

Proposed Reclamation Plan - Construction Equipment Use Estimates

Prepared by CEMEX with Input from Shewmaker Construction Management Consulting

			Days	Crew Size	Employee Trips	Labor Hours	Pickup Hrs	Cat 349 Exc	Cat 966 LDR	Water Truck	Gradall Forklift	F350 Crew Trk	Pad Drum Roller	Ten Wheeler	Cat 14H Blade	Cat 623 Scr	Cat D8 Dozer	Cat 330 Exc	Cat 815 Comp	Conc Pump	Cat 825 Comp	Cat D10 Dozer	Cat 631 Scraper
(2) Excavate Infiltration Structure	2962 CY		3	6	18	144																	
Foreman w/ pickup							24																
Cat 349 Exc								24															
Grdset																							
Cat 966 Loader									24														
Laborer																							
Water										24													
(3) Install Gravel/Pipe	4000 LF	3850 Tons	8	8	64	512																	
Foreman w/ pickup							64																
Grdset																							
Cat 330 Exc																		64					
Cat 966 Loader									64														
Laborer (3)																							
Water										64													
(4) D/L/BF Discharge Conduit	400 LF		2	9	18	144																	
Foreman w/ pickup							16																
Grdset																							
Cat 349 Exc								16															
Cat 966 Loader									16														
Cat 330 Exc																		16					
Laborer (3)																							
Water										16													
(5) Grade Low-Head Dam	5000 SF		1	6	6	48																	
Foreman w/ pickup							8																
Cat 349 Exc								8															
Grdset																							
Cat 966 Loader									8														
Laborer																							
Water										8													
(6) F/P/S Concrete	50 CY		10	6	60	480																	
Foreman w/ pickup							80																
Gradall Forklift											80												
Carpernters (3)																							
Mason																							
Ford F350 Crew Truck												80											
(7) Backfill Dam	200 CY		2	6	12	96																	
Foreman w/ pickup							16																
Pad Drum Roller													40										
Cat 966 Loader									16														
Laborer (2)																							
Water										16													
(8) Grade Fishway	3000 SF		1	6	6	48																	
Foreman w/ pickup							8																
Cat 349 Exc								8															
Grdset																							
Cat 966 Loader									8														
Laborer																							
Water										8													

Eliot Air Study
Proposed Reclamation Plan - Construction Equipment Use Estimates
Prepared by CEMEX with Input from Shewmaker Construction Management Consulting

			Days	Crew Size	Employee Trips	Labor Hours	Pickup Hrs	Cat 349 Exc	Cat 966 LDR	Water Truck	Gradall Forklift	F350 Crew Trk	Pad Drum Roller	Ten Wheeler	Cat 14H Blade	Cat 623 Scr	Cat D8 Dozer	Cat 330 Exc	Cat 815 Comp	Conc Pump	Cat 825 Comp	Cat D10 Dozer	Cat 631 Scraper
(9) Place Rip Rap	225 CY		1	6	6	48																	
Foreman w/ pickup							8																
Cat 349 Exc								8															
Grdset																							
Cat 966 Loader									8														
Laborer																							
Water										8													
(10) Remove Pumps	up/down	1 dys	1	5	5	40																	
Foreman w/ pickup		(1 season)					8																
Cat 349 Exc								8															
Cat 966 Loader									8														
Laborer (2)																							
Ford F350 Crew Truck												8											
Lake A to Lake C Pipeline (With Lake B Turnout)																							
(1) Install Vault 1 at Lake A Inlet with Slide Gates	2 Slide Gates		5	8	40	320																	
Foreman w/ pickup							40																
Gradall Forklift											40												
Laborer (2)																							
Carpenters (3)																							
Mason																							
Ford F350 Crew Truck (2)												80											
(2) Cut-and-Cover Lake A Pipe Section	89600 CY	640 LF	22	13	286	2288																	
Foreman w/ pickup	(640x140x27 avg)						176																
Cat 14H Blade															176								
Grdset																							
Cat 631 Scraper (4)																							704
Cat D10 Dozer																						176	
Cat D8 Dozer																	176						
Cat 825 Compactor																					176		
Laborer																							
Water (2)										176													
(3) Install 84" HDPE Lake A Pipe	640 LF		5	6	30	240																	
Foreman w/ pickup							40																
Cat 349 Exc								40															
Cat 966 Loader									40														
Laborer (3)																							
F350 Crew Truck										40													
(4) Jack-and-Bore Under Isabel - Exc Bore/Rec Pit	1 Each		2	5	10	80																	
Foreman w/ pickup							16																
Cat 349 Exc								16															
Cat 966 Loader									16														
Laborer																							
Water										16													
(5) Jack-and-Bore Under Isabel - Boring Sub	180 LF	108" Diam	8	7	56	448																	
Foreman w/ pickup							64																
Boring Machine																							
Cat 966 Loader									64														
25 T Hydro Crane																							
Laborer (3)																							
F350 Crew Truck												64											

Eliot Air Study
Proposed Reclamation Plan - Construction Equipment Use Estimates
Prepared by CEMEX with Input from Shewmaker Construction Management Consulting

			Days	Crew Size	Employee Trips	Labor Hours	Pickup Hrs	Cat 349 Exc	Cat 966 LDR	Water Truck	Gradall Forklift	F350 Crew Trk	Pad Drum Roller	Ten Wheeler	Cat 14H Blade	Cat 623 Scr	Cat D8 Dozer	Cat 330 Exc	Cat 815 Comp	Conc Pump	Cat 825 Comp	Cat D10 Dozer	Cat 631 Scraper
(6) Install Vault 2 with Lake B/C Diversion Box	1 Each 30", 42", 84"		5	8	40	320																	
Foreman w/ pickup							40																
Gradall Forklift											40												
Carpenters (3)																							
Mason																							
Ford F350 Crew Truck												40											
Laborer (2)																							
(7) Band/Skid/Install 84" HDPE Thru Isabel Condu	180 LF	84" Diam	2	6	12	96																	
Foreman w/ pickup							16																
Cat 349 Exc								16															
Cat 966 Loader									16														
Laborer (3)																							
F350 Crew Truck										16													
(8) Install 30" Pipe Turnout to Lake B with Rip Rap	150 LF	222 CY Rip Rap	3	8	24	192																	
Foreman w/ pickup		(100'x3'x20')					24																
Cat 349 Exc								24															
Cat 966 Loader									24														
Grdset																							
Laborer (3)																							
Water										24													
F350 Crew Truck												24											
(9) Install 84" HDPE Pipe from Vault 2 to Lake C	800 LF	84" Diam	10	7	70	560																	
Foreman w/ pickup	Stub & Cap	222 CY Rip Rap					80																
Cat 349 Exc		(100'x3'x20')						80															
Cat 966 Loader									80														
Laborer (3)																							
F350 Crew Truck										80													
Water										80													
(10) Backfill Bore/Rec Pits and Vault 2 Box	1 Each		4	7	28	224																	
Foreman w/ pickup							32																
Cat 330 Exc																		32					
Cat 966 Loader									32														
Cat 825 Compactor																					32		
Laborer (2)																							
Water										32													
Lake A Overflow to Arroyo																							
(1) Finegrade and Place Rip Rap	16,000 SF	900 CY Rip Rap	5	6	30	240																	
Foreman w/ pickup							40																
Cat 349 Exc								40															
Grdset																							
Cat 966 Loader									40														
Laborer																							
Water										40													

Eliot Air Study

Proposed Reclamation Plan - Construction Equipment Use Estimates

Prepared by CEMEX with Input from Shewmaker Construction Management Consulting

			Days	Crew Size	Employee Trips	Labor Hours	Pickup Hrs	Cat 349 Exc	Cat 966 LDR	Water Truck	Gradall Forklift	F350 Crew Trk	Pad Drum Roller	Ten Wheeler	Cat 14H Blade	Cat 623 Scr	Cat D8 Dozer	Cat 330 Exc	Cat 815 Comp	Conc Pump	Cat 825 Comp	Cat D10 Dozer	Cat 631 Scraper
30" Dia Conduit (Lake B to Lake C)																							
(1) D/L/BF 30" Pipe with Slide Gates	425 LF	2 Slide Gates	5	9	45	360																	
Foreman w/ pickup							40																
Cat 349 Exc								40															
Cat 966 Loader									40														
Cat 330 Exc																		40					
Forklift											40												
Laborer (3)																							
F350 Crew truck												40											
Water										40													
Lake B Overflow to Arroyo																							
(1) Finegrade and Build Access Ramp	36,000 SF	1944 CY	3	7	21	168																	
Foreman w/ pickup							24																
Cat 349 Exc								24															
Grdset																							
Cat 966 Loader									24														
Cat D10 Dozer																						24	
Laborer																							
Water										24													
(2) Place Rip Rap	1,800 Tons		5	6	30	240																	
Foreman w/ pickup							40																
Cat 349 Exc								40															
Grdset																							
Cat 966 Loader									40														
Laborer																							
Water										40													
			255		2340	18720	1960	664	840	2896	200	608	40	0	960	144	816	232	40	0	848	840	3264

			Days	Crew Size	Employee Trips	Labor Hours	Pickup Hrs	Cat 349 Exc	Cat 966 LDR	Water Truck	Gradall Forklift	F350 Crew Trk	Pad Drum Roller	Ten Wheeler	Cat 14H Blade	Cat 623 Scr	Cat D8 Dozer	Cat 330 Exc	Cat 815 Comp	Conc Pump	Cat 825 Comp	Cat D10 Dozer	Cat 631 Scraper

Appendix C1
Proposed Project CalEEMod Modeling Assumptions
Eliot Quarry – Reclamation Activities
February 2019

EQUIPMENT USE

See attached for equipment model and horsepower assumptions.

CALEEMOD RUN 2 – LAKE A RECLAMATION ACTIVITY

CalEEMod Construction Tabs

General: "Off-Highway Truck" (402 horsepower model) is used as proxy for water truck per CalEEMod User Guide Section 4.3.2.

1. Lake A – Convert Berm to Island.
    a. Description: Convert berm near west end of Lake A to island by excavating two drainage notches. Conservatively assumes two weeks of excavator loading two haul trucks. Water truck used for dust control. Timing assumes material moved to south side of Lake A to be used later for berm construction.
    b. Equipment: Cat 349 excavator. Cat 745 (or equiv.) haul truck (2). Water truck.
    c. Crew size: 5, including equipment operators and grade setter.
    d. Duration: 10 days.
    e. Graded acres: 2 acres.
2. Lake A – ADV Berms.
    a. Description: Berm on south side of Lake A along Arroyo del Valle. Assumptions derived from 2018 Financial Assurance Cost Estimate (Spinardi Associates). Loader, dozer, and compactor used to construct berm with available on-site material. Motor grader added for finish grade.
    b. Equipment: Cat 966 loader. Cat 825 compactor. "Rollers" is proxy for compactor. Cat D8 dozer. Cat 14 motor grader. Water truck.
    c. Crew size: 6, including equipment operators and grade setter.
    d. Duration: 10 days.
    e. Graded acres: 3 acres.
3. Lake A – Overflow Outlet to ADV.
    a. Description: Fine grade and place rip rap to construct overflow outlet. Equipment utilization based on conservative grading estimate of 16,000 SF.
    b. Equipment: Cat 349 excavator. Cat 966 loader. Water truck.
    c. Crew: 6, including equipment operators, foreman, grade setter, and laborer.
    d. Duration: 5 days.
    e. Graded acres: <1 acre.

f. Import material quantity: 450 CY rip rap (900 tons at 2 tons/CY).

g. Hauling trips: 72 trips. (900 tons / 25 tons per load x 2 trips)

h. Adjustment for % Paved Hauling: Reduced to 90% to account for on-site haul.

4. Lake A – Pipeline to Lakes B and C (1). Install Vault 1 at Lake A Inlet with Slide Gates.

    a. Description: Install Vault 1 at Lake A inlet with two steel slide gates.

    b. Equipment: Fork lift.

    c. Crew: 8, including equipment operator, foreman, carpenters (3), mason, and laborer (2).

    d. Duration: 5 days.

    e. Vendor Trips: 2 per day (1 vendor visit per day) to deliver steel and vault materials.

5. Lake A - Pipeline to Lakes B and C (2). Cut-and-Cover Lake A Pipe Section.

    a. The Lake A excavation for the Isabel conduit will be done with Cat 631 scrapers with an average haul of 2,000 LF and a cycle time of ~4 minutes. Excavate approx. 90,000 CY. It is assumed that the excavation will be placed in a temporary stockpile. It may be necessary to leave a plug between the cut-and-cover section and Isabel jack-and-bore section to allow the boring sub to have an earth push block for their boring machine.

    b. Equipment: Cat 14 motor grader. Cat 631 scraper (4). Cat D10 dozer. Cat D8 dozer. Cat 825 compactor. Water truck (2).

    c. Crew: 13, including equipment operators, foreman, grade setter, and laborer.

    d. Duration: 22 days.

    e. Graded acres: 2 acres.

6. Lake A - Pipeline to Lakes B and C (3). Install 84” HDPE Lake A Pipe.

    a. Description: Install approximately 640 LF of 84” pipe from Vault 1 toward Isabel bore-and-jack section.

    b. Equipment: Cat 349 excavator. Cat 966 loader.

    c. Crew: 6, including equipment operators, foreman, and laborers (3).

    d. Duration: 5 days.

    e. Vendor Trips: 2 per day (1 vendor visit per day) to deliver pipe.

7. Lake A - Pipeline to Lakes B and C (4). Jack-and-Bore Under Isabel - Excavate Bore / Receiving Pit.

    a. Description: Excavate one boring pit and one receiving pit for boring machine sub.

    b. Equipment: Cat 349 excavator. Cat 966 loader. Water truck.

    c. Crew: 5, including equipment operators, foreman, and laborer.

    d. Duration: 2 days.

    e. Graded acres: <1 acre.

8. Lake A - Pipeline to Lakes B and C (5). Boring Sub.
    a. Description: Boring sub to bore approximately 180 LF of 108” diameter casing pipe under Isabel Avenue.
    b. Equipment: Boring machine (model default used). Cat 966 loader. 25-ton hydro crane (model default used).
    c. Crew: 7, including equipment operators, foreman, and laborers (3).
    d. Duration: 8 days.
    e. Vendor Trips: 2 per day (1 vendor visit per day) for boring sub.
9. Lake A – Pipeline to Lakes B and C (6). Install Vault 2 with Lake B/C Diversion Box.
    a. Description: Install Vault 2 with 1-each 30”, 42”, 84” diameter gates.
    b. Equipment: Fork lift.
    c. Crew: 8, including equipment operator, foreman, carpenters (3), mason, and laborer (2).
    d. Duration: 5 days.
    e. Vendor Trips: 2 per day (1 vendor visit per day) to deliver steel and vault materials.
10. Lake A – Pipeline to Lakes B and C (7). Band / Skid / Install 84" HDPE Thru Isabel Conduit.
    a. Description: Remove push block at Lake A side of boring pit. Install approximately 180 LF of 84” HDPE pipe through 108” casing under Isabel Avenue.
    b. Equipment: Cat 349 excavator. Cat 966 loader.
    c. Crew: 6, including equipment operators, foreman, and laborers (3).
    d. Duration: 2 days.
    e. Vendor Trips: 2 per day (1 vendor visit per day) to deliver pipe.
11. Lake A – Pipeline to Lakes B and C (8). Install 30” Pipe Turnout to Lake B with Rip Rap Slope Protection.
    a. Description: Install approximately 150 LF of 30” pipe from Vault 2 to Lake B with rip rap. Approximately 222 CY rip rap slope protection (100’x3’x 20’).
    b. Equipment: Cat 349 excavator. Cat 966 loader. Water truck.
    c. Crew: 8, including equipment operators, foreman, grade setter, and laborers (3).
    d. Duration: 3 days.
    e. Graded acres: <1 acre.
    f. Import material quantity: 222 CY rip rap (444 tons at 2 tons/CY).
    g. Hauling trips: 36 trips. (444 tons / 25 tons per load x 2 trips)
    h. Adjustment for % Paved Hauling: Reduced to 90% to account for on-site haul.
    i. Vendor Trips: 2 per day (1 vendor visit per day) to deliver pipe.

