



01-1451

Date: 07/28/2025

Submittal No: 5.1

Project: Fletcher ES Mod. Classroom Building
BP# 02 Building & Site Concrete
9801 Highland Knolls Dr.
Bakersfield, CA 93306

Owner: Bakersfield City School District
1300 Baker St.
Bakersfield, CA 93305

Architect: Ordiz Melby Architects, Inc.
5500 Ming Ave. Ste. 280
Bakersfield, CA 93309

Contractor: JTS Construction
P.O. Box 41765
Bakersfield, CA 93384-1765

Subcontractor: Holliday Rock Co., Inc.

Submittal: Site Concrete Mix Design Sidewalks

Contractor's Stamp
JTS CONSTRUCTION
BY: Omar Cabral
DATE: 7/28/2025
REVIEWED/RESUBMIT

Architect's Stamp

Afinar

Civil Engineers / Surveyors / Planners / Construction Managers
214 Bernard Street, Bakersfield, CA 93305
Phone (661) 716-7443

No Exceptions Taken Make Correction Noted
Rejected Revise and Resubmit
No Action Required Intermediate Submittal Required

Checking is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action shown is subject to requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the jobsite: fabrication, process and techniques of construction; coordination with all other trades and satisfactory performance of their work. See attached Submittal Checklist for comments.

X *BOS*

8-7-25



**HOLLIDAY
ROCK**

Ready Mixed Concrete, Asphalt & Aggregates

Serving Counties of San Bernardino, Los Angeles, Riverside,
Orange, Kern, Ventura, Santa Barbara & San Luis Obispo

To: **JTS Construction** - Fletcher ES Sitework (1) Perm. Modular TK Classroom
The Use of Type I / II / V Cement

07/28/2025

The California market requires the use of Type I, II or V cements. In order to meet the requirements for all areas, local producers manufacture one cement to meet Type I, II and V specifications.

All our mix designs and ticketing will indicate the cement as Type II/V in accordance with ASTM C150 for the Southern California region.

The cement mill cert also certifies that the cement is manufactured to meet ASTM C150 as Type I, II and V. As a result, the cement used on this project meets the ASTM C150 requirement for Type I. The mill certs are included in the submittal package and an example is accompanying this letter on the following page.

If you have additional questions or if your client requires additional clarification, please feel free to have them contact me.

Respectfully,

Mike Chavez
Technical Services Manager
Holliday Rock Co., Inc



Manufacturer's Certification

We hereby certify that CalPortland Type I/II/V Cement meets the standard requirements of ASTM C150 and AASHTO M85 specification for Type I, Type II, and Type V cements. Reported are the average chemical and physical data for the month.

Month: November, 2024

Riverside Type I / II / V Cement

Source: Oro Grande, CA, USA

Chemical Properties, (ASTM C114)	ASTM C150 and AASHTO M85 Requirements			Analysis	IPA	Limestone
	Type I	Type II	Type V	Results	Analysis	Analysis
Silicon dioxide (SiO ₂), %	---	---	---	20.7	12.6	6.3
Aluminum oxide (Al ₂ O ₃), max, %	---	6.0	---	4.0	2.9	0.8
Ferric oxide (Fe ₂ O ₃), max, %	---	6.0	---	3.9	1.6	0.4
Calcium oxide (CaO), %	---	---	---	64.2	45.5	49.5
Magnesium oxide (MgO), max, %	6.0	6.0	6.0	1.5	0.9	2.3
Sulfur trioxide (SO ₃) ¹ , max, %	3.0	3.0	2.3	2.5	0.2	0.1
Loss on ignition (LOI), max, %	3.5	3.5	3.5	2.8		
Insoluble residue (IR), max, %	1.5	1.5	1.5	1.1		Base
Alkalies (Na ₂ O+0.658*K ₂ O), %	---	---	---	0.52		Cement
Tricalcium silicate (C ₃ S), %	---	---	---	58		61
Dicalcium silicate (C ₂ S), %	---	---	---	15		16
Tricalcium aluminate (C ₃ A), max, %	---	8	5	4		4
Tetracalcium aluminoferrite (C ₄ AF), %	---	---	---	12		12
C ₄ AF + 2(C ₃ A), max, %	---	---	25	20		
CO ₂ , %	---	---	---	1.7		
Limestone addition, max, %	5.0	5.0	5.0	4.1		
IPA addition, max, %	1.8	1.8	1.8	1.2		
CaCO ₃ in Limestone, min, %	70	70	70	91		

Physical Properties

Air content of mortar, max, volume %, (C185)	12	12	12	6
Blaine Fineness, min, m ² /kg, (C204)	260	260	260	415
Autoclave expansion, max, %, (C151)	0.80	0.80	0.80	0.02
Compressive Strength, min, (C109)				
3 Day, MPa	12.0	10.0	8.0	27.6
3 Day, psi	1740	1450	1160	4010
7 Day, MPa	19.0	17.0	15.0	35.3
7 Day, psi	2760	2470	2180	5120
28 Day (from prior month), MPa	---	---	21.0	41.6
28 Day (from prior month), psi	---	---	3050	6040
Vicat Setting Time, min-max, minutes, (C191)	45 - 375	45 - 375	45 - 375	93
Expansion, max, %, (C1038)	0.020	0.020	0.020	0.007

Apparatus and methods used in this laboratory have been checked by the Cement and Concrete Reference Laboratory of the National Institute of Standards and Technology. A copy of the report detailing their findings is available upon request. Major oxides are analyzed in accordance with ASTM C114.

Note 1: ASTM C150, Table 1, Note D, It is permissible to exceed the values in the table for SO₃ content, provided it has been demonstrated by Test Method C1038 that the cement with the increased SO₃ will not develop expansion exceeding 0.020% in 14 days.

Bob Sylvia - Chief Chemist