

REQUEST FOR STOCKPILE MATERIAL QUOTES

July 27, 2013

Cass County is requesting quotes for the sale of 3 stockpiles of material.

The Gardner stockpile is located in SE corner of the intersection of Cass Highway 26 & 81, near Gardner, ND. There is approximately 25,000 ton of RAP material in this stockpile available for sale. All material must be removed by February 1st, 2014. The stockpile site footprint and any surrounding area disturbed by the removal process within the Gardner pit area shall be restored/graded to provide proper drainage and haul road restoration. **There is more the 25,000 Ton in the RAP stockpile, but is the amount that would for sale.** Attached is testing for this material.

The Alice stockpile is located in 2 miles South of Alice, ND on the West side of Cass 38. There is approximately 2,700 CY of RAP/Class 5 material in this stockpile available for sale. There is also a small amount of R1 fabric material in the stockpile. All material must be removed by February 1st, 2014. The stockpile site footprint and any surrounding area disturbed by the removal process within the Alice stockpile area shall be restored/graded to provide proper drainage and haul road restoration. No testing data is available for this material.

The West Fargo stockpile is located in SE corner of the Cass County Highway yard in West Fargo, ND. There is approximately 2,300 CY of material in this sand stockpile available for sale. This material is the remaining sand like material remaining from the 2009 sandbags. The sandbags have all been screened/separated out of this material. All material must be removed by February 1st, 2014. The stockpile site footprint and any surrounding area disturbed by the removal process within the West Fargo stockpile area shall be restored/graded to provide proper drainage and haul road restoration. No testing data is available for this material.

The quote per stockpile shall include all labor, equipment, insurance, mobilization, trucking, site restoration, and any other associated costs. No allowance will be made for changes in quantities. Contractors can submit a quote for only the stockpiles they wish to purchase, but must take the entire stockpile.

Payment of material shall be made before any material is removed.

A refundable deposit for cleanup of each site prior to removal will also be required for each site as follows:

Alice Stockpile	\$2,000
West Fargo Stockpile	\$1,000
Gardner Stockpile	\$5,000

The completion date for cleanup of all sites is June 1st, 2014.

Cass County reserves the right to reject all quotes.

Quotes will be received in a sealed envelope marked "Quotes for Stockpiled Material" until 10:00 am on August 15, 2013 at the Cass County Auditors Office. Quotes will be opened immediately following the hour set for receiving quotes. Please call Tom Soucy at (701) 298.2374 Office or (701) 793-9915 with any questions.

Cass County Courthouse
 Auditor's Office
 211 9th Street South
 Fargo, North Dakota
 Phone: (701)298-2374

STOCKPILE QUANTITIES					
Site	Location	Est. Qty.	Unit	Unit Price	Total
Alice Stockpile	2 Miles S of Alice W of C38	2,700	CY		
Gardner Stockpile	C26 & C81 SE Corner of Intersection	25,000	Ton		
West Fargo Stockpile	Cass County Highway Dept. - SE Corner of Yard	2,300	CY		