12. Lake A – Pipeline to Lakes B and C (9). Install 84" HDPE Pipe from Vault 2 to Lake C.
    a. Description: Install approximately 800 LF of 84" pipe from Vault 2 to Lake C. Install stub and cap at CEMEX property line until such time as Vulcan completes Lake C excavation. Modeling assumes installation of rip rap at Lake C outfall (which will occur in the future when pipe is extended into Lake C), with placement of 222 CY rip rap apron (100'x3'x20').
    b. Equipment: Cat 349 excavator. Cat 966 loader. Water truck.
    c. Crew: 8, including equipment operators, foreman, and laborers (3).
    d. Duration: 10 days.
    e. Graded acres: 2 acres.
    f. Import material quantity: 222 CY rip rap (444 tons at 2 tons/CY).
    g. Hauling trips: 36 trips. (444 tons / 25 tons per load x 2 trips)
    h. Adjustment for % Paved Hauling: Reduced to 90% to account for on-site haul.
    i. Vendor Trips: 2 per day (1 vendor visit per day) to deliver pipe.
13. Lake A – Pipeline to Lakes B and C (10). Backfill Bore/Receiving Pits and Vault 2 Box.
    a. Equipment: Cat 330 excavator. Cat 966 loader. Cat 825 compactor. Water truck.
    b. Crew: 7, including equipment operators, foreman, and laborers (2).
    c. Duration: 4 days.
    d. Graded acres: <1 acre.
14. Lake A - Diversion Structure (1). Install Pumps for Diversion.
    a. Description: Install Lake A diversion structure per Reclamation Plan specification. Will require a bypass pump system for one season to allow for in-stream work to be completed. Once installed and the Arroyo del Valle in the work area is sufficiently dried, then the infiltration basin, discharge pipe, low-head dam and fish bypass can be installed. The upstream face and fish bypass are assumed to be armored with rip rap.
    b. Equipment: Cat 349 excavator. Cat 966 loader.
    c. Crew: 5, including equipment operators, foreman, and laborers (2).
    d. Duration: 2 days.
    e. Vendor Trips: 2 per day (1 vendor visit per day) for pump rental company.
15. Lake A - Diversion Structure (2). Excavate Infiltration Structure.
    a. Description: Install Lake A diversion structure per Reclamation Plan specification. Excavate approximately 3,000 CY for infiltration structure.
    b. Equipment: Cat 349 excavator. Cat 966 loader. Water truck.
    c. Crew: 6, including equipment operators, foreman, grade setter, and laborer.
    d. Duration: 3 days.
    e. Graded acres: 1 acre.

16. Lake A - Diversion Structure (3). Install Gravel / Pipe.
    a. Description: Install infiltration bed pipe, approximately 4,000 LF. Place approximately 3,850 tons of gravel for infiltration bed. On-road truck haul for gravel delivery.
    b. Equipment: Cat 330 excavator. Cat 966 loader. Water truck.
    c. Crew: 8, including equipment operators, foreman, grade setter, and laborers (3).
    d. Duration: 8 days.
    e. Graded acres: 1 acre.
    f. Import material quantity: 2,333 CY gravel (3,850 tons at 1.65 tons/CY).
    g. Hauling trips: 308 trips. (3,850 tons / 25 tons per load x 2 trips)
    h. Adjustment for % Paved Hauling: Reduced to 90% to account for on-site haul.
    i. Vendor Trips: 2 per day (1 vendor visit per day) for pipe delivery.
17. Lake A - Diversion Structure (4). Dig / Lay / Backfill (D/L/BF) Discharge Conduit.
    a. Description: Install pipe in discharge conduit, approximately 400 LF.
    b. Equipment: Cat 349 excavator. Cat 966 loader. Cat 330 excavator. Water truck.
    c. Crew: 9, including equipment operators, foreman, grade setter, and laborers (3).
    d. Duration: 2 days.
    e. Graded acres: <1 acre.
    f. Vendor Trips: 2 per day (1 vendor visit per day) for pipe delivery.
18. Lake A - Diversion Structure (5). Grade Low Head Dam.
    a. Description: Grading approximately 5,000 SF for installation of low-head dam.
    b. Equipment: Cat 349 excavator. Cat 966 loader. Water truck.
    c. Crew: 6, including equipment operators, foreman, grade setter, and laborer.
    d. Duration: 1 days.
    e. Graded acres: <1 acre.
19. Lake A - Diversion Structure (6). Frame / Pour / Set (F/P/S) Concrete.
    a. Description: Frame, pour and set approximately 50 CY of concrete.
    b. Equipment: Gradall fork lift (model default used).
    c. Crew: 6, including equipment operator, foreman, carpenters (3), and mason.
    d. Duration: 10 days.
20. Lake A - Diversion Structure (7). Backfill Dam.
    a. Description: Backfill dam, approximately 200 CY.
    b. Equipment: Cat CP56B pad drum roller. “Roller” is pad drum roller. Cat 966 loader. Water truck.
    c. Crew: 6, including equipment operator, foreman, and laborers (2).

d. Duration: 2 days.

e. Graded acres: <1 acre.

21. Lake A - Diversion Structure (8). Grade Fishway.

    a. Description: Grade approximately 3,000 SF for fishway bypass.

    b. Equipment: Cat 349 excavator. Cat 966 loader. Water truck.

    c. Crew: 6, including equipment operator, foreman, grade setter, and laborer.

    d. Duration: 1 days.

    e. Graded acres: <1 acre.

22. Lake A - Diversion Structure (9). Place Rip Rap.

    a. Description: Place approximately 225 CY rip rap for discharge outlet protection.

    b. Equipment: Cat 349 excavator. Cat 966 loader. Water truck.

    c. Crew: 6, including equipment operator, foreman, grade setter, and laborer.

    d. Duration: 1 days.

    e. Graded acres: <1 acre.

    f. Import material quantity: 225 CY rip rap (450 tons at 2 tons/CY).

    g. Hauling trips: 36 trips. (450 tons / 25 tons per load x 2 trips)

    h. Adjustment for % Paved Hauling: Reduced to 90% to account for on-site haul.

23. Lake A - Diversion Structure (10). Remove Pumps.

    a. Description: Remove diversion pumps.

    b. Equipment: Cat 349 excavator. Cat 966 loader.

    c. Crew: 5, including equipment operator, foreman, and laborers (2).

    d. Duration: 1 days.

    e. Vendor Trips: 2 per day (1 vendor visit per day) for pump rental company.

24. Lake A - Fill Percolation Ponds.

    a. Description: Grade to fill percolation ponds on south side of Lake A, north of the Arroyo.

    b. Equipment: Cat 14 motor grader. Cat D8 dozer. Cat 966 loader.

    c. Crew: 5, including equipment operator, foreman, and grade setter.

    d. Duration: 5 days.

    e. Graded acres: 6 acres.

25. Lake A - Revegetation. Hydroseed Truck to Support Landscaping.

    a. Description: Hydroseed truck to support landscaping. Landscaping per Cunningham Engineering landscape plan design.

    b. Equipment: Off-Highway Truck used as proxy.

c. Crew: 5, including equipment operator and laborers (4).

d. Duration: 20 days.

On-Model Mitigation Assumptions

Consistent with BAAQMD requirements, on-model mitigation for construction activity assumes:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) are watered two times per day.
2. All vehicle speeds on unpaved roads are limited to 15 mph.

CALEEMOD RUN 3 – LAKE B RECLAMATION ACTIVITY

CalEEMod Construction Tabs

General: "Off-Highway Truck" (402 horsepower model) is used as proxy for water truck per CalEEMod User Guide Section 4.3.2.

1. Lake B - Realign ADV (1). Install Pumps for Low Flow Diversion and Dewatering.
    a. Description: Realign approximately 5,800 LF reach of Arroyo del Valle south of Lake B per Reclamation Plan. Existing low flow will be diverted around the work zone using a pump and fused HDPE discharge pipe so that the entire length of the existing Arroyo will be dry. This will allow the existing breach of the quarry pond in the work area to be repaired to allow the existing quarry ponds in the work area to be dewatered and prepared for backfill.
    b. Equipment: Cat 349 excavator. Cat 966 loader.
    c. Crew: 5, including equipment operators, foreman, and laborers (2).
    d. Duration: 20 days.
    e. Vendor Trips: 2 per day (1 vendor visit per day) for pump rental company.
2. Lake B - Realign ADV (2). Repair Breach at Quarry Ponds.
    a. Description: Repair existing breach in quarry pond to facilitate dewatering of construction area.
    b. Equipment: Cat 14 motor grader. Cat 623 scraper. Cat 815 compactor. Water truck.
    c. Crew: 7, including equipment operator, foreman, grade setter, and laborer.
    d. Duration: 5 days.
    e. Graded acres: 2 acres.
3. Lake B - Realign ADV (3). Backfill and Rough Grade New ADV Alignment.
    a. Description: Realign approximately 5,800 LF reach of Arroyo del Valle south of Lake B per Reclamation Plan. Backfill and rough grade approximately 688,000 CY. Rough grading will be done with scrapers with an average haul length of 2,000 LF. At an average 4 minute cycle time this will require 4 scrapers. Once the mass excavation is

complete the low flow will be graded, final channel grading completed, and the new alignment ready for final erosion control.

Note: Depending on the effort required to dry the existing ponds, the actual tie-in to the existing Arroyo could take up to two construction seasons. With the breach repaired and the central segment mass grading completed, the construction area will not fill with water so the second season of grading (if needed) would only require the bypass pump system to be installed so the upstream and downstream tie-ins can be completed. However, based on construction equipment hours (that can be fit into a single season) this model assumes (for purposes of air emissions estimates) that all work is completed in a single season. This approach is conservative for CEQA purposes because the model output reflects elevated annual emissions for a single year of construction (which is possible to occur).

b. Equipment: Cat 14 motor grader. Cat 631 scrapers (4). Cat D10 dozer. Cat D8 dozer. Cat 825 compactor. Water trucks (3).

c. Crew: 14, including equipment operators, foreman, grade setter, and laborer.

d. Duration: 80 days.

e. Graded acres: maximum assumption of 110 acres based on estimated "action area", including portions of existing Arroyo del Valle.

4. Lake B - Realign ADV (4). Cut Low Flow.

    a. Description: Realign approximately 5,800 LF reach of Arroyo del Valle south of Lake B per Reclamation Plan. Cut low flow with excavator.

    b. Equipment: Cat 330 excavator. Water truck.

    c. Crew: 3, including equipment operator and grade setter.

    d. Duration: 10 days.

    e. Graded acres: 2 acres.

5. Lake B - Realign ADV (5). Fine Grade.

    a. Description: Fine grade approximately 1,300,000 SF with motor grader and scraper.

    b. Equipment: Cat 14 motor grader. Cat 623 scraper. Water truck.

    c. Crew: 6, including equipment operator, foreman, grade setter, and laborer.

    d. Duration: 13 days.

    e. Graded acres: 30 acres.

6. Lake B - ADV Berms.

    a. Description: Berm on south side of Lake B. Assumptions per Spinardi 2018 FACE, scaled up by 50%. Loader, dozer, and compactor used to construct berm with available on-site material. Motor grader added for finish grade.

    b. Equipment: Cat 966 loader. Cat 825 compactor. "Rollers" is proxy for compactor. Cat D8 dozer. Cat 14 motor grader. Water truck.

    c. Crew size: 6, including equipment operators and grade setter.

d. Duration: 10 days.

e. Graded acres: 3 acres.

7. Lake B - Realign ADV (6). Landscaping and Revegetation.
    a. Description: Hydroseed truck to support landscaping.
    b. Equipment: Off-Highway Truck used as proxy.
    c. Duration: 20 days.
8. Lake B - Realign ADV (7). Remove Pumps.
    a. Description: Remove low-flow diversion / dewatering pumps.
    b. Equipment: Cat 349 excavator. Cat 966 loader.
    c. Crew: 5, including equipment operator, foreman, and laborers (2).
    d. Duration: 12 days.
    e. Vendor Trips: 2 per day (1 vendor visit per day) for pump rental company.
    f. Crew: 5, including equipment operator and laborers (4).
9. Lake B - Pedestrian and Bike Trail (1). Grading and Drainage Improvements.
    a. Description: Grading for 20-foot trail along south side of Arroyo and Lake B.
    b. Equipment: Model defaults used for grading. Added water truck.
    c. Crew: Model defaults used.
    d. Duration: 20 days.
    e. Graded acres: 5 acres.
10. Lake B - Pedestrian and Bike Trail (2). Paving and Striping.
    a. Description: Pave trail along south side of Arroyo and Lake B.
    b. Equipment: Pavers (2). Paving equipment (2). Rollers (2).
    c. Crew: 10, including equipment operators, foreman, grade setter, and laborers (2).
    d. Duration: 5 days.
    e. Graded acres: 5 acres.
    f. Import material quantity: 3,519 CY.
        i. 926 CY AC (1,528 tons at 1.65 tons/CY). Based on 10,000 LF x 10’ wide pavement x 3-inch depth.
        ii. 2,593 CY AB (4,278 tons at 1.65 tons/CY). Based on 10,000 LF x 14’ wide AB placement x 6-inch depth.
    g. Hauling trips: 464 trips. (5,806 tons / 25 tons per load x 2 trips). Trip length reduced to 4 miles since material to be sourced from Eliot facility plants.
    h. Adjustment for % Paved Hauling: Reduced to 90% to account for on-site haul.

11. Lake B - Pedestrian and Bike Trail (3). Landscaping and Revegetation.
    a. Description: Hydroseed truck to support landscaping.
    b. Equipment: Off-Highway Truck used as proxy.
    c. Crew: 5, including equipment operator, and laborers (4).
    d. Duration: 10 days.
12. Lake B - Lake B to C Conduit. Install Pipe Conduit to Lake C.
    a. Description: Install 30" Lake B to C conduit, approximately 350 LF. Equipment utilization based on earlier estimate of 425 LF (therefore conservative). Install two slide gates.
    b. Equipment: Cat 349 excavator. Cat 966 loader. Cat 330 excavator. Fork lift. Water truck.
    c. Crew: 9, including equipment operators, foreman, and laborers (3).
    d. Duration: 5 days.
    e. Graded acres: 1 acre.
    f. Vendor Trips: 2 per day (1 vendor visit per day) for steel and pipe delivery.
13. Lake B - Overflow Outlet to ADV (1). Finegrade and Build Access Ramp.
    a. Description: Overflow outlet will be created in the crest of the berm installed along the west end of Lake B to allow water to flow back into ADV through a controlled and stable pathway. The outlet will consist of an armored trapezoidal weir and chute, with an armored outlet apron. The outlet crest will be 60 feet wide perpendicular to the flow with 4H:1V side slopes, and the trapezoid will be at least 5 feet deep, thus resulting in a top width of 60 feet for the trapezoidal section. The outlet crest is 120 feet wide in the direction of the flow. The outlet flow path will be lined with riprap to mitigate the potential for erosion to occur. Access to overflow outlet to be developed to north side of overflow. Grading of approximately 36,000 SF, and handling approximately 2,000 CY.
    b. Equipment: Cat 349 excavator. Cat 966 loader. Cat D10 dozer. Water truck.
    c. Crew: 7, including equipment operators, foreman, grade setter, and laborer.
    d. Duration: 3 days.
    e. Graded acres: 1 acre.
14. Lake B - Overflow Outlet to ADV (2). Place Rip Rap.
    a. Description: The outlet flow path will be lined with riprap to mitigate the potential for erosion to occur. Place rip-rap approximately 800 tons (7,200 SF x 1.5' depth x 2 tons per CY).
    b. Equipment: Cat 349 excavator. Cat 966 loader. Water truck.
    c. Crew: 6, including equipment operators, foreman, grade setter, and laborer.
    d. Duration: 5 days.
    e. Graded acres: 1 acre.

f. Import material quantity: 900 CY rip rap (1,800 tons at 2 tons/CY). Model assumption is greater than actual import requirement.

g. Hauling trips: 144 trips. (1,800 tons / 25 tons per load x 2 trips).

h. Adjustment for % Paved Hauling: Reduced to 90% to account for on-site haul.

15. Lake B – Excavate Shark's Fin Drainage Notch.

    a. Description: Excavate drainage notch in Shark's fine area at north end of Lake B. Excavate approximately 11,000 CY to develop 160'x120'x20' notch to elevation 350' msl. Move excavated materials to Lake B pit floor.

    b. Equipment: Cat 349 excavator. Cat 745 (or equiv.) haul truck (4). Water truck.

    c. Crew size: 7, including equipment operators and grade setter.

    d. Duration: 5 days.

    e. Graded acres: 1 acre.

16. Lake B – Revegetation.

    a. Description: Hydroseed truck to support revegetation.

    b. Equipment: Off-Highway Truck used as proxy.

    c. Crew: 5, including equipment operator and laborers (4).

    d. Duration: 5 days.

On-Model Mitigation Assumptions

Consistent with BAAQMD requirements, on-model mitigation for construction activity assumes:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) are watered two times per day.
2. All vehicle speeds on unpaved roads are limited to 15 mph.

CALEEMOD RUN 4 – NORTH AREA RECLAMATION ACTIVITY

CalEEMod Construction Tabs

General: "Off-Highway Truck" (402 horsepower model) is used as proxy for water truck per CalEEMod User Guide Section 4.3.2.

1. North Area – Soil Cap on Main Silt Pond.

    a. Description: Place soil cap on main silt pond, approximately 120 acres.

    b. Equipment: Model defaults used for grading. Added Cat 745 haul trucks (2). Added water truck.

    c. Crew: Model defaults used.

    d. Duration: 10 days.

    e. Graded acres: 120 acres.

2. North Area - Revegetate Main Silt Pond.
    a. Description: Hydroseed truck to support landscaping.
    b. Equipment: Off-Highway Truck used as proxy.
    c. Crew: 3, including equipment operator and laborers (2).
    d. Duration: 5 days.
3. North Area – Removal of Processing Plants.
    a. Description: This task involves dismantling, removal and recycling (as appropriate) of processing plant equipment (including crushers, screens, and conveyor assemblies), portable office, scales, and miscellaneous support structures. Includes removal of aggregate plant, readymix plant and asphaltic concrete plant.

