



FACSIMILE TRANSMITTAL

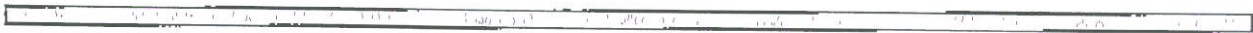
Date: November 18, 2008

To: Carmen Harrington
Company: City of Greenwood Village
Telephone: (303) 706-6133
Fax: (303) 706-1977

From: Ed Callejo
Telephone: (303) 431-2961 Ext. 14
Fax: (303) 431-0091

Number of pages attached including transmittal sheet: 8

If enclosures are not as noted, kindly notify us at once.



THESE ARE TRANSMITTED:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Urgent | <input type="checkbox"/> For Review/Comment |
| <input checked="" type="checkbox"/> For Approval | <input type="checkbox"/> Please Reply |
| <input checked="" type="checkbox"/> As Requested | <input type="checkbox"/> Resubmit |
| <input type="checkbox"/> For Bids Due _____ 20 | <input type="checkbox"/> Hard Copy In Mail |




REMARKS:

RE: Project No. 110604; City Hall Patio Replacement Project

Submittals for the 2" Bedding Course - 3/8" Chip from Albert Frei and Sons

Thanks,
Ed



Public Works/Engineering

Approved, no exception taken
 Approved, as noted
 Not approved, Resubmit.

Approval of the shop drawings and/or submittals shall not relieve the Contractor of their obligation to meet all requirements of the Contract and shall not relieve the Contractor of the responsibility for the accuracy of the shop drawings. Change to the approved shop drawings and/or submittals requires reapproval.

11/19/08 *Carmen Harrington*
Date Signature

Nov. 18. 2008 1:43PM Albert Frei & Sons

No. 3513 P. 2



March 4, 2008

Albert Frei and Sons
P.O. Box 700
Henderson, Colorado 80640

Attention: Mr. Rick Foster

Subject: Physical Properties Testing
¾-inch Chips, Pit 6
Project No. CT14410.001-400

Dear Mr. Foster:

This report presents results of physical properties tests performed on material delivered to our laboratory in January, 2008. Representative samples delivered were identified as ¾-inch Chips from Pit 6. Testing was performed in general conformance with the applicable AASHTO and ASTM test methods. A summary of test results is presented below. Complete test results are presented in Attachment A.

Summary Table
¾-inch Chips, Pit 6

Test	¾-inch Chips	ASTM C 33 Specifications
Sieve Analysis (ASTM C 136, AASHTO M 43)	See Table on Fig. A-1	See Table on Fig. A-1
Passing No. 200 Sieve (ASTM C 117, AASHTO T 11)	0.3%	1.0% max
Specific Gravity (SSD) (ASTM C 127, AASHTO T 85)	2.85	NA
Absorption (ASTM C 127, AASHTO T 85)	1.3%	NA
L.A. Abrasion, Grading D (ASTM C 131, AASHTO T 96)	34%	50% max
Sodium Soundness Coarse Fraction (ASTM C 88, AASHTO T 104) Weighted Loss	5%	12% max
Sodium Soundness Fine Fraction (ASTM C 88, AASHTO T 104) Weighted Loss	2%	10% max
Magnesium Soundness Coarse Fraction (ASTM C 88, AASHTO T 104) Weighted Loss	12%	18% max
Magnesium Soundness Fine Fraction (ASTM C 88, AASHTO T 104) Weighted Loss	6%	15% max

22 Lipan Street | Denver, Colorado 80223 | Telephone: 303-825-0777 Fax: 303-893-1568

This test report relates only to the items tested and shall not be reproduced, except in full, without written approval of CTL Thompson, Inc.

Clay Lumps and Friable Particles Coarse Fraction (ASTM C 142, AASHTO T 112) Weighted Average	0.0%	2.0% max
Clay Lumps and Friable Particles Fine Fraction (ASTM C 142, AASHTO T 112)	0.4%	3.0% max
Rodded Unit Weight & Voids (ASTM C 29, AASHTO T 19)	98 pcf 1.32 tons/yd ³ 44% Voids	NA
Loose Unit Weight & Voids (ASTM C 29, AASHTO T 19)	90 pcf 1.22 tons/yd ³ 41% Voids	NA
Lightweight Particles, 2.0 Sp. G. (ASTM C 123, AASHTO T 113)	0.1%	0.5% max
Lightweight Particles, 2.4 Sp. G. (ASTM C 123, AASHTO T 113)	0.2%	3.0% max

If you have any questions regarding this report, please call.