NAME OF FIRM _____

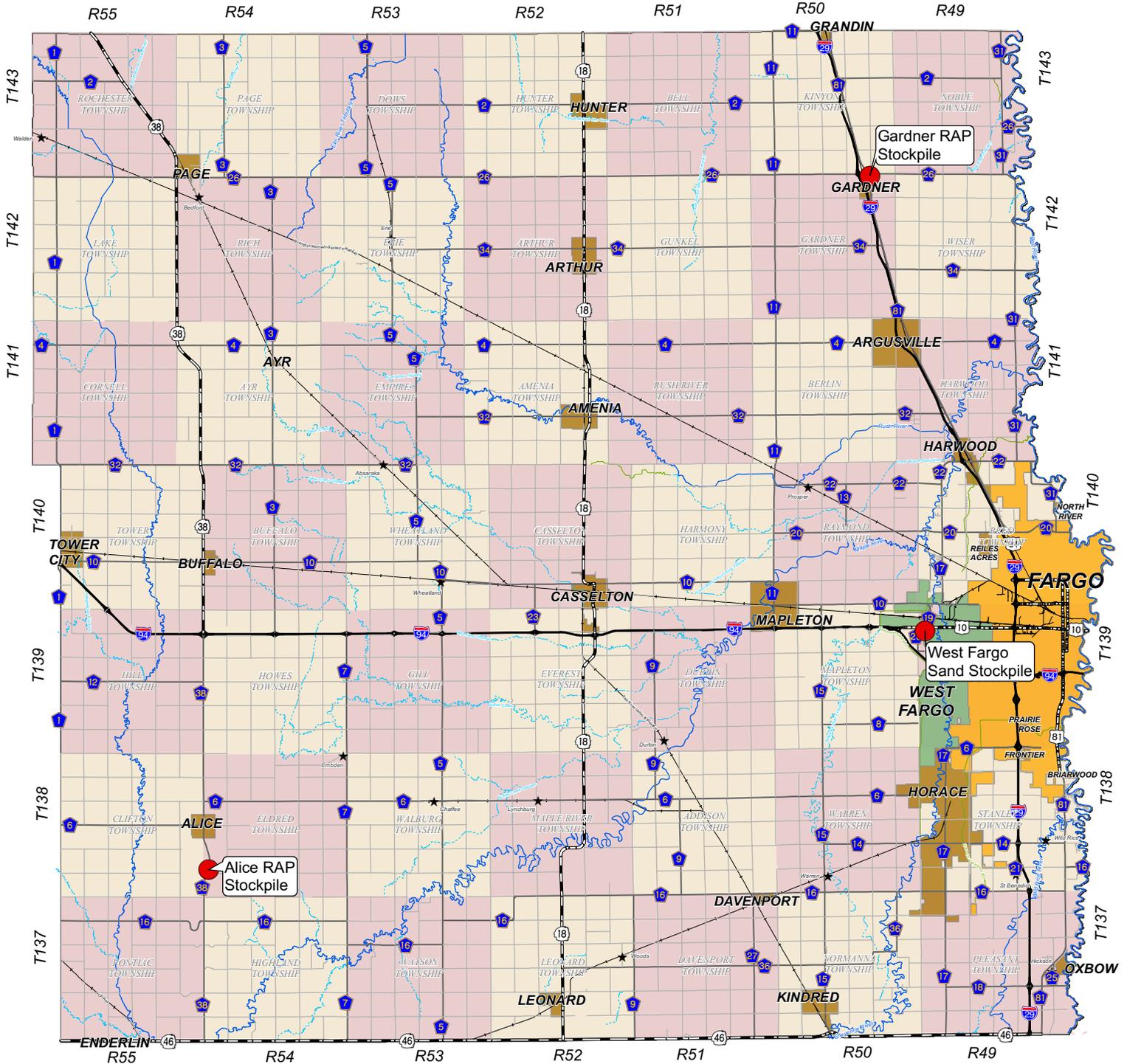
AUTHORIZED SIGNATURE _____

TITLE _____

DATE _____

Cass County Highway Department

Stockpile Locations



Jason Benson
County Engineer, P.E.

Richard Sieg
Highway Superintendent

Prepared by
Cass County Highway Dept.
July 2013



Cass County Hwy. Dept.
1201 Main Ave. W
West Fargo, ND 58078

(701) 298-2370

Web: <http://www.casscountynd.gov>
Email: highway@casscountynd.gov



Miles

● Stockpile Location

Disclaimer: As with all public information derived from variable sources, this data may contain errors or faults. Therefore, Cass County does not provide any warranty express or implied, as to the accuracy of this data. The recipient is encouraged to make an independent investigation of verification of the data. If an error is found, it is requested the County Engineer be advised of the particulars so the data can be examined and corrected. THIS MAP IS NOT A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

**GENERAL INFORMATION and AGGREGATE GRADATIONS/BLEND
SUPERPAVE MIX DESIGN**

GENERAL INFORMATION

Enter data in shaded boxes.
Absent sieve calculator is at the bottom of the sheet.

Project:	CH 1101
Location:	CASS CO
District:	
County:	Cass Co
Date (MM/DD/YY):	5/28/13
Lab Number:	
Type of AC (Top Lift):	58-34
Type of AC (Bot. Lift):	58-28
Letting Date:	

Pit #1 Location:	LOMSDALEN
Pit #2 Location:	WALLER
Pit #3 Location:	AGG INDUSTRIES
Pit Owner(s):	

AC Specific Gravity:	1.022
Length of Project:	
Asphalt Supplier:	Cennex
Contractor:	Central Specialties Inc