       Preparation: Electricians will be used to disconnect utilities. Welder/mechanics and general laborers will assist in unbolting equipment in preparation for removal.

       Dismantling and Removal: A crane will be used to dismantle and place processing plant components (e.g., crushers and screens), silos, scale and other support structures onto flatbed trucks for removal. Crushers, screens, sand screws and silos will be removed using 9-axle on-road lowbed trucks. Steel structures will be cut into manageable pieces with an excavator equipped with a steel shear, with pieces placed on on-road trucks for removal (approximately 500 tons). An excavator equipped with a breaker attachment, and front-end loader, will be used for concrete foundation/footing demolition and removal (approximately 200 CY, or 400 tons). Scrap steel and other mixed construction and demolition debris, such as small scrap, broken concrete, asphalt, plastics, spare parts and conveyor belts, will be loaded into dumpsters using front-end loaders and shipped off-site to licensed facilities (approximately 100 tons). Total material demo approx. 1,000 tons for off-haul.
    b. Equipment: Crane (model default used). Cat 349 excavators (3). Cat 966 loaders (2). Concrete industrial saw (3) (model default used). Welders (3) (model default used). Fork lift (model default used). Water truck.
    c. Crew: 18, including equipment operators, foreman, electricians (3), welders (3), and laborers (3).
    d. Duration: 60 days.
    e. Hauling trips: 100 trips. (1,000 tons / 20 tons per load x 2 trips).
    f. Vendor Trips: 2 per day (1 vendor visit per day) per plant, for total of 6 per day.
4. North Area - Grade Plant and Lake J Areas.
    a. Description: Contour grading of Lake J and processing plant areas, approximately 135 acres.
    b. Equipment: Model defaults used for grading. Added water truck.
    c. Crew: Model defaults used.
    d. Duration: 20 days.
    e. Graded acres: 135 acres.

5. North Area - Retention Ponds.
    a. Description: Install three retention ponds, approximately 8 acres.
    b. Equipment: Model defaults used for grading. Added water truck.
    c. Crew: Model defaults used.
    d. Duration: 10 days.
    e. Graded acres: 8 acres.
6. North Area – Revegetation.
    a. Description: Hydroseed truck to support revegetation.
    b. Equipment: Off-Highway Truck used as proxy.
    c. Crew: 5, including equipment operator and laborers (4).
    d. Duration: 15 days.

On-Model Mitigation Assumptions

Consistent with BAAQMD requirements, on-model mitigation for construction activity assumes:

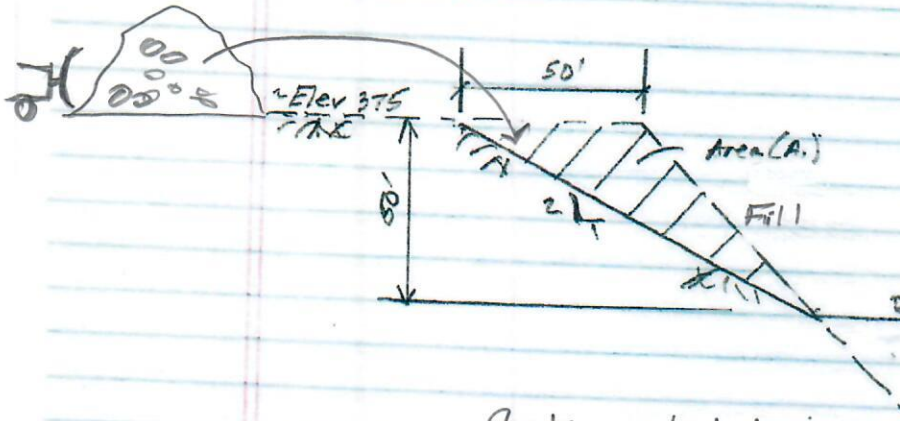
1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) are watered two times per day.
2. All vehicle speeds on unpaved roads are limited to 15 mph.

Cleaver SMP-23

FAE Worksheet

Area ① Silt Pond - Flatten slope to 2:1 by dozing aggregate stockpile into Silt Pond.

Slope A_1 -



$A_1 = (50 \times 100) - \frac{1}{2}(50 \times 100) - \frac{1}{2}(50^2)$

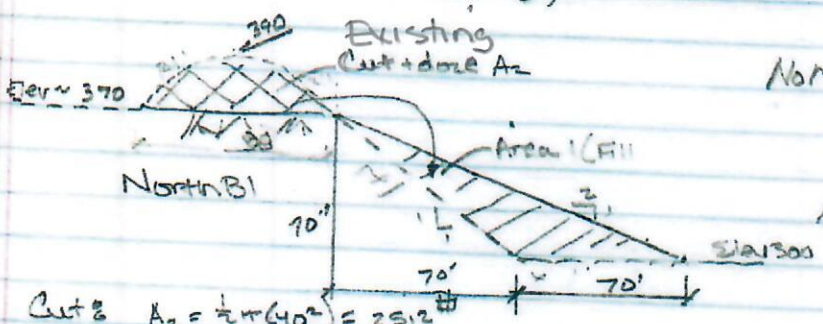
$A_1 = 5000 - 2500 - 1250$

$A_1 = 1250$ sf $V = AL$

$V = 1250' \times 1400' =$ **58,000 cy**

Costs included in VI-1: Stockpile Removal

Area (7C) Inactive Mining; Future Lake C - North Slope B1 - Dress Slope Cut/Fill



North B1 = 1100'

A_1 = Fill B1 $= \left(\frac{70 \times 140}{2}\right) - \left(\frac{70 \times 70}{2}\right)$

$A_1 = 4900 - 2450$

$A_1 = 2450$ sf

$V = AL = 2450 \times 1100'$

V = 99,800 cy

Cut 2 $A_2 = \frac{1}{2}\pi(40^2) = 2512$ sf

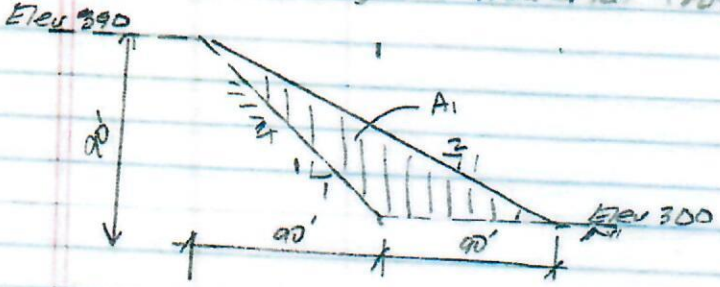
$V = AL =$

$V = (2512) \times (1100) =$ **102,000 cy**

Cut ⟷ Fill

Area (7C) Inactive Mining, Future Lake C - East Slope B1

Bring fill material from plant site



Length = 800'

$A_1 = \left(\frac{90 \times 180}{2}\right) - \left(\frac{90 \times 90}{2}\right)$

$A_1 = 8100 - 4050 = 4050$ sf

$V = AL = 4050 \times 800 =$ **120,000 cy**

99,800 + 120,000

WATER CONVEYANCE STRUCTURES

APPENDIX 6

flows for future fish ladders in the lower watershed. In the northern watershed, the Alameda Creek Alliance has prompted Zone 7 Water Agency to begin assessing instream flows for migratory fish in Arroyo Mocho, Arroyo del Valle and Arroyo de la Laguna through Livermore and Pleasanton (ACA 2017).

Notwithstanding the uncertainties discussed above, for this study BC assumes that a diversion structure on ADV must meet requirements for anadromous fish passage and screening. Specific criteria include:

- **Fish passage:** Cross-channel structures should include a passable flow bypass structure, and off-channel flow diversions should include return flow channels to avoid trapping.
- **Bypass flows:** Zone 7 requested that the ADV diversion allow for controlled diversion bypass flows of up to 40 cfs in winter/spring and 15 cfs in summer/fall (email from Colleen Winey, geologist at Zone 7 to Nathan Foged, engineer at BC dated August 16, 2013).
- **Fish screening:** CDFW criteria require fish screens to be sized such that the approach velocity entering the screen does not exceed 0.33 foot per second (ft/s) for all self-cleaning screens located in on-stream installations. For screens without automatic cleaning, the approach velocity is limited to one-fourth of the self-cleaning screens. Fish screens are typically sized by dividing the desired diversion flow (e.g., 500 cfs) and the limiting approach velocity (e.g., 0.33 ft/s), which results in the minimum area of fish screen required. For example, a 500 cfs diversion limited to 0.33 ft/s approach velocity would require at least 1,515 square feet (ft^2) of fish screen. The U.S. Bureau of Reclamation (USBR) recommends the use of a 10 percent safety factor, which would increase the required area in this example to 1,667 ft^2 (USBR 2006).

During detailed design, the designer should revisit these criteria as part of consultation with CDFW. It may be feasible to request a variance from CDFW for the approach velocity restrictions during certain times of year when fish fry are not present. For example, with such a variance, a diversion structure designed to screen 210 cfs at 0.33 ft/s approach velocity during periods when fry may be present may also be used to screen 500 cfs at 0.8 ft/s (maximum velocity allowed by CDFW) during periods of the year when anadromous fish fry are not present (e.g., likely during summer and fall).

5.1.2 Concept Design Development

The ADV diversion system will consist of several interrelated components. The schematic representation shown in Figure 5-2 identifies six major components, as follows:

1. Intake and fish exclusion: This component diverts water away from the ADV channel through an intake structure that incorporates a device (e.g., screen) to prevent fish capture or trapping.
2. Hydraulic grade control: This component raises upstream water levels to create the hydraulic head required for lateral diversions, and to limit bypass flows in the ADV.

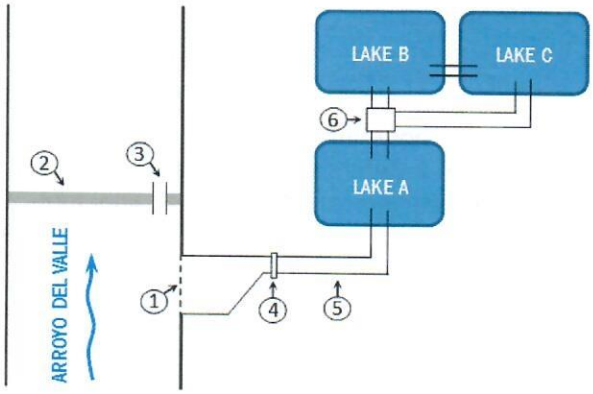


Figure 5-2. Schematic representation of diversion system

3. Fish passage and/or bypass: This component allows fish to move upstream past any physical barriers created by the hydraulic grade control structure, and includes structures that will measure and control bypass flows that continue downstream in the ADV.

Diversion VI-8

4. Diverted flow control structure: This structure controls flow through the intake, and will include a device to adjust release rates, and a device to measure the diverted discharge.
5. Conduit into Lake A: This component consists of a pipe to convey diverted water into Lake A.
6. Conduit from Lake A to Lake C: This component consists of a pipeline to convey water from Lake A to Lake C, and allows for an optional turnout to Lake B.

BC investigated several options for diversion, screening, and conveyance and evaluated potential options with respect to feasibility, cost, and performance. BC found that the fish exclusion mechanism is the key differentiating feature among the alternatives because that component is the primary driver for the diversion system size, flow capacity, and construction and maintenance costs. The selected alternative uses a wide gravel bed with an infiltration gallery to meet fish screening requirements.

Figure 5-3 shows a schematic of proposed design for the Lake A diversion.

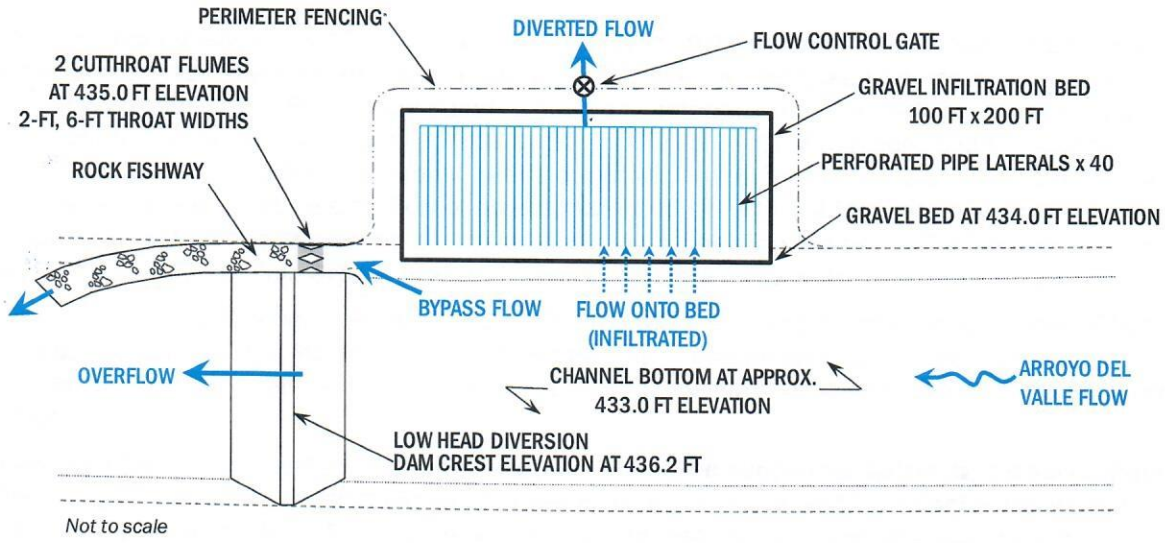


Figure 5-3. Schematic of the proposed Lake A diversion

As shown in Figure 5-3, the infiltration bed concept includes a 100-foot-wide (extending in the horizontal direction perpendicular to the stream bank) by 200-foot-long gravel infiltration bed to be constructed along the north bank of ADV. The infiltration bed consists of approximately 4 feet of coarse gravel (e.g., pea gravel) with a gallery of 40 100-foot-long perforated horizontal drain pipes (i.e., laterals) buried at a depth of 2 to 3 feet (1 percent slope).

The edge of the infiltration bed nearest to the arroyo will be set at an elevation of 434 feet, or approximately 1 foot above the channel bottom to allow for sedimentation. The top surface of the gravel infiltration bed will be sloped at 0.5 percent, sloping down toward the ADV so that fish will move back toward the main stream channel as water levels drop. A clay cutoff wall installed along the infiltration bed edge closest to the ADV will prevent horizontal subsurface flow from the channel from draining into the laterals at elevations less than 434 feet.

Diverting Water into Lake A. When the main flow control gate is open, water ponded above the infiltration bed will infiltrate through the gravel and into the drainage laterals, which are sloped away from the ADV toward a pipe manifold. The manifold then connects to an 84-inch main conduit/trunk that drains by gravity toward Lake A. A concrete vault with a stainless-steel slide gate will be constructed on the main conduit so that operators will be able to raise or lower the slide gate to

different levels to control diversions. Riprap will be installed at the outfall to Lake A, extending to approximately elevation 400 feet, or just below the lowest anticipated operating level in Lake A.

The elevation drop from the ADV channel to Lake A is adequate for drainage and conveyance pipes to be sloped to allow for gravity flow, substantially reducing operation and maintenance (O&M) requirements.

Diversion Dam. A low-head diversion dam will be constructed across the main channel of the ADV to impound water and create a wide pool that inundates the infiltration bed at higher flows. BC recommends a simple low-head diversion dam with a concrete core as the preferred method for hydraulic grade control given the flexibility of the design, low maintenance, potential for incorporating natural rock features on the slopes, and moderate cost. A small bypass channel with a rock fishway will be incorporated into the dam design to provide fish passage and preserve the natural riparian conditions of the stream. Preliminary fishway sizing indicates that a channel roughly 2 feet deep and 10 feet wide with an average longitudinal slope of approximately 2 percent is adequate to convey bypass discharges.

Two gated flumes will be installed near the entrance to the fishway to control and measure bypass discharges. A small flume will measure low flow rates, while a second, larger flume will measure higher bypass flow rates. Preliminary sizing calculations determined that a cutthroat flume with a throat width of 2 feet will pass up to approximately 8 cfs with 1 foot of hydraulic head. A second, larger cutthroat flume (placed in parallel) with a throat width of 6.0 feet can be used in combination with the first flume to pass a total flow of approximately 40 cfs with 1.2 feet of hydraulic head, complying with Zone 7's request for controlled diversion bypass flows of up to 40 cfs in winter/spring and 15 cfs in summer/fall. Bypass flows in excess of 40 cfs will flow over the diversion dam.

Given that 1.0 foot of ponding is required over the infiltration bed and an additional 1.2 feet of head are required to discharge 40 cfs into the fish bypass, the minimum elevation of the dam crest is estimated to be 436.2 feet. At that elevation, the crest of the dam will span roughly 140 to 160 feet across the channel.

Power and Signal. Electrical power from the local utility will be needed for operating the flow control diversion gate. It is assumed that electrical power is available at the east boundary of the Project Site from a pole or manhole. Electrical power will be provided for the following loads: (a) actuator for the 84-inch slide gate, and (b) flow measurement and/or water level instruments. Controls for the diversion will consist of simple buttons and indicators; there will not need to be a control panel that provides functions such as automatic control or remote control via telemetry. All electrical and control equipment will be suitable for outdoor and mounted on a rack that is raised to an elevation above the 100-year flood level.