Respectfully submitted,

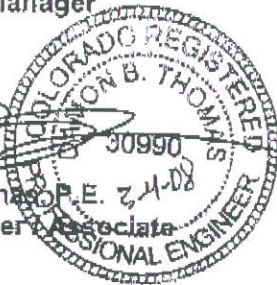
CTL | THOMPSON MATERIALS ENGINEERS, INC.

Matthew A. Best

Matthew A. Best
Materials Lab Manager

Reviewed by:

Damon B. Thomas
Damon B. Thomas, P.E.
Division Manager, Associate



MAB:DBT/mab
Enclosures
(2 copies sent)



ATTACHMENT A
LABORATORY TEST RESULTS

PHYSICAL PROPERTIES OF AGGREGATES

Client: Albert Frei & Sons, Inc.
 Sample: 3/8" Chips, Plt 6
 Date Submitted: January, 2008

Sieve Analysis of Coarse Aggregate (ASTM C 136, AASHTO T 27)

Sieve Size	Percent Passing 3/8" Chip
3/8-inch (9.5 mm)	100
No. 4 (4.75 mm)	68
No. 8 (2.36 mm)	3
No. 16 (1.18 mm)	1

Material Finer Than No. 200 Sieve by Washing (ASTM C 117, AASHTO T 11)

Sample ID	Initial Dry Weight	Final Dry Weight	Percent of Material Finer than No. 200 Sieve
3/8" Chips	598.9	597.1	0.3

Specific Gravity and Absorption of Coarse Aggregate (ASTM C 127, AASHTO T 85)

Sample ID	Oven Dry Weight (g)	SSD in Air Weight (g)	Submerged Weight (g)	Bulk Volume	Bulk (SSD) Specific Gravity	Absorption (%)
3/8" Chips	2024.2	2051.5	1324.0	727.5	2.85	1.3

Resistance to Degradation of Small-size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine (ASTM C 131, AASHTO T 96)

Sample ID	Grading	Initial Weight	Final Weight	Percent Loss
3/8" Chips	D	5000.0	3295.0	34.1

Nov. 18. 2008 1:44PM

Albert Frei & Sons

No. 3513 P. 6

PHYSICAL PROPERTIES OF AGGREGATES

Client: Albert Frei & Sons, Inc.
 Sample: 3/8" Chips, Pit 6
 Date Submitted: January, 2008

Soundness of Coarse Aggregates by Use of Sodium Sulfate (ASTM C 88, AASHTO T 104)

Sieve Size		Percent Grading of Sample	Weight Before (g)	Weight After (g)	Percent Loss	Weighted Percent Loss
3/8 Inch	No. 4	32	300.0	251.1	16.3	5.2

Weighted Total Percent Loss: 5%

Soundness of Fine Aggregates by Use of Sodium Sulfate (ASTM C 88, AASHTO T 104)

Sieve Size		Percent Grading of Sample	Weight Before (g)	Weight After (g)	Percent Loss	Weighted Percent Loss
No. 4	No. 8	65	100.0	97.4	2.6	1.7
No. 8	No. 16	2	-	-	2.6	0.1
No. 16	No. 30	1	-	-	2.6	0.0

Total Percent Grading 100 (combined) Weighted Total Percent Loss: 2%

Soundness of Coarse Aggregates by Use of Magnesium Sulfate (ASTM C 88, AASHTO T 104)

Sieve Size		Percent Grading of Sample	Weight Before (g)	Weight After (g)	Percent Loss	Weighted Percent Loss
3/8 inch	No. 4	32	300.0	191.0	36.3	11.6

Weighted Total Percent Loss: 12%

Soundness of Fine Aggregates by Use of Magnesium Sulfate (ASTM C 88, AASHTO T 104)

Sieve Size		Percent Grading of Sample	Weight Before (g)	Weight After (g)	Percent Loss	Weighted Percent Loss
No. 4	No. 8	65	100.0	91.6	8.4	5.5
No. 8	No. 16	2	-	-	8.4	0.2
No. 16	No. 30	1	-	-	8.4	0.1

Total Percent Grading 100 (combined) Weighted Total Percent Loss: 6%