INDIVIDUAL AGGREGATE GRADATIONS

	Agg #1	Agg #2	Agg #3	Agg #4	Agg #5	Agg #6
Aggregate---> Description-->	5/8 Free Lomsdalen	5/8 Crushed Lomsdalen	Man Sand Lomsdalen	VSI Sand Agg Ind	BA Sand Waller	RAP Gardner Site
If Agg. is Crushed, Enter 1	0	1	1	1	0	1
Sieve Size	% Passing	% Passing	% Passing	% Passing	% Passing	% Passing
5/8" (16mm)	100.0	100.0	100.0	100.0	100.0	100.0
1/2" (12.5mm)	85.0	85.0	100.0	100.0	98.0	98.0
3/8" (9.5mm)	32.0	32.0	100.0	100.0	94.0	93.0
#4 (4.75mm)	3.0	3.0	89.0	100.0	88.0	78.0
#8 (2.36mm)	3.0	3.0	63.0	67.0	72.0	64.0
#16 (1.18mm)	2.0	2.0	45.0	37.0	56.0	52.0
#30 (0.6mm)	2.0	2.0	34.0	18.0	39.0	38.0
#50 (0.3mm)	1.0	1.0	25.0	6.0	18.0	25.0
#100 (0.15mm)	1.0	1.0	17.0	3.0	7.0	12.0
#200 (0.075mm)	0.4	0.8	11.7	2.0	4.3	9.1

BLEND GRADATION

Aggregate Description	Aggregate #	Blend %	Sieve Size	Blend Gradation	Lower Control Pt	Upper Control Pt
5/8 Free	1	4	5/8"	100.0	100	100
5/8 Crushed	2	13	1/2"	96.1	90	100
Man Sand	3	7	3/8"	84.3		
VSI Sand	4	10	#4	72.8		
BA Sand	5	46	#8	57.5	28	58
RAP	6	20	#16	43.4		
Sum of % =						
		100	#30	30.1		
			#50	15.8		
			#100	7.3		
			#200	4.9	2	7

% Fine Aggregate Mechanically Produced (Fractured) : 44.2
 % Coarse Aggregate Mechanically Produced (Fractured) : 65.4

**AGGREGATE PROPERTIES
SUPERPAVE MIX DESIGN**

CH 1101

5/28/13

AGGREGATE PROPERTIES

	Agg #1	Agg #2	Agg #3	Agg #4	Agg #5	Agg #6
	5/8 Free	5/8 Crushed	Man Sand	VSI Sand	BA Sand	RAP
Bulk SpG (Gsb)						
Coarse	2.667	2.717	2.717	2.639	2.667	2.624
Fine	2.636	2.678	2.678	2.639	2.636	2.624
Apparent SpG (Gsa)						
Coarse	2.693	2.778	2.778	2.704	2.688	2.669
Fine	2.701	2.726	2.726	2.704	2.701	2.669
Water Absorption						
Coarse	0.700	0.810	0.810	0.910	0.700	1.000
Fine	0.930	1.050	1.050	0.910	0.930	1.000
Combined						
Bulk SpG (Gsb)	2.666	2.716	2.682	2.639	2.640	2.624
Apparent SpG (Gsa)	2.693	2.776	2.732	2.704	2.699	2.669
Water Absorption	0.705	0.816	1.017	0.910	0.895	1.000

Aggregate Blend Properties	Bulk SpG (Gsb) =	2.650
	Apparent SpG (Gsa) =	2.705
	Water Absorption =	0.902

SUPERPAVE CONSENSUS AGGREGATE PROPERTIES

	Agg #1	Agg #2	Agg #3	Agg #4	Agg #5	Agg #6
	5/8 Free	5/8 Crushed	Man Sand	VSI Sand	BA Sand	RAP
Fine Agg. Angularity						
% FAA	41.0	48.6	48.6	45.0	41.0	42.3
Clay Content						
% Sand Equivalent	42	68	68	74	42	52

Coarse Aggregate Angularity (+ No. 4 Material)

Nominal maximum Size	Sample Size
3/8" (9.5 mm)	200 g
1/2" (12.5 mm)	500 g
3/4" (19 mm)	1500 g

Wt. of Total Sample =	986.2
Wt. of Fractured Material =	773.7
Wt. of Questionable Material =	18.4
Wt. of Uncrushed Material =	194.1

Flat and Elongated Particles

Nominal maximum Size	Sample Size
3/8" (9.5 mm)	1000 g
1/2" (12.5 mm)	2000 g
3/4" (19 mm)	5000 g

Wt. of Total Sample =	448.9
Wt. of Material Larger than 3/8" =	324.2
Wt. of Flat and Elongated Particles =	1.1

Superpave Consensus Aggregate Properties	Fine Agg. Angularity % =	42.5
	Sand Equivalent % =	50.9
	Coarse Agg. Angularity % =	79.4
	Thin & Elongated Pieces % =	0.3

SUPERPAVE MIX DESIGN DATA

CH 1101

5/28/13

Bulk Specific Gravity of the Mix (Gmb) @ Ndes

%