Appendix E contains concept-level design drawings for the proposed diversion structure.

5.1.3 Hydraulic Design

Infiltration galleries are commonly used in riverbeds or lakebeds for low-flow applications, but can be expanded beyond typical applications by adding more laterals and increasing the area over which water is drawn. Preliminary sizing calculations were performed using an equation from USBR (1995):

$$L = \frac{Q ln\left(\frac{2d}{r}\right)}{2\pi KH}$$

where: L is the computed length of screen to yield desired discharge (feet)
Q is the desired discharge (cfs)
r is the radius of the drainage pipe

K is the permeability coefficient for the gravel fill (ft/s)

H is the depth of water over the gravel fill (feet)

d is the distance from the ground surface to the center of the drain pipe (feet)

Using a maximum diversion flow rate of 500 cfs, a permeability coefficient of 0.05 ft/s, 12-inch-diameter pipe, a 3-foot depth of pipe, and a 1-foot depth of water, the required screen length comes out to be approximately 3,954 feet. The design will accomplish such performance using 40 100-foot-long parallel drainage pipes (as described previously).

BC analyzed pipe capacities to calculate the sizes needed to convey water by gravity through the laterals, pipe manifold, and trunk pipeline. The lateral pipes can be 12 inches diameter for 30 feet, but must expand to 18 inches diameter for the remaining 70 feet. Table 5-1 provides a summary of the pipe sizing calculations.

Table 5-1. Summary of Pipe Sizing

Component	Material	Slope (percent)	Sizing		
			Number	Diameter (inches)	Total Length (ft)
Laterals	PVC	1	40	12	1,200
	PVC	1	40	18	2,800
Manifold	PVC	1	2	36	60
	RCP	1	2	48	80
	RCP	1	2	60	60
Main Conduit	RCP	2	1	84	400

Note: HDPE pipe might be a suitable substitute for PVC.

If the lateral drain pipes are placed approximately 5 feet apart, the surface area of the infiltration bed will be approximately 20,000 ft^2. A diversion rate of 500 cfs over an area of 20,000 ft^2 will result in an inflow velocity of approximately 0.025 ft/s across the surface of the infiltration bed, and a pore velocity of 0.08 ft/s, assuming a porosity of 0.3 for the gravel in the bed. This estimated approach velocity is much less than the 0.33 ft/s limit required for fish screens.

5.2 Lake Conduits

As described in the Specific Plan, future Lake C will be located west of Isabel Avenue and generally north of Lake B (County 1981). Conduits will be constructed between Lake A and Lake C and Lake B and Lake C, consistent with the approved SMP-23 Reclamation Plan and Zone 7 Agreement (Lone Star Industries, Inc. 1987; Zone 7 1988). The conduits to and from Lake C will be stubbed and capped at CEMEX's property lines until such time that future Lake C is developed. In addition, CEMEX has agreed to provide a turnout from Lake A into Lake B as part of the Lake A to Lake C conveyance structure. Figure 5-4 shows a schematic of the proposed conduits.

Lake A → B/C Conduit V1-7

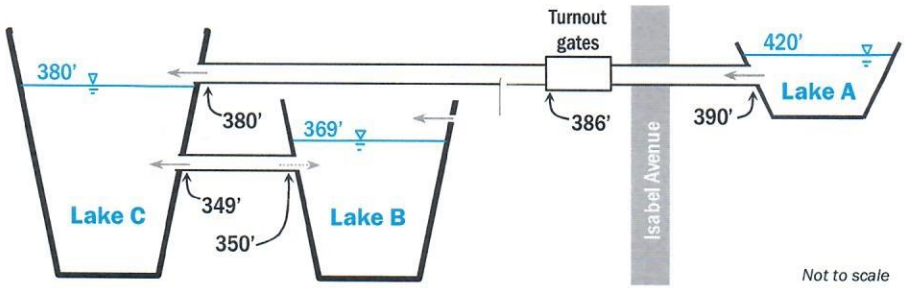


Figure 5-4. Schematic representation of proposed lake conduits and approximate elevations

Invert elevations for proposed conduits labeled in black. Predicted median lake levels shown in blue for Lakes A and B based on a technical memorandum by EMKO (2018). Historical median water level shown in blue for Lake C based on report by Zone 7 (2014).

To meet the objectives of the Specific Plan and requirements of the Zone 7 Agreement, the Lake A to Lake C pipeline will have a conveyance capacity of 500 cfs. The Lake B to Lake C conduit will be a 30-inch-diameter pipe placed at an elevation that allows gravity flow between two lakes.

5.2.1 Lake A to Lake C Pipeline

A pipeline capable of conveying 500 cfs will be constructed under Isabel Avenue from Lake A to Lake C. The pipeline alignment will be approximately 1,580 feet long, including 180 feet through a bore-and-jack crossing under Isabel Avenue. The bore-and-jack section will include an installed casing that conforms to Caltrans standards. Pipe installation east of Isabel Avenue will use cut-and-cover construction. Pipe installation west of the Isabel Avenue right-of-way (ROW) will use shoring and shielding.

Vault 1 will be located at the pipeline's upstream (Lake A) end, which will have two submerged stainless-steel slide gates. One slide gate allows flow to enter the vault from Lake A, and the other allows flow to exit the vault into an 84-inch-diameter conduit. These gates will control the flow and allow pipeline shutdown for inspection and maintenance. These slide gates will require an operating platform that is elevated above the maximum water surface elevation.

Flow exits Vault 1 via a slide gate into an 84-inch-diameter steel reinforced high-density polyethylene (HDPE) pipe material that conveys flow under Isabel Avenue. Downstream (west) of Isabel Avenue flow enters another vault (Vault 2) that diverts flow via slide gates to either Lake B directly or to Lake C through another 84-inch-diameter HDPE conduit. Construction details will conform to Caltrans standards (that are in effect) during final design. Figure 5-5 shows the alignment of the vaults and slide gates.

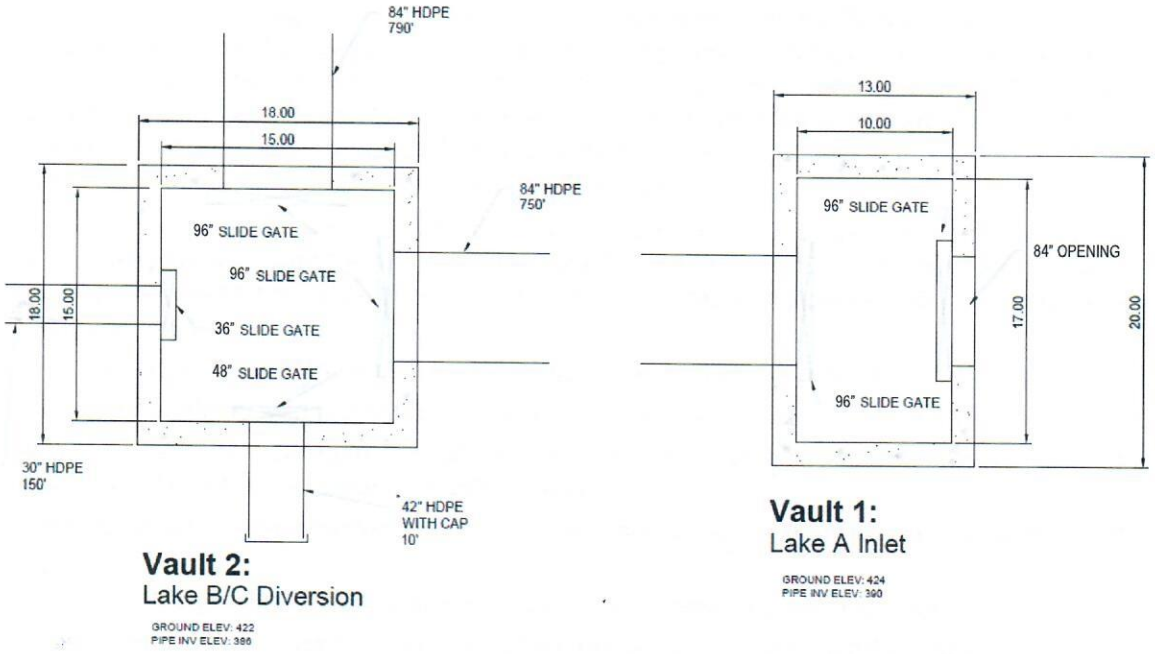


Figure 5-5. Plan views of Vault 1 and Vault 2 for the Lake A–Lake C pipeline

The pipeline will consist of the following major components:

- **Vault 1, Lake A inlet controls:** Vault 1 will be at the pipeline's upstream (Lake A) end, and will have two 96-inch-high by 96-inch-wide submerged stainless-steel slide gates. One slide gate allows flow to enter the vault from Lake A, and the other allows flow to exit the vault into an 84-inch-diameter conduit. The inlet will have an invert elevation at approximately 390 feet msl. This gate is to be completely submerged below the expected minimum surface water elevation of 408.7 feet msl (EMKO 2018). The slide gates in Vault 1 will be installed to control flow and allow for pipeline shutdown for inspection and maintenance. These slide gates will require an operating platform elevated above the maximum water surface elevation of 420 feet msl.
- **Conduit from Vault 1 to Isabel Avenue:** Approximately 640 linear feet of 84-inch-diameter HDPE pipe will be installed from the west bank of Lake A to Isabel Avenue. Pipe installation in this section will use traditional cut-and-cover construction with an average pipe depth of 27 feet.
- **Jack-and-bore section under Isabel Avenue:** Approximately 180 linear feet of the pipeline will be installed under Isabel Avenue and parallel to a Pacific Gas and Electric (PG&E) utility line using jack-and-bore construction. This section will include an 84-inch-diameter HDPE pipe encased in a 108-inch-diameter welded-steel jack-and-bore installed casing, as required by Caltrans.
- **Vault 2, Lake B/C diversion:** Pipe installation west of the Isabel Avenue ROW will use shoring and shielding to continue installation of the 84-inch-diameter HDPE pipe from the jack-and-bore section to Vault 2. Flow enters Vault 2 downstream of Isabel Avenue via a 96-inch wide by 96-inch -high slide gate. Vault 2 serves as a diversion structure to convey flow either to Lake B or Lake C. Flow may be diverted to Lake B via a 36-inch-wide by 36-inch-high slide gate with 30-inch-diameter pipe to the Lake B outfall. Flow may be diverted to Lake C via a 96-inch-wide by 96-inch-high slide gate with 84-inch-diameter HDPE conveyance pipe to the Lake C outfall. An additional 48-inch-wide by 48-inch-high slide gate with stub outlet is also included in Vault 2 for future use by Zone 7.
- **Conduit from Vault 2 to Lake C:** In its final design, approximately 800 linear feet of 84-inch-diameter HDPE pipe will be installed from Vault 2 to the outlet at Lake C, where flow will

discharge onto a riprap apron at Lake C with an outlet elevation of 380 feet msl. This section of pipe will be installed using standard shoring, sheeting, and shielding techniques with an average pipe depth of 27 feet. However, until future Lake C is developed, approximately 550 linear feet of conduit from Vault 2 to CEMEX's property line will be stubbed and capped at both ends. A damage-resistant marker detectable by metal detectors will be placed at the surface of the stub and cap location to demarcate the location of the pipe.

BC performed a hydraulic evaluation of the proposed Lake A to Lake C pipeline to confirm that the system would have sufficient hydraulic head in Lake A to meet the 500 cfs requirement. BC used PC-Storm Water Management Model (SWMM) 5.1 software to simulate pipeline hydraulics assuming the following conditions:

- A conservative roughness value (i.e., Manning's n) of 0.013 is used for all HDPE pipes
- Gates are modeled with discharge coefficients (C_d) of 0.5, 0.6, and 0.7 to capture a likely range[4]
- At Vault 2 velocity reduces to zero, which is a conservative assumption in estimating headloss across the line of conveyance from Lake A to Lake C
- Slide gates for the 84-inch-diameter pipe conveyance are a minimum of 7 feet wide by 7 feet high
- The 36-inch and 48-inch slide gates are closed when conveying water to Lake C
- Water levels in Lake C always below the pipeline outfall (i.e., free discharge conditions)

Groundwater levels in the vicinity of the Project Site tend to fluctuate based on rainfall patterns and groundwater pumping. The actual water level in Lake A will vary depending on climatic conditions and diverting water into and out of the lake. Under normal conditions, Lake A would operate with a water level of approximately 420 feet msl. The water surface elevation in Lake A is anticipated to be above 409 feet msl for most diversion operations (EMKO 2018).

To demonstrate the proposed pipeline is capable of conveying 500 cfs, BC conducted a series of hydraulic modeling simulations using water surface elevations at Lake A varying from 395 feet msl to 420 feet msl, based on the available information regarding potential Lake A water levels. BC also evaluated multiple discharge loss coefficients (C_d) to account for potential variations in minor losses within the system. The results from these simulations indicate that Lake A water levels of roughly 405 feet msl and above will have sufficient capacity to convey water to Lake C at a rate of 500 cfs (Figure 5-6). With Lake A water levels planned for 420 msl, the Lake A to Lake C pipeline will have more than sufficient hydraulic head to convey the desired 500 cfs specified in the Specific Plan and by the Zone 7 Agreement. Concept-level design drawings for the proposed pipeline are provided in Appendix E.

[4] A recent study by Navid Nasehi Oskuyi and Farzin Salmasi (2012) found that C_d values can be calculated using gate opening depth and water elevations on the inlet and outlet side of the gate. Using this methodology, BC found that a range of 0.5 to 0.7 will capture all likely values of C_d for the gates in this pipeline design.

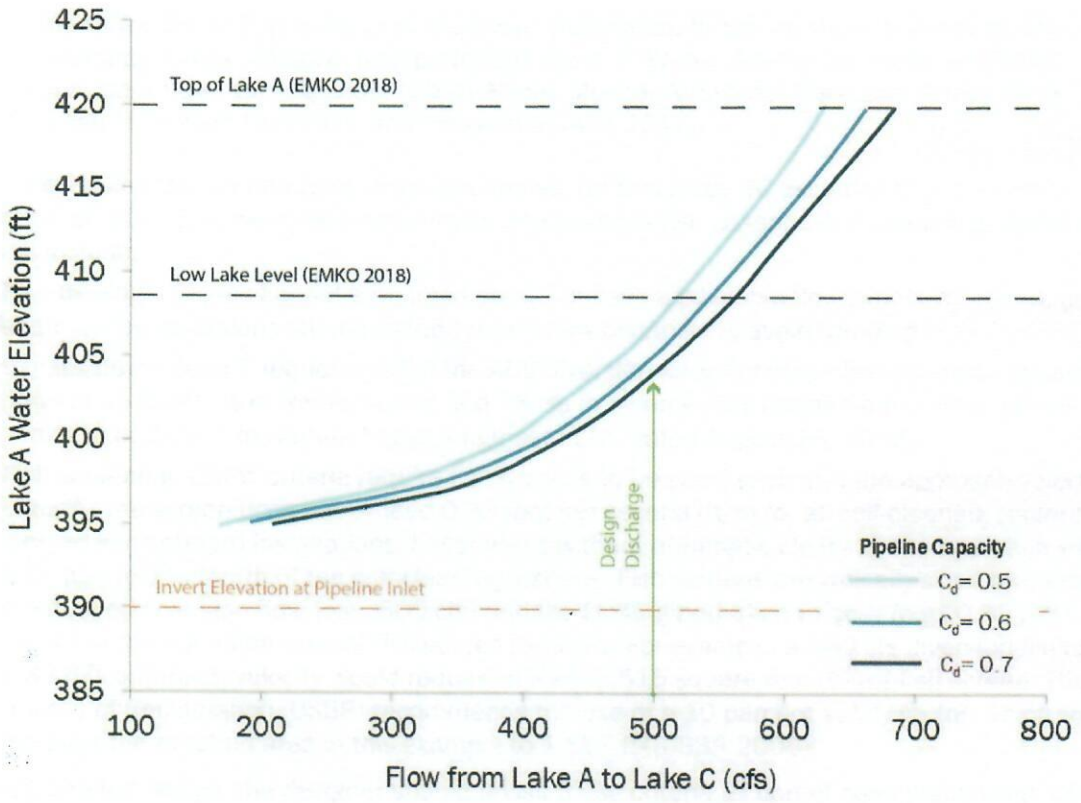


Figure 5-6. Calculated capacities for the proposed pipeline from Lake A–Lake C

After the pipeline is constructed, the 500-cfs design discharge capacity should be verified by desktop analysis using as-built dimensions; field testing will not be possible because water cannot be run through the pipeline until Lake C is excavated. Therefore, BC recommends a similar hydraulic analysis be conducted including confirming the pipeline dimensions, invert elevations, water surface elevations, and assumptions regarding losses.

5.2.2 Lake B and Lake C Conduit

The embankment between Lake B and Lake C is natural and will not be mined or reconstructed. CEMEX will install a 30-inch-diameter pipe in the unmined berm between Lake B and Lake C. The invert elevation for the pipe will be approximately 350 feet msl at Lake B, and approximately 349 feet msl at Lake C, providing a slope of 0.0030 foot vertical per 1 foot horizontal (ft/ft). Appropriate gates or other devices will be installed to control the transfer of water from one lake to another, as required by the Zone 7 Agreement (Zone 7 1988). Flow between the lakes will occur by gravity, based on the head differences between Lake B and Lake C, and mechanical pumping facilities will not be installed. Depending on the head difference between the two lakes, water may flow from Lake B to Lake C or from Lake C to Lake B when the control gates are open.

The conveyance between Lake B and Lake C will be constructed in generally the same location, depth, and manner as that required in the Zone 7 Agreement and shown in the SMP-23 Reclamation Plan (Zone 7 1988; Lone Star Industries, Inc. 1987). However, until future Lake C is constructed, the conduit will require stubbing and capping with backfill over it. A damage-resistant marker detectable by metal detectors will be placed at the surface of the stub and cap location to demarcate the location of the pipe.

Lake B-C Conduit V1-9

- RCP-to-HDPE connections will be designed based on manufacturer recommendations; HDPE has a smaller outside diameter than RCP, so collars will likely be needed at the transitions.

Section 4: Cost Estimate

BC prepared a Class 5 cost estimate in accordance with AACEI criteria. A Class 5 estimate is defined as a conceptual-level or project viability estimate. Class 5 estimates are used to prepare planning-level cost scopes, evaluate project alternatives, and for long range capital outlay planning. Table 1 below summarizes the cost estimate including line items for major design elements. Attachment A provides details for the Class 5 estimate.

Table 1. Summary of Cost Estimate

Design element		Units	Quantity	Cost[a] (dollars)		Assumptions
				Per unit	Total	
Lake A Inlet (slide gate, walkway, and platform) [e]	Footing for slide gate	CY	4	398	1,590	5' wide x 14' long x 18" deep
	Concrete wall of slide gate mount	CY	26	862	22,416	39' high x 12' wide x 18" thick
	Access bridge support	EA	4	15,856	63,424	20' height
	Access bridge	EA	4	17,701	70,804	3.5' wide with a 25' span
	Equipment	LS	1	95,158	95,158	96" sluice gate with 25' operator extension
	Excavation and backfill [b]	LS	1	2,776	2,776	Does not include material import [c]
	Sheet piling	LS	1	15,889	15,889	15' excavation
	Footing for access platform	CY	6	434	2,605	9' high x 9' wide x 2' thick
	Concrete wall for access platform	CY	26	1,109	28,846	35' tall x 20' long x 12" thick
	Elevated slab for access platform	CY	1	2,177	2,177	Cast-in-place concrete
	Miscellaneous metals	LS	1	3,326	3,326	Grating and railing
Conduit from Lake A	Pipeline	LF	575	679	390,569	84-inch-diameter HDPE
	Open cut installation	LF	565	1,436	811,300	Does not include pits
	Sheet piling	LF	0	729	0	Not needed
	Excavation and backfill	LF	565	207	117,170	No material import; 27' average depth
Jack-and-bore section at Isabel Avenue	Bulkheads, ends of jack and bore	EA	2	1,215	2,430	10' x 10' wood sheeting, vapor barrier
	Excavation and backfill, pits	EA	2	7,989	15,977	Pits are each 15' x 30' x 26' deep
	Sheet piling, jack-and-bore pits	EA	2	88,140	176,279	Pits are each 15' x 30' x 26' deep
	Jack and bore casing	LF	177	2,511	444,500	108-inch-diameter welded steel [d]
	Jack and bore carrier	LF	217	510	110,772	84-inch-diameter RCP [e]
	Annular grout	LF	177	302	53,422	Below-density foam concrete
Conduit to Lake C	Pipeline	LF	658	679	446,947	84-inch diameter HDPE
	Open cut installation	LF	648	1,436	930,483	Does not include pits
	Sheet piling [f]	LF	400	729	291,472	Parallel to Isabel Avenue
	Excavation and backfill	LF	648	207	134,382	No material import; 27' average depth

Table 1. Summary of Cost Estimate

Design element		Units	Quantity	Cost[a] (dollars) Per unit	Cost[a] (dollars) Total	Assumptions
Lake C Outlet	Footing	CY	4	398	1,590	5' wide by 14' long x 18" deep
	Concrete wall	CY	5	1,338	6,688	13' high x 12' wide x 18" thick
	Excavation and backfill	LS	1	1,368	1,368	Does not include material import
	Sheet piling	LS	1	15,889	15,889	15' excavation
				Construction Subtotal	4,260,250	
Contractor's mobilization/overhead (10%)					426,025	
				Subtotal	4,686,275	
Contractor's markups (10%)					426,025	
				Subtotal	5,112,299	
Sales tax on construction materials[g] (8.75%)					164,965	
				Subtotal	5,277,265	
Contingency (30%)					1,583,179	
				Subtotal	6,860,444	
Bonding and insurance (3.5%)					240,116	
				Subtotal	7,100,560	
Engineering and administration[h] (20%)					1,420,112	
				Subtotal	8,520,671	
				Total	**8,530,000**	Round up to nearest $10,000

a. *Costs reflect those for a publicly bid project in the San Francisco Bay Area, summer 2015.*

b. *Lakes A and C will be dewatered for construction of the Lake A slide gate structure, the Lake C outfall, and the Lake A platform. Dewatering costs will be the responsibility of CEMEX.*

c. *Pipe zone bedding and all excavation backfill materials will be obtained on site. Material costs for these items, including backfill for jacking pits, are therefore not included in this estimate.*

d. *Steel thickness not determined, assume $2,511 per linear foot installed (material, labor, equipment, mobilization) based on subcontractor bid information.*

e. *Assume Class 3, C-wall RCP, assume a material cost of $258 per linear foot.*

f. *Pipe trenches will be sheeted and shored.*

g. *Sales tax applied only to construction materials, which have a total cost of $1,885,316.*

h. *Design engineering, engineering assistance during construction, construction management, and legal and administrative costs such as Project-Specific CEQA compliance, permitting, and special studies.*

EA = each.

CY = cubic yards.

LF = linear feet.

LS = lump sum

VI-7: Pipeline Lake A to Lakes B and C with structures						
		CEMEX FACE 2019				
					Cost	
Lake A to C pipeline, boring and Vault 1*					$4,280,250	
Vault 2*					$309,000	
48" slide gate (S)					$50,000	
36" slide gate (w)					$40,000	
96" slide gate (N)					$95,200	
Rip Rap at Lake B (30 cy)					$2,250	
Subtotal					$4,776,700	
Sales tax on materials 9%					$186,000	
Subtotal					$4,962,700	
Bonding and insurance 3.5%					$174,000	
Subtotal					$5,136,700	
Engineering 7%					$513,700	
Subtotal					$5,650,400	
2017 - 2019 mark up 8.7%					$491,600	
TOTAL					**$6,142,000**	

These prices are for estimating purposes only and are subject to change without notice.
List prices are subject to substantial discounts based on quantities and location.
Please contact us for firm pricing.

Rubber Joint Concrete Pipe (RJ)						Prices are per Linear Foot
Size	ASTM C-14-3	Reinforced Pipe ASTM C-76				Approx. Weight lbs/foot
		Class II	Class III	Class IV	Class V	
12"			16.00	16.00	18.35	119
15"			20.35	20.50	23.20	157
18"			25.35	26.70	27.70	191
21"			30.50	32.85	34.20	238
24"			37.70	41.00	41.35	306
27"		51.35	52.70	54.70	62.00	444
30"		61.85	63.00	66.20	69.00	514
36"		81.35	85.00	88.20	93.20	654
42"		99.70	103.35	110.70	139.85	811
48"		128.85	135.20	144.35	180.00	1011
54"		160.50	171.00	185.50	231.85	1208
60"		190.20	202.50	224.00	280.00	1473
66"		237.70	263.50	276.20	338.20	1735
72"		306.70	328.70	346.35	401.00	2015

78" and larger - Call for Quotation

Flared End Sections			
12" x 6'	$320.00	42" x 8'	$1095.00
15" x 6'	345.00	48" x 8'	1410.00
18" x 6'	385.00	54" x 8'	1860.00
24" x 6'	460.00	60" x 8'	2250.00
30" x 6'	515.00	72" x 8'	3080.00
36" x 8'	900.00		

w/ freight tax ~ $80/FT

VI-9 Construct 30" Ø conduit Lake B-C

Source: Northern Concrete Pipe, Inc

WAGES

APPENDIX 7

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
Office of the Director – Research Unit
455 Golden Gate Avenue, 9th Floor
San Francisco, CA 94102

Edmund G. Brown Jr., *Governor*

MAILING ADDRESS:
P. O. Box 420603
San Francisco, CA 94142-0603

PREDETERMINED INCREASES FOR

OPERATING ENGINEER (HEAVY & HIGHWAY WORK) (NC-23-63-1-2017-1)

OPERATING ENGINEER (BUILDING CONSTRUCTION) (NC-23-63-1-2017-1A)

PILE DRIVER (OPERATING ENGINEER – HEAVY & HIGHWAY WORK) (NC-23-63-1-2017-1B)

PILE DRIVER (OPERATING ENGINEER – BUILDING CONSTRUCTION) (NC-23-63-1-2017-1B1)

STEEL ERECTOR AND FABRICATOR (OPERATING ENGINEER – HEAVY & HIGHWAY WORK) (NC-23-63-1-2017-1D)

STEEL ERECTOR AND FABRICATOR (OPERATING ENGINEER – BUILDING CONSTRUCTION) (NC-23-63-1-2017-1D1)

TUNNEL/UNDERGROUND (OPERATING ENGINEER – HEAVY AND HIGHWAY WORK) (NC-23-63-1-2017-1C)

ALL LOCALITIES WITHIN ALAMEDA[1], ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, CONTRA COSTA[1], DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIN[1], MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN FRANCISCO[1], SAN JOAQUIN, SAN MATEO[1], SANTA CLARA[1], SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO[1], SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO, AND YUBA COUNTIES

[1] *County not covered by Operating Engineer (Building Construction), Steel Erector and Fabricator (Operating Engineer – Building Construction), and Pile Driver (Operating Engineer – Building Construction).*

This predetermined increase(s) for the above named craft(s) applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after **September 1, 2017**, until the determination(s) is/are superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

OPERATING ENGINEER: All Classifications (Areas 1 and 2), and All Shifts
The above Determinations are currently in effect and expire on June 24, 2018**.

Effective June 25, 2018, there will be an increase of $2.35 to be allocated as follows: $2.10 to the Basic Hourly Rate, $0.10 to Health and Welfare, $0.05 to Vacation/Holiday, and $0.10 to Training.

Effective June 24, 2019, there will be an increase of $2.35 to be allocated to wages and/or fringe benefits.

There will be no further increases applicable to these determinations.

This page will be updated when wage rate breakdown information becomes available.
Last Updated: May 15, 2018

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
Office of the Director – Research Unit
455 Golden Gate Avenue, 9th Floor
San Francisco, CA 94102

Edmund G. Brown Jr., *Governor*

MAILING ADDRESS:
P. O. Box 420603
San Francisco, CA 94142-0603

PREDETERMINED INCREASES FOR

TEAMSTER
(NC-23-261-1-2017-2)

TEAMSTER (SPECIAL SINGLE SHIFT)
(NC-23-261-1-2017-2A)

IN ALAMEDA, ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, CONTRA COSTA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIN, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YUBA COUNTIES

This predetermined increase for the above named craft applies only to the current determination for work being performed on public works projects with bid advertisement dates on or after **September 1, 2017**, until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination which was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

TEAMSTER: (All groups except Group 8)
Determinations NC-23-261-1-2017-2 and NC-23-261-1-2017-2A are currently in effect and expire on June 30, 2018**.

Effective July 1, 2018, the increase of $1.90 is allocated as follows: $0.96 to Basic Hourly Rate, $0.59 to Health and Welfare and $0.35 to Pension.
Effective July 1, 2019, there will be an increase of $1.90 to be allocated to wages and/or fringe benefits.

GROUP 8 (Trainee) receives no predetermined increases.

There will be no further increases applicable to these determinations.

Issued 8/22/2017, Effective 9/1/2017 until superseded.

This page will be updated when wage rate breakdown information becomes available.
Last Updated: 5/17/2018

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
Office of the Director – Research Unit
455 Golden Gate Avenue, 9th Floor
San Francisco, CA 94102

EDMUND G. BROWN JR., *Governor*

MAILING ADDRESS:
P. O. Box 420603
San Francisco, CA 94142-0603

PREDETERMINED INCREASES FOR

LABORER AND RELATED CLASSIFICATIONS *
(Determination NC-23-102-1-2018-1)

LABORER AND RELATED CLASSIFICATIONS (Special Single and Second Shift)
(Determination NC-23-102-1-2018-1A)

IN ALAMEDA, ALPINE, AMADOR, BUTTE, CALAVERAS, COLUSA, CONTRA COSTA, DEL NORTE, EL DORADO, FRESNO, GLENN, HUMBOLDT, KINGS, LAKE, LASSEN, MADERA, MARIN, MARIPOSA, MENDOCINO, MERCED, MODOC, MONTEREY, NAPA, NEVADA, PLACER, PLUMAS, SACRAMENTO, SAN BENITO, SAN FRANCISCO, SAN JOAQUIN, SAN MATEO, SANTA CLARA, SANTA CRUZ, SHASTA, SIERRA, SISKIYOU, SOLANO, SONOMA, STANISLAUS, SUTTER, TEHAMA, TRINITY, TULARE, TUOLUMNE, YOLO AND YUBA COUNTIES

These predetermined increases apply to the above referenced determinations for work being performed on public works projects with bid advertisement dates on or after **March 4, 2018** until this determination is superseded by a new determination or a predetermined increase modification notice becomes effective.

When referencing our prevailing wage determinations, please note that if the prevailing wage rate determination that was in effect on the bid advertisement date of a project has a single asterisk (*) after the expiration date, the rate will be good for the life of the project. However, if a prevailing wage rate determination has double asterisks (**) after the expiration date, the rate must be updated on the following date to reflect the predetermined rate change(s).

LABORERS: All Classifications, and All Shifts

Determinations NC-23-102-1-2018-1 and NC-23-102-1-2018-1A are currently in effect and expire on June 24, 2018**.

Effective June 25, 2018, there will be an increase of $1.65 to be allocated to wages and/or fringes.
Effective July 1, 2019, there will be an increase of $1.90 to be allocated to wages and/or fringes.
Effective June 29, 2020, there will be an increase of $1.95 to be allocated to wages and/or fringes.
Effective June 28, 2021, there will be an increase of $1.95 to be allocated to wages and/or fringes.
Effective June 27, 2022, there will be an increase of $2.00 to be allocated to wages and/or fringes.

There will be no further increases applicable to these determinations.

Issued 2/22/2018, Effective 3/4/2018 until superseded.

This page will updated when wage rate breakdown information becomes available.
Last Updated: March 4, 2018

EQUIPMENT RENTAL

APPENDIX 8

State of California
California State Transportation Agency
Department of Transportation
Division of Construction

Labor Surcharge and Equipment Rental Rates

(Cost of Equipment Ownership)

Effective April 1, 2018 through March 31, 2019

Caltrans

Caltrans Metric

GOMACO **[GOMA]**

Model	Code	Rate
GT-6000-(78&90)	**3040**	$75.43
COMMANDER II	**3045**	$87.23
COMMANDER III	**3050**	$119.48

MILLER FORMLESS **[MILL]**

Model	Code	Rate
M-7500	**3063**	$88.24
M-8100	**3065**	$124.77
M-8800	**3067**	$160.47

ELECTRIC GENERATORS & LIGHT PLANTS [ELGEN]

DELAY FACTOR = 0.15 **OVERTIME FACTOR = 0.86**

Rates are for gas or diesel power and alternating or direct current.

GENERATOR **[GEN]**

Rated in accordance with Mfr's output in kilowatts.

OVER	TO	Code	Rate
0	1	**000-001**	$0.70
1	3	**001-003**	$1.61
3	7.5	**003-008**	$3.34
7.5	15	**008-015**	$7.50
15	25	**015-025**	$11.73
25	50	**025-050**	$12.04
50	100	**050-100**	$21.30
100	200	**100-200**	$42.43
200	300	**200-300**	$71.36
300	400	**300-400**	$97.74
400	500	**400-500**	$122.76

LIGHTS **[LITE]**

Includes trailer, pole and generator.

Model	Code	Rate
2 Light Set	**2 LIGHT**	$3.63
4 Light Set	**4 LIGHT**	$7.61

ELECTRIC POWERED HAND TOOLS [ELTOL]

DELAY FACTOR = 0.61 **OVERTIME FACTOR = 0.41**

Includes electric powered, hand held tools not listed elsewhere in this book. Expendable bits, blades, discs, wheels, etc. shall be paid by separate invoice. Rated in accordance with Mfr's suggested retail price.

TOOLS **[TOOL]**

OVER	TO	Code	Rate
450	600	**045-060**	$0.31
600	800	**060-080**	$0.41
800	1000	**080-100**	$0.52

FORK LIFT TRUCKS [FKLFT]

DELAY FACTOR = 0.25 **OVERTIME FACTOR = 0.76**

Includes attachments and accessories. Listed in accordance with the Mfr's maximum rated capacity in kilograms(pounds).

FORK LIFT TRUCKS **[FLT]**

OVER	TO	Code	Rate
454 (1000)	1814 (4000)	**010-040**	$24.92
1814 (4000)	2722 (6000)	**040-060**	$33.13
2722 (6000)	3629 (8000)	**060-080**	$37.47
3629 (8000)	5443 (12000)	**080-120**	$51.29
5443 (12000)	7258 (16000)	**120-160**	$54.75
7258 (16000)	9072 (20000)	**160-200**	$64.38
9072 (20000)	11340 (25000)	**200-250**	$64.42
11340 (25000)	13608 (30000)	**250-300**	$70.66
13608 (30000)	18144 (40000)	**300-400**	$91.39
18144 (40000)	22680 (50000)	**400-500**	$111.62
22680 (50000)	34020 (75000)	**500-750**	$153.52

GRADERS [GRADR]

DELAY FACTOR = 0.14 **OVERTIME FACTOR = 0.87**

Includes ripper and scarifier attachments and all accessories. Electronic blade control and specialty cutting tools shall be paid separately.

BLADE-MOR **[BMOR]**

Model	Code	Rate
727	**2173**	$20.62
747	**2178**	$30.15

CATERPILLAR **[CAT]**

Model	Code	Rate
120G 87V serial	**2685**	$59.07
130G 74V serial	**2695**	$65.76
12E 99E serial	**2710**	$39.10
12F 73G serial	**2768**	$59.14
12F 13K serial	**2826**	$46.58
12F 89H serial	**2884**	$47.07
12G 61M serial	**2890**	$67.54
12H	**2895**	$73.62
14E 72G serial	**3174**	$61.38
14G	**3180**	$100.75
14H	**3185**	$111.66
140 14U serial	**3250**	$62.42
140G 72V serial	**3260**	$72.69
140H	**3265**	$78.70
143H	**3267**	$88.23
16 49G serial	**3290**	$80.45
16 49G800 serial	**3348**	$117.64
16 G93U serial	**3360**	$140.47
16H	**3380**	$150.38

CAT 14H Grader (Blade)

322L
325
325BL
325L
328D LCR
330BL
330CL
330D L
330L
345BL
350L
375L
205
211
213
215
215B LC
215C
215D
225
225LC
225D LC
227
229
231D
231DLC
235
235B
235 Front Shovel
235B Front Shovel
235C
235DLC
245
245B
245 Front Shovel
245B Front Shovel
E 180
EL 180
EL 200B
E 240
EL 240
E 300
E 300B
EL 300
EL 300B

JOHN DEERE

Model
225D LC
330C LC
450LC

0325	$88.43
0330	$93.05
0335	$102.91
0340	$97.65
0343DR	$123.15
0345	$128.70
0345CL	$140.63
0345DL	$170.49
0350	$122.59
0355	$173.42
0360	$174.66
0365	$280.82
1617	$30.38
1617E	$44.02
1617H	$48.54
1618	$50.21
1619E	$56.03
1619F	$61.77
1619G	$68.72
1620	$71.12
1621	$71.63
1622	$90.14
1623	$74.62
1625	$96.69
1630	$110.80
1635	$112.34
1640	$115.04
1642	$128.10
1645	$124.63
1647	$138.96
1648	$145.49
1649	$151.23
1650	$194.01
1650B	$213.77
1652	$205.55
1652B	$228.89
1653	$59.48
1654	$60.60
1654E	$65.29
1655	$76.73
1656	$78.17
1657	$96.18
1657B	$106.76
1658	$98.05
1658B	$108.78

[DEER]

Code	Rate
1575D	$91.59
1600C	$132.07
1645	$167.54

490
490E
690A
690B
690C
690D
690E LC
790
790D
790E LC
792
890
890A
892D LC
990
992D LC
30
50
70
200LC

DROTT

Model
35D E boom
35D Y boom
40D E boom
40D Y boom
50D

FIAT-ALLIS

Model
FE 18
FE 20 HD
FE 20 LC
FE 28
FE 40 L

GRADALL

Model
G 660
G 660B
G 660C
G 880B
G 880C
G 1000
XL4200
XL5200

HITACHI

Model
UH 07LC
UH 062

1660	$36.35
1660E	$46.86
1685	$48.85
1695	$62.09
1697	$56.94
1697D	$60.00
1697ELC	$70.09
1698	$71.88
1698D	$77.26
1698ELC	$86.00
1699	$85.29
1700	$114.80
1705	$106.11
1708	$98.66
1720	$125.81
1722	$144.28
1725	$17.00
1730	$27.05
1735	$25.23
1745	$78.18

[DROT]

Code	Rate
1835	$50.37
1845	$50.78
1930	$62.53
1965	$67.56
2005	$81.17

[F-A]

Code	Rate
9000	$46.17
9010	$58.56
9020	$54.78
9030	$76.76
9040	$132.93

[GRAD]

Code	Rate
0150	$62.61
0160	$78.63
0170	$79.36
0210	$85.33
0215	$82.34
0230	$132.50
0260	$79.77
0280	$95.85

[HIT]

Code	Rate
2630	$60.20
2660	$62.69

CAT 349 Excavator

322L
325
325BL
325L
328D LCR
330BL
330CL
330D L
330L
345BL
350L
375L
205
211
213
215
215B LC
215C
215D
225
225LC
225D LC
227
229
231D
231DLC
235
235B
235 Front Shovel
235B Front Shovel
235C
235DLC
245
245B
245 Front Shovel
245B Front Shovel
E 180
EL 180
EL 200B
E 240
EL 240
E 300
E 300B
EL 300
EL 300B

JOHN DEERE

Model
225D LC
330C LC
450LC

0325	$88.43
0330	$93.05
0335	$102.91
0340	$97.65
0343DR	$123.15
0345	$128.70
0345CL	$140.63
0345DL	$170.49
0350	$122.59
0355	$173.42
0360	$174.66
0365	$280.82
1617	$30.38
1617E	$44.02
1617H	$48.54
1618	$50.21
1619E	$56.03
1619F	$61.77
1619G	$68.72
1620	$71.12
1621	$71.63
1622	$90.14
1623	$74.62
1625	$96.69
1630	$110.80
1635	$112.34
1640	$115.04
1642	$128.10
1645	$124.63
1647	$138.96
1648	$145.49
1649	$151.23
1650	$194.01
1650B	$213.77
1652	$205.55
1652B	$228.89
1653	$59.48
1654	$60.60
1654E	$65.29
1655	$76.73
1656	$78.17
1657	$96.18
1657B	$106.76
1658	$98.05
1658B	$108.78

[DEER]

Code	Rate
1575D	$91.59
1600C	$132.07
1645	$167.54

490
490E
690A
690B
690C
690D
690E LC
790
790D
790E LC
792
890
890A
892D LC
990
992D LC
30
50
70
200LC

DROTT

Model
35D E boom
35D Y boom
40D E boom
40D Y boom
50D

FIAT-ALLIS

Model
FE 18
FE 20 HD
FE 20 LC
FE 28
FE 40 L

GRADALL

Model
G 660
G 660B
G 660C
G 880B
G 880C
G 1000
XL4200
XL5200

HITACHI

Model
UH 07LC
UH 062

1660	$36.35
1660E	$46.86
1685	$48.85
1695	$62.09
1697	$56.94
1697D	$60.00
1697ELC	$70.09
1698	$71.88
1698D	$77.26
1698ELC	$86.00
1699	$85.29
1700	$114.80
1705	$106.11
1708	$98.66
1720	$125.81
1722	$144.28
1725	$17.00
1730	$27.05
1735	$25.23
1745	$78.18

[DROT]

Code	Rate
1835	$50.37
1845	$50.78
1930	$62.53
1965	$67.56
2005	$81.17

[F-A]

Code	Rate
9000	$46.17
9010	$58.56
9020	$54.78
9030	$76.76
9040	$132.93

[GRAD]

Code	Rate
0150	$62.61
0160	$78.63
0170	$79.36
0210	$85.33
0215	$82.34
0230	$132.50
0260	$79.77
0280	$95.85

[HIT]

Code	Rate
2630	$60.20
2660	$62.69

Gradall XL4200

LOADERS, RUBBER TIRE [LDRRT]

DELAY FACTOR = 0.14 **OVERTIME FACTOR = 0.87**

Includes all attachments and accessories. Clam-action buckets, 4WD and backhoes are excluded unless otherwise noted.

ALLIS-CHALMERS [A-C]

Model	Code	Rate
710C	**0747**	$28.44
714B	**0750**	$27.54
714C w/ backhoe	**0752**	$30.04
715B w/ backhoe	**0765**	$29.45
715C w/ backhoe	**0767**	$30.30

CASE [CASE]

Model	Code	Rate
W-11	**1365**	$27.27
W-11B	**1368**	$33.00
W-18	**1444**	$44.94
W-18 9213140 serial	**1450**	$48.43
W-18B	**1460**	$52.39
W-20	**1472**	$48.55
W-20B	**1480**	$49.32
W-20C	**1482**	$53.18
W-30	**1565**	$72.63
480B	**1636**	$22.04
480B w/ backhoe	**1640**	$23.33
480C	**1650**	$28.64
480C w/ backhoe	**1660**	$30.18
480D	**1662**	$32.30
480D w/ backhoe	**1664**	$34.22
480E w/ backhoe	**1666**	$28.22
480E LL	**1667**	$27.02
480F w/ backhoe	**1668**	$29.51
480F LL	**1669**	$27.76
480LL	**1677**	$32.34
570L XT 4WD	**1690**	$32.16
580B w/ backhoe	**1705**	$29.23
580C	**1710**	$23.57
580C w/ backhoe	**1715**	$25.45
580D	**1717**	$24.90
580D w/ backhoe	**1720**	$27.37
580 Super D	**1725**	$27.19
580 Super D w/ backhoe	**1727**	$29.70
580 Super E	**1731**	$27.80
580 Super E w/ backhoe	**1735**	$30.52
580K w/ backhoe	**1739**	$30.80
580K 4WD w/ backhoe	**1740**	$31.88
580 Super K w/ backhoe	**1742**	$34.00
580L w/ backhoe	**1743**	$34.25
580 Super L 4WD w/ backhoe	**1744**	$39.93
590 Turbo w/ backhoe	**1745**	$41.50
590 Super L 4WD w/ backhoe	**1746**	$43.90
621	**1750**	$56.01
721	**1752**	$68.15
821	**1754**	$83.50
680E w/ backhoe	**1840**	$39.05
680G w/ backhoe	**1850**	$37.75
680H w/ backhoe	**1852**	$40.61
680K w/ backhoe	**1854**	$44.02
680L w/ backhoe	**1856**	$44.74
680L 4WD w/ backhoe	**1857**	$45.54
780 w/ backhoe	**1864**	$49.50
780B w/ backhoe	**1866**	$53.59
780C w/ backhoe	**1867**	$54.65
780D w/ backhoe	**1868**	$55.40
780D 4WD w/ backhoe	**1869**	$56.77

CATERPILLAR [CAT]

Model	Code	Rate
416 w/ backhoe	**1860**	$30.89
416 Series II w/ backhoe	**1860A**	$31.11
416B 4WD w/ extend-a-hoe	**1861A**	$38.57
416C 4WD w/ backhoe	**1861C**	$40.16
416D w/ backhoe	**1861D**	$35.36
416D 4WD w/ backhoe	**1861D4**	$36.45
420D w/ backhoe	**1861M**	$39.56
420D 4WD w/ backhoe	**1861M4**	$40.65
420E	**1861N**	$48.56
426 w/ backhoe	**1862**	$34.92
426 Series II w/ backhoe	**1862A**	$35.15
426C w/ backhoe	**1862C**	$43.99
426C 4WD w/ backhoe	**1862C4**	$45.39
428 w/ backhoe	**1864**	$34.89
428 Series II w/ backhoe	**1864A**	$35.12
430D	**1865D**	$48.51
430E	**1865E**	$51.39
436 w/ backhoe	**1866**	$37.97
436 Series II w/ backhoe	**1866A**	$38.15
446 w/ backhoe	**1868**	$49.64
446B w/ backhoe	**1868B**	$55.18
446D	**1868D**	$57.78
450E	**1869E**	$69.44
910	**1870**	$33.05
910E	**1870E**	$39.06
916	**1885**	$44.25
920	**1894**	$40.25
926	**2065**	$51.33
926E	**2067**	$55.90
928G	**2070G**	$67.66
930 41K serial	**2088**	$49.10
930G	**2088G**	$80.15

Backhoe

936
936E
936F
938F
938G
950 90A serial
950 31K & 81J serial
950B
950E
950F
950F Series II
950G
950H
962G
966C
966D
966E
966F
966G
966H
966K
970F
972G
980B
980C
980F
980G
980H
988 87A6868 serial
988B 50W serial
992B 25K serial
992C
IT 12
IT 12B
IT 14F
IT 18
IT 18B
IT 28
IT 28B
IT 28F
IT 28G
IT 38G
IT 62G

CLARK

Model	Code	Rate
35C	**2100**	$62.52
45C	**2110**	$68.29
55C	**2120**	$70.99
75C	**2130**	$72.79
125B	**2130G**	$82.11
275B	**2228**	$50.90
275C	**2270**	$63.27
	2272	$78.33
	2300	$83.82
	2301	$88.12
	2303	$91.84
	2310	$98.93
	2310H	$115.94
	2320G	$107.92
	2340	$94.52
	2350	$103.11
	2360	$114.34
	2361	$116.94
	2362	$132.58
	2362H	$155.54
	2362K	$159.00
	2370	$138.21
	2372G	$147.56
	2376	$115.72
	2378	$146.21
	2381	$151.05
	2382	$166.82
	2382H	$183.60
	2398	$140.77
	2436	$210.91
	2460	$253.88
	2470	$405.59
	2472	$33.82
	2472B	$39.47
	2473	$45.94
	2474	$43.00
	2475	$48.74
	2476	$51.81
	2477	$56.62
	2477G	$65.85
	2478	$69.06
	2480	$79.43
	2482	$109.20

[CLRK]

JOHN DEERE

Model	Code	Rate
JD-210C	**2484**	$40.74
JD-210C w/ backhoe	**2486**	$47.65
JD-210LE	**2488**	$57.40
JD-310A w/ backhoe	**2491**	$75.36
JD-310B w/ backhoe	**2492**	$95.83
JD-310C w/ backhoe	**2496**	$166.85
JD-310D w/ backhoe	**2497**	$185.56
JD-310E w/ backhoe		
JD-310SE w/ backhoe		
310G		
JD-315SE w/ backhoe		
JD-410 w/ backhoe		
JD-410B w/ backhoe		
JD-410C w/ backhoe		
JD-410D w/ backhoe		
JD-410E w/ backhoe		
410G		
410J 4WD		
410K		
JD-444		
JD-444C		
JD-444D		
JD-444E		
JD-500C w/ backhoe		
JD-510 w/ backhoe		
JD-510B w/ backhoe		
JD-510C w/ backhoe		
JD-510D w/ backhoe		
JD-544B		
JD-544C		
JD-544D		
JD-544E		
JD-544G		
544J		
544K		
JD-610B w/ backhoe		
JD-610C w/ backhoe		
JD-624E		
JD-624G		
JD-624H		
JD-644B		
JD-644C		
JD-644D		
JD-644E		
JD-644G		
JD-644H		

[DEER]

Code	Rate
2485	$25.43
2490	$25.77
2495	$33.73
2504	$26.99
2506	$27.68
2507	$30.38
2507D	$34.54
2507E	$35.41
2507F	$39.60
2507G	$36.32
2507H	$40.24
2508	$29.65
2508B	$30.35
2508C	$35.42
2508D	$42.59
2508E	$44.64
2508G	$45.61
2508J	$53.46
2508K	$56.56
2510	$39.16
2515	$41.17
2520	$42.18
2521	$46.08
2592	$38.54
2620	$35.11
2625	$34.59
2630	$40.53
2630D	$48.56
2660B	$48.58
2660C	$50.21
2660D	$49.11
2660E	$54.44
2660G	$60.71
2660J	$80.22
2660K	$89.52
2690	$39.55
2691	$44.68
2700	$65.46
2700G	$74.92
2700H	$81.91
2710	$67.18
2715	$70.12
2717	$71.92
2719	$78.58
2719B	$90.54
2719H	$97.22

CAT 966H loader

CATERPILLAR

Model

D-3
D-3B
D-3 LGP
D-3B LGP
D-3B SA
D-3C
D4C Series III
D-4D
D-4E direct drive
D-4E power shift
D-4H
D-4H LGP
D-4H Series II
D-4E SA
D-4E LGP power shift
D-4E LGP direct drive
D-4G XL
D-5
D-5B power shift
D-5B SA
D-5B LGP
D-5C
D-5H
D-5H Series II
D-5H LGP
D-6C direct drive
D-6C power shift
D-6C LGP
D-6D
D-6D SA
D-6D LGP
D-6H
D-6H Series II
D-6H LGP
D-6M LGP
D-6N XL
D-6R DS
D-6R XL
D-7G
D-7G LGP
D-7G SA
D-7H
D-7H Series II
D-7H LGP
D-8K
D-8L
D-8L SA
D-8N
D-8R
D-9H
D-9L
D-9N
D-9R
D-10
D-10N
D-10R
D-11N

[CAT]

Code	Rate
2340	$24.96
2345	$28.01
2350	$25.58
2355	$29.22
2370	$30.99
2380	$29.94
2450	$38.87
2655	$30.07
2660	$32.05
2665	$33.30
2670	$41.97
2675	$42.37
2680	$43.15
2772	$38.07
2780	$33.49
2782	$33.49
2790XL	$39.74
3194	$43.55
3206	$46.74
3325	$50.33
3345	$49.33
3346	$41.97
3347	$56.41
3348	$60.27
3350	$59.34
3645	$56.05
3688	$56.67
3710	$59.10
3720	$67.08
3725	$74.49
3730	$67.51
3732	$75.66
3733	$80.13
3735	$80.07
3745	$75.85
3755	$78.27
3800	$85.95
3815	$90.08
4180	$102.18
4200	$98.10
4210	$104.65
4215	$104.65
4216	$113.79
4220	$110.91
4858	$131.82
4862	$161.10
4863	$170.30
4864	$146.27
4870	$161.84
5160	$174.39
5165	$212.07
5170	$183.99
5175	$217.85
5220	$325.73
5225	$267.76
5227	$300.03
5230	$421.49

JOHN DEERE

Model

JD 350C
JD 350D
JD 400G
JD 450C
JD 450D
JD 450E
JD 450G
JD 450J LT/LGP
JD 550
JD 550A
JD 550B
JD 550G
JD 650G
JD 650H LGP
JD 750
JD 750B
JD 750 LGP
JD 750B LGP
JD 850
JD 850B
JD 850 LGP
JD 850B LGP

DRESSER

Model

TD 7E
TD 7G
TD 8E
TD 8G
TD 12
TD 12 LGP
TD 15C
TD 15E
TD 15C LGP
TD 20E
TD 20G
TD 20G LGP
TD 25E
TD 25G

[DEER]

Code	Rate
5360	$27.16
5365	$30.27
5405	$26.37
5474	$28.04
5476	$29.17
5478	$29.40
5479	$32.48
5479J	$40.67
5480	$31.80
5481	$34.46
5483	$33.24
5484	$38.04
5484A	$42.53
5484H	$46.32
5485	$50.01
5486	$54.93
5487	$52.87
5488	$67.36
5490	$65.29
5491	$75.45
5492	$69.90
5495	$82.43

[DRES]

Code	Rate
9100	$29.03
9102	$32.49
9105	$35.53
9107	$38.60
9110	$51.37
9115	$58.73
9120	$73.94
9122	$89.46
9125	$71.14
9130	$96.85
9135	$120.67
9137	$128.09
9139	$136.84
9140	$175.83

CAT D8 dozer
CAT D9 dozer

ROLLERS, RUBBER TIRE, SELF PROPELLED [ROLRT]

DELAY FACTOR = 0.19 **OVERTIME FACTOR = 0.83**

Includes all attachments and accessories.

BUFFALO-BOMAG [B-B]

Model	Code	Rate
BW 20R	**2624**	$32.31

CATERPILLAR [CAT]

Model	Code	Rate
PS 110	**3460**	$35.69
PS 130	**3465**	$35.10
PS 180	**3470**	$37.31
PS 200B	**3480**	$46.84

DYNAPAC [DYPC]

Model	Code	Rate
CP 15	**3500**	$34.11
CP 21	**3510**	$43.47
CP 27	**3520**	$55.47

GALION [GALN]

Model	Code	Rate
3500	**4310**	$33.16
P 3000	**4315**	$31.51
P 3500A	**4320**	$34.33

HYSTER [HYST]

Model	Code	Rate
C 530A	**5401**	$34.62
C 550A	**5494**	$38.34

ROLLER-TAMPING, SEGMENTED, SHEEPSFOOT, SELF PROPELLED [ROTAM]

DELAY FACTOR = 0.12 **OVERTIME FACTOR = 0.90**

Includes all attachments and accessories.

BUFFALO-BOMAG [B-B]

Model	Code	Rate
K 300	**1630**	$64.38
K 301	**1635**	$74.46
K 401	**1638**	$90.55

CATERPILLAR [CAT]

Model	Code	Rate
815	**2300**	$78.36
815B	**2310**	$120.08
815F	**2320**	$131.67
825B	**2500**	$130.08
825C	**2510**	$177.96
835	**2700**	$163.56

RAYGO [RAGO]

Model	Code	Rate
30	**6490**	$63.70
45	**6500**	$97.58
RAM PAK 45	**6505**	$105.33

REXNORD [RXND]

Model	Code	Rate
3-30	**7120**	$77.27
3-35 PACTOR	**7127**	$98.84
3-45 PACTOR	**7130**	$124.65
3-50, 3-50A PACTOR	**7140**	$134.61
3-55, 3-55B PACTOR	**7150**	$168.67

ROLLERS-TAMPING, SEGMENTED, SHEEPSFOOT, TOWED [ROTAT]

DELAY FACTOR = 0.44 **OVERTIME FACTOR = 0.61**

Includes all attachments and accessories. Listed by drum dimensions in millimeters (feet) in either direction. The first digit is the diameter and the second digit is the length of each drum.

SINGLE DRUM UNIT [ADRU]

Model	Code	Rate
1220 mm x1220 mm (4'X4') & under	**4X4**	$1.88
over 1220 mm (4') - not over 1520 mm (5')	**4X5**	$2.13
over 1520 mm (5')	**5**	$3.86

DOUBLE DRUM UNIT [DDRU]

Model	Code	Rate
1220 mm x1220 mm (4'X4') & under, each	**4X4**	$4.54
over 1220 mm (4') - not over 1520 mm (5'), each	**4X5**	$13.75
over 1520 mm (5'), each	**5**	$25.33

ROLLERS, VIBRATORY, SELF PROPELLED [ROVIB]

DELAY FACTOR = 0.20 **OVERTIME FACTOR = 0.82**

Includes all attachments and accessories.

BUFFALO-BOMAG [B-B]

Model	Code	Rate
BW 210	**2060**	$50.50
BW 210A	**2070**	$52.50
BW 213	**2080**	$51.60
BW 214	**2090**	$53.34

BOMAG [BMAG]

Model	Code	Rate
BW 35	**0700**	$5.99
BW 60, 60S	**0800**	$8.87
BW 65, 65S	**0900**	$6.27
BW 75, 75S	**1000**	$9.91
BW 85T	**1200**	$17.73
BW 90	**1300**	$11.27

Sheepsfoot Compactor

SCRAPERS, SELF PROPELLED [SCRSP]

DELAY FACTOR = 0.16 **OVERTIME FACTOR = 0.85**

Includes all attachments and accessories.

CATERPILLAR [CAT]

Model	Code	Rate
613	**1395**	$54.17
613B	**1400**	$62.45
613C	**1402**	$79.40
615	**1415**	$108.68
615C	**1416**	$119.53
621B cushion hitch	**1680**	$137.07
623B	**1700**	$142.33
623E	**1702**	$171.26
623F	**1703**	$181.04
627B push pull	**1770**	$180.38
627E non push-pull	**1772**	$195.60
627E push-pull	**1773**	$200.20
631C 67M5012 serial	**2170**	$152.92
631D	**2180**	$195.35
631E	**2185**	$218.43
633C non cushion hitch	**2305**	$147.78
633C cushion hitch	**2315**	$147.60
633C 66M693 serial	**2320**	$158.19
633D	**2330**	$204.96
637 cushion, non-push-pull	**2375**	$223.06
637 non-cushion, push-pull	**2410**	$225.24
637D non push-pull	**2460**	$280.10
637D push-pull	**2470**	$283.93
639D	**2475**	$293.36
637E	**2476**	$312.32
637E push-pull	**2477**	$317.56
641B non cushion hitch	**2620**	$187.40
641B cushion hitch	**2655**	$229.51
651B non cushion hitch	**2935**	$235.00
651B cushion hitch	**2970**	$237.38
651E	**2975**	$304.87
657B non cushion, non p-p	**3360**	$364.93
657B cushion, push-pull	**3370**	$371.21
657E non push-pull	**3375**	$446.95
657E push-pull	**3380**	$465.30
660B	**3470**	$214.11
666B	**3600**	$334.35

JOHN DEERE [DEER]

Model	Code	Rate
JD 760A	**3845**	$53.58
JD 762	**3860**	$67.52
JD 762A	**3865**	$71.60
JD 762B	**3866**	$86.22
JD 860A	**3920**	$79.52
JD 860B	**3930**	$83.65
JD 862	**3940**	$100.78
JD 862B	**3942**	$126.91

INTERNATIONAL [INTL]

Model	Code	Rate
412B	**5631**	$69.11
431B	**5637**	$134.92
433B	**5643**	$193.55

TEREX [TERX]

Model	Code	Rate
S 11EB	**8245**	$54.41
S 23E 33TOT-H-93SH, elev	**8250**	$130.96
S 24 49LOT-76SH serial	**8260**	$164.88
S 24B 023-024 serial	**8270**	$203.66
S 24C	**8275**	$224.67

WABCO [WAB]

Model	Code	Rate
101F	**8570**	$61.26
101G	**8575**	$63.73
111A	**8640**	$59.16
222G	**8700**	$116.46
222H	**8704**	$133.36

TRACTORS, CRAWLER [TRACC]

DELAY FACTOR = 0.18 **OVERTIME FACTOR = 0.84**

Includes all attachments and accessories such as dozer blade and power control blocks when needed, but does not include backhoe, winch or ripper units listed elsewhere in this schedule.

CASE [CASE]

Model	Code	Rate
350	**1820**	$24.19
350B	**1825**	$26.20
450	**1868**	$21.51
450B	**1869**	$25.05
450C	**1869E**	$27.89
475	**1870**	$36.07
550	**2000**	$29.06
650	**2100**	$34.22
850	**2128**	$28.68
850B	**2130**	$31.36
850C	**2135**	$34.80
850D	**2140**	$36.83
1150B	**2250**	$43.32
1150C	**2255**	$48.73
1150D	**2257**	$50.00
1150E	**2258**	$51.90

Scraper

CATERPILLAR **[CAT]**

Model	Code	Rate
D-3	**2340**	$24.96
D-3B	**2345**	$28.01
D-3 LGP	**2350**	$25.58
D-3B LGP	**2355**	$29.22
D-3B SA	**2370**	$30.99
D-3C	**2380**	$29.94
D4C Series III	**2450**	$38.87
D-4D	**2655**	$30.07
D-4E direct drive	**2660**	$32.05
D-4E power shift	**2665**	$33.30
D-4H	**2670**	$41.97
D-4H LGP	**2675**	$42.37
D-4H Series II	**2680**	$43.15
D-4E SA	**2772**	$38.07
D-4E LGP power shift	**2780**	$33.49
D-4E LGP direct drive	**2782**	$33.49
D-4G XL	**2790XL**	$39.74
D-5	**3194**	$43.55
D-5B power shift	**3206**	$46.74
D-5B SA	**3325**	$50.33
D-5B LGP	**3345**	$49.33
D-5C	**3346**	$41.97
D-5H	**3347**	$56.41
D-5H Series II	**3348**	$60.27
D-5H LGP	**3350**	$59.34
D-6C direct drive	**3645**	$56.05
D-6C power shift	**3688**	$56.67
D-6C LGP	**3710**	$59.10
D-6D	**3720**	$67.08
D-6D SA	**3725**	$74.49
D-6D LGP	**3730**	$67.51
D-6H	**3732**	$75.66
D-6H Series II	**3733**	$80.13
D-6H LGP	**3735**	$80.07
D-6M LGP	**3745**	$75.85
D-6N XL	**3755**	$78.27
D-6R DS	**3800**	$85.95
D-6R XL	**3815**	$90.08
D-7G	**4180**	$102.18
D-7G LGP	**4200**	$98.10
D-7G SA	**4210**	$104.65
D-7H	**4215**	$104.65
D-7H Series II	**4216**	$113.79
D-7H LGP	**4220**	$110.91
D-8K	**4858**	$131.82
D-8L	**4862**	$161.10
D-8L SA	**4863**	$170.30
D-8N	**4864**	$146.27
D-8R	**4870**	$161.84
D-9H	**5160**	$174.39
D-9L	**5165**	$212.07
D-9N	**5170**	$183.99
D-9R	**5175**	$217.85
D-10	**5220**	$325.73
D-10N	**5225**	$267.76
D-10R	**5227**	$300.03
D-11N	**5230**	$421.49

JOHN DEERE **[DEER]**

Model	Code	Rate
JD 350C	**5360**	$27.16
JD 350D	**5365**	$30.27
JD 400G	**5405**	$26.37
JD 450C	**5474**	$28.04
JD 450D	**5476**	$29.17
JD 450E	**5478**	$29.40
JD 450G	**5479**	$32.48
JD 450J LT/LGP	**5479J**	$40.67
JD 550	**5480**	$31.80
JD 550A	**5481**	$34.46
JD 550B	**5483**	$33.24
JD 550G	**5484**	$38.04
JD 650G	**5484A**	$42.53
JD 650H LGP	**5484H**	$46.32
JD 750	**5485**	$50.01
JD 750B	**5486**	$54.93
JD 750 LGP	**5487**	$52.87
JD 750B LGP	**5488**	$67.36
JD 850	**5490**	$65.29
JD 850B	**5491**	$75.45
JD 850 LGP	**5492**	$69.90
JD 850B LGP	**5495**	$82.43

DRESSER **[DRES]**

Model	Code	Rate
TD 7E	**9100**	$29.03
TD 7G	**9102**	$32.49
TD 8E	**9105**	$35.53
TD 8G	**9107**	$38.60
TD 12	**9110**	$51.37
TD 12 LGP	**9115**	$58.73
TD 15C	**9120**	$73.94
TD 15E	**9122**	$89.46
TD 15C LGP	**9125**	$71.14
TD 20E	**9130**	$96.85
TD 20G	**9135**	$120.67
TD 20G LGP	**9137**	$128.09
TD 25E	**9139**	$136.84
TD 25G	**9140**	$175.83

D9

VERMEER **[VERM]**

Model	Code	Rate
CC-135	**8350**	$76.79
M 220	**8380**	$13.45
M 455 / M455A	**8480**	$33.59
M 475	**8570**	$35.83
M 475A	**8571**	$40.04
M 485	**8580**	$39.96
M 495	**8585**	$63.17
T 300B, T 300A	**8718**	$21.15
T 400C, T 400B, T 400A	**8781**	$48.35
T 600D, C, B, A	**8842**	$70.08
T 650	**8843**	$119.45
T 800B, T 800A, T800	**8870**	$112.84
T 800C	**8871**	$122.87
T 850	**8875**	$219.35
V 430	**8950**	$24.31
V 430A	**8951**	$27.46
V 434 / M 434	**9000**	$23.42
V 440	**9015**	$26.49
V 450	**9017**	$32.10
V 454	**9020**	$27.41
V 1550	**9025**	$12.67

TRUCK, TRUCK TRAILERS, EXCL. DUMP TRUCKS & EQPT TRAIL [TRUCK]

DELAY FACTOR = 0.15 **OVERTIME FACTOR = 0.87**

Includes all attachments and accessories related to hauling, with and without trailers as needed. Includes water trucks, freight trucks and passenger vehicles, including 4wd option. Listed by Mfr's Gross Vehicle Weight in Kilograms(pounds). For tractor-trailer units, the gross vehicle weight of the cargo carrying unit or units will control. In the case of water trucks, the tank capacity expressed in kilograms (pounds) of water plus 20%, will determine the gross vehicle weight. For attachment allowance, see attachment class.

TRUCKS **[T&TT]**

OVER	TO	Code	Rate
CARS , LIGHT TRUCKS		**00-06**	$22.02
3175 (7000)	5443 (12000) No small pickups	**06-12**	$24.98
5443 (12000)	9072 (20000)	**12-20**	$32.48
9072 (20000)	12701(28000)	**20-28**	$34.49
12701 (28000)	16330 (36000)	**28-36**	$39.96
16330 (36000)	21773 (48000)	**36-48**	$53.72
21773 (48000)	27216 (60000)	**48-60**	$58.85
27216(60000) & Over		**60**	$66.25

TRUCKS, OFF-HIGHWAY [TRUOF]

DELAY FACTOR = 0.25 **OVERTIME FACTOR = 0.77**

Includes all attachments and accessories. Includes end dump, belly dump and earthmover types. Listed in accordance with Mfr's rated capacity in tonnes (tons). In the case of earthmover types, rated by Mfr's volumetric capacity, a factor of 1.4 tonnes per cubic meter (1-1/2 tons per cubic yard) of struck capacity shall be used.

TRUCK OFF-HIGHWAY **[TRU]**

OVER	TO	Code	Rate
9.1 (10)	13.6 (15)	**10-15**	$41.91
16.3 (18)	20.0 (22)	**18-22**	$75.57
20.0 (22)	24.5 (27)	**22-27**	$94.03
24.5 (27)	29.0 (32)	**27-32**	$107.75
29.0 (32)	36.3 (40)	**32-40**	$145.53
36.3 (40)	49.9 (55)	**40-55**	$213.61
49.9 (55)	60.8 (67)	**55-67**	$240.36

TRUCKS, DUMP, ON-HIGHWAY [TRUON]

DELAY FACTOR = 0.21 **OVERTIME FACTOR = 0.81**

Includes all end dump, side dump and belly dump types; including all attachments and accessories.

TRUCK ON-HIGHWAY **[TRUN]**

Model	Code	Rate
2 axles	**2AXL**	$45.02
3 axles	**3AXL**	$60.45
4 axles	**4AXL**	$69.24
5 axles	**5AXL**	$76.23

WELDING EQUIPMENT [WELD]

DELAY FACTOR = 0.21 **OVERTIME FACTOR = 0.81**

ARC WELDING MACHINES **[AWM]**

Diesel, gas or electric powered. Includes helmets, holders, cable and all attachments and accessories. Rate capacity in amps.

OVER	TO	Code	Rate
0	250	**0-250**	$4.95
250	500	**250-500**	$9.49
over	500	**500**	$10.08

GAS WELDING OUTFIT **[GWO]**

Includes regulator, 7.6 meters (25 feet) of hose, torch, goggles, lighter and attachments and accessories. Gas and rod shall be paid separately.

Model	Code	Rate
ALL	**ALL**	$0.28

Pick up Truck
Water Truck
CAT 745 off-highway haul

ENR-CONSTRUCTION COST INDEX-SF

APPENDIX 9

ENR
Engineering News-Record

City Cost Index - San Francisco - As of February 2019

The building and construction cost indexes for ENR's individual cities use the same components and weighting as those for the 20-city national indexes. The city indexes use local prices for portland cement and 2 X 4 lumber and the national average price for structural steel. The city's BCI uses local union wages, plus fringes, for carpenters, bricklayers and iron workers. The city's CCI uses the same union wages for laborers.

To find more recent cost index data, go to this webpage (link below) and click on the link for the year you need, and then navigate to the week you need. Keep in mind that the city cost index figures are always published in the second weekly issue of the month.

http://www.enr.com/economics/current_costs

Go back to view all City Indexes.

ENR COST INDEXES IN SAN FRANCISCO (1978-2019)

YEAR	MONTH	BCI	%CHG	CCI	%CHG
2019	Feb	7038.07	+1.7	12131.37	+1.0
2019	Jan	7021.57	+1.4	12114.87	+0.8
2018	Dec	7022.07	+1.5	12115.37	+0.8
2018	Nov	7016.57	+1.4	12109.87	+0.8
2018	Oct	7014.08	+1.3	12107.38	+0.8

YEAR	MONTH	BCI	%CHG	CCI	%CHG
2018	Sept	7010.58	+0.9	12103.88	+0.6
2018	Aug	6981.42	+0.5	12074.72	+0.3
2018	July	6966.67	+2.5	12050.97	+2.8
2018	June	6921.42	+1.9	12014.72	+2.5
2018	May	6921.42	+2.4	12014.72	+2.8
2018	Apr	6921.42	+2.3	12014.72	+2.7
2018	Mar	6921.42	+3.6	12014.72	+3.5
2018	Feb	6921.42	+3.6	12014.72	+3.5
2018	Jan	6921.42	+3.6	12014.72	+3.5
2017	Dec	6921.42	+3.6	12014.72	+3.5
2017	Nov	6921.42	+4.1	12014.72	+3.8
2017	Oct	6921.42	+4.1	12014.72	+3.8
2017	Sept	6945.92	+4.5	12037.27	+4.0
2017	Aug	6943.98	+4.8	12037.27	+4.2
2017	Jul	6796.47	2.6	11725.52	1.5
2017	Jun	6793.10	+2.6	11722.15	+1.5
2017	May	6761.99	+2.1	11691.03	+1.2
2017	Apr	6767.41	+2.1	11696.47	+1.2
2017	Mar	6680.37	+0.8	11609.44	+0.5
2017	Feb	6680.37	+4.2	11609.44	+3.9
2017	Jan	6680.37	+4.6	11609.44	+4.1
2016	Dec	6680.37	+4.6	11609.44	+4.1
2016	Nov	6650.28	+4.2	11579.33	+3.8
2016	Oct	6649.28	+4.0	11578.33	+3.8
2016	Sep	6647.28	+3.9	11576.33	+3.7

YEAR	MONTH	BCI	%CHG	CCI	%CHG
2015	Dec	6389.49	+2.30	11155.41	+2.20
2015	Nov	6390.46	+2.20	11154.06	+2.10
2015	Oct	6390.80	+2.40	11169.31	+2.40
2015	Sep	6395.22	+2.60	11158.82	+2.40
2015	Aug	6391.47	+2.60	11155.07	+2.40
2015	Jul	6391.47	0.00	11155.07	0.00
2015	Jun	6391.47	−0.22	11155.07	−0.13
2015	May	6405.72	0.00	11169.32	0.00
2015	Apr	6398.97	+2.8	11162.57	+2.5
2015	Mar	6405.72	+2.9	11169.32	+2.6
2015	Feb	6414.1	3	11177.7	2.6
2015	Jan	6409.56	2.9	11173.16	2.5
2014	Dec	6248.05	3.1	10915.84	5
2014	Nov	6252.05	3.1	10919.84	5
2014	Oct	6240.05	3.1	10907.84	5
2014	Sep	6230.55	3	10898.34	4.9
2014	Aug	6229.80	3.0	10897.59	4.9
2014	Jul	6229.80	3.0	10897.59	4.9
2014	Jun	6231.80	3.1	10899.59	4.9
2014	May	6228.05	3.1	10895.84	4.9
2014	Apr	6227.05	3.3	10894.84	5.0
2014	Mar	6224.05	3.3	10891.84	5.1
2014	Feb	6226.80	3.3	10894.59	5.1
2014	Jan	6228.55	3.5	10896.34	5.2
2013	Dec	6231.05	3.6	10898.84	5.3

City Cost Index - San Francisco - As of June 2018

YEAR	MONTH	BCI	%CHG	CCI	%CHG
2013	Nov	6233.30	3.5	10901.09	5.2
2013	Oct	6241.30	3.6	10909.09	5.2
2013	Sep	6047.27	0.4	10389.59	0.2
2013	Aug	6046.02	0.4	10388.34	0.2
2013	Jul	6048.77	0.2	10391.09	0.1
2013	Jun	6046.52	0.1	10388.84	0.0
2013	May	6040.77	−0.1	10383.09	0.0
2013	Apr	6031.02	0.0	10373.34	0.0
2013	Mar	6025.77	0.0	10368.09	0.0
2013	Feb	6026.77	1.3	10369.09	1.6
2013	Jan	6018.52	1.1	10360.84	1.5
2012	Dec	6012.77	1.1	10355.09	1.5
2012	Nov	6024.02	1.3	10366.34	1.6
2012	Oct	6025.02	1.4	10367.34	1.7
2012	Sep	6022.02	1.4	10364.34	1.7
2012	Aug	6024.21	1.5	10366.54	1.7
2012	Jul	6039.21	2.0	10381.54	2.0
2012	Jun	6043.21	2.2	10385.54	2.2
2012	May	6043.71	2.3	10386.04	2.2
2012	May	6043.71	2.3	10386.04	2.2
2012	Apr	6028.96	2.1	10371.29	2.1
2012	Mar	6027.21	2.2	10369.54	2.2
2012	Feb	5952.27	1.0	10207.79	0.6
2012	Feb	5952.27	1.0	10207.79	0.6
2012	Jan	5952.27	1.6	10207.79	0.9

YEAR	MONTH	BCI	%CHG	CCI	%CHG
2011	Dec	5949.27	1.4	10204.79	0.8
2011	Nov	5948.77	1.4	10204.29	0.8
2011	Oct	5943.77	1.4	10199.29	0.8
2011	Sep	5937.27	6.4	10192.79	3.1
2011	Aug	5936.02	6.0	10191.54	2.8
2011	Jul	5923.27	5.8	10178.79	2.7
2011	Jun	5911.77	5.7	10167.29	2.7
2011	May	5906.02	5.9	10161.54	2.8
2011	Apr	5905.02	7.9	10160.54	4.4
2011	Mar	5895.52	7.8	10151.04	4.4
2011	Feb	5892.52	7.9	10148.04	4.4
2011	Jan	5860.77	7.3	10116.29	4.1
2010	Dec	5864.77	7.3	10120.29	4.1
2010	Nov	5868.02	7.5	10123.54	4.2
2010	Oct	5859.52	7.3	10115.04	4.1
2010	Sep	5579.61	2.1	9888.54	1.7
2010	Aug	5600.74	2.5	9909.67	1.9
2010	Jul	5600.24	2.5	9909.17	1.9
2010	Jun	5593.74	2.1	9902.67	1.7
2010	May	5576.99	1.6	9885.92	1.4
2010	Apr	5471.56	-0.5	9730.17	-0.3
2010	Mar	5469.56	-0.5	9728.17	-0.3
2010	Feb	5463.56	-0.6	9722.17	-0.3
2010	Jan	5461.81	-0.9	9720.42	-0.5
2009	Dec	5463.56	-1.1	9722.17	-0.6

SURETY BOND

APPENDIX 9

DEPARTMENT OF CONSERVATION
OFFICE OF MINE RECLAMATION

and the

COUNTY/CITY OF ALAMEDA

RECLAMATION PERFORMANCE BOND INCREASE/DECREASE RIDER

To be attached to and form a part of Surety Company Bond No. SU04496, written by Aspen American Insurance Company as SURETY, on behalf of RMC Pacific Materials, LLC as PRINCIPAL, in the penal sum of Nine Million Five Hundred Seventeen Thousand Four Hundred Fifty Four & 00/100---------- DOLLARS ($ 9,517,454.00), in favor of the County/City of ALAMEDA and, in the alternative, the Department of Conservation, Office of Mine Reclamation, and, in the alternative, the N/A (Third Party Public Agency) and executed on 1/22/2013.

Whereas, the County/City of ALAMEDA issued approval of a surface mining and reclamation project, Permit No. SMP-23, dated on _____, and renewals and revisions numbered and dated _____ pursuant to the application of the Principal,

OR

Whereas, either the County/City of _____ or, in the alternative, the State Mining and Geology Board approved reclamation plan No. _____, dated on _____, and renewals and revisions numbered and dated _____ pursuant to the application of the Principal;

and

Whereas, said bond and rider shall cover any and all land affected or to be affected by the mining operation under the above mentioned permit and reclamation plan or the reclamation plan, and revisions and renewals since the date of the issuance of the permit and reclamation plan or the reclamation plan,

Now, therefore, the amount of this bond is increased/decreased by Three Hundred Eighty Thousand Eight Hundred Sixty Three & 00/100---------- by Dollars ($ 380,863.00----------), to a total penal sum of Nine Million Eight Hundred Ninety Eight Thousand Three Hundred Seventeen & 00/100---------- Dollars ($ 9,898,317.00), to cover the additional/reduced cost of reclaiming all affected lands for the payment of which sum we hereby jointly and severally bind ourselves, our successors and assigns. It is further understood and agreed that all other terms and conditions of this bond shall remain unchanged.

Permit No. SMP-23
Bond No. SU04496

IN WITNESS THEREOF, the Principal and Surety have hereunto set their signatures and seals as of the dates set forth below.

PRINCIPAL

Date 11/16/2018

RMC Pacific Materials, LLC
(Company - Permittee [Principal])

By: _____
(Corporate Officer/Partners/Sole Proprietor)

(Seal)

FERNANDO REITER
Typed or Printed Name

Title: Asst. TREASURER

SURETY

I declare, under penalty of perjury, under the laws of the State of California, that I have executed the foregoing rider under an unrevoked Power of Attorney.

Aspen American Insurance Company

By: Lisa A. Ward
(Signature of Attorney-in-Fact for Surety)

(Seal)

Lisa A. Ward
Typed or Printed Name

Title: Attorney-in-Fact

Executed in Austin, TX (City and State) on 11/13/18 (Date) under the laws of the State of California.

(Note: Where one signs by virtue of a Power of Attorney for a Surety Company, such fully executed Power of Attorney must be filed with this bond.)

Permit No. SMP-23
Bond No. SU04496

ACKNOWLEDGMENT OF PERMITTEE

State of TEXAS

SS.

County of HARRIS

On this 16th of November in the year 2018, before me, VICTORIA EGAN (name and quality of officer), personally appeared FERNANDO REITER, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Victoria Egan L.S.

Notary's Signature
My Commission Expires: 10/03/2022

VICTORIA EGAN NOTARY PUBLIC STATE OF TEXAS NOTARY ID 706150-9 MY COMM. EXP. 10/03/2022

ACKNOWLEDGMENT OF SURETY

State of Texas

SS.

County of Travis

On this 13th of November, in the year 2018, before me, Shannon Scott, Notary Public (name and quality of officer), personally appeared Lisa A. Ward, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

L.S.

Notary's Signature
My Commission Expires: 3/27/22

SHANNON SCOTT
Notary Public
STATE OF TEXAS
My Commission Expires March 27, 2022
Notary ID 12976481-5

NOTE: Please identify the agent acting on behalf of the surety, if applicable.

Aon Risk Services Southwest, Inc. DBA
AGENT Aon Risk Insurance Services Southwest, Inc. CA License #0559715 PHONE 832-476-6000

ADDRESS 5555 San Felipe, Suite 1500, Houston, TX 77056

ASPEN

Aspen American Insurance Company
175 Capital Boulevard, Rocky Hill, CT 06067

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, THAT **Aspen American Insurance Company**, a corporation duly organized under the laws of the State of Texas, and having its principal offices in Rocky Hill, Connecticut, (hereinafter the "Company") does hereby make, constitute and appoint: **Michael J. Herrod; Wendy Stuckey; Lupe Tyler; Anoop Chawla Adlakha; Lisa A. Ward; Melissa L. Fortier; Donna L. Williams; Vanessa Dominguez; Nancy Thomas of AON Risk Services** its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred to sign, execute and acknowledge on behalf of the Company, at any place within the United States, the following instrument(s) by his/her sole signature and act: any and all bonds, recognizances, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking and any and all consents incident thereto, and to bind the Company thereby as fully and to the same extent as if the same were signed by the duly authorized officers of the Company. All acts of said Attorney(s)-in-Fact done pursuant to the authority herein given are hereby ratified and confirmed.

This appointment is made under and by authority of the following Resolutions of the Board of Directors of said Company effective on April 7, 2011, which Resolutions are now in full force and effect;

VOTED: All Executive Officers of the Company (including the President, any Executive, Senior or Assistant Vice President, any Vice President, any Treasurer, Assistant Treasurer, or Secretary or Assistant Secretary) may appoint Attorneys-in-Fact to act for and on behalf of the Company to sign with the Company's name and seal with the Company's seal, bonds, recognizances, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said Executive Officers at any time may remove any such appointee and revoke the power given him or her.

VOTED: The foregoing authority for certain classes of officers of the Company to appoint Attorneys-in-Fact by virtue of a Power of Attorney to sign and seal bonds, recognizances, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, as well as to revoke any such Power of Attorney, is hereby granted specifically to the following individual officers of Aspen Specialty Insurance Management, Inc.:

Michael Toppi, Executive Vice President, **Scott Sadowsky**, Senior Vice President, **Kevin Gillen**, Senior Vice President, **Mathew Raino**, Vice President, and **Ryan Field**, Assistant Vice President.

This Power of Attorney may be signed and sealed by facsimile (mechanical or printed) under and by authority of the following Resolution voted by the Boards of Directors of Aspen American Insurance Company, which Resolution is now in full force and effect:

VOTED: That the signature of any of the Officers identified by title or specifically named above may be affixed by facsimile to any Power of Attorney for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any and all consents incident thereto, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company. Any such power so executed and certified by such facsimile signature and/or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking so executed.

IN WITNESS WHEREOF, Aspen American Insurance Company has caused this instrument to be signed and its corporate seal to be hereto affixed this 25th day of July, 2016.

Aspen American Insurance Company

STATE OF CONNECTICUT
SS. ROCKY HILL
COUNTY OF HARTFORD

Mathew Raino Vice President

On this 26th day of July, 2016 before me personally came Mathew Raino to me known, who being by me duly sworn, did depose and say; that he/she is Vice President, of Aspen American Insurance Company, the Company described in and which executed the above instrument; that he/she knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; and that he/she executed the said instrument on behalf of the Company by authority of his/her office under the above Resolutions thereof.

Vanessa Arias
Notary Public
My commission expires: February 28th, 2019

CERTIFICATE

I, the undersigned, **Mathew Raino** of Aspen American Insurance Company, a stock corporation of the State of Texas, do hereby certify that the foregoing Power of Attorney remains in full force and has not been revoked; and furthermore, that the Resolutions of the Boards of Directors, as set forth above, are now and remain in full force and effect.

Given under my hand and seal of said Company, in Rocky Hill, Connecticut, this 13th day of November, 2018.

By: _____ Name: **Mathew Raino** Vice President

* For verification of the authenticity of the Power of Attorney you may call (860) 760-7728 or email:Patricia.Taber@aspenspecialty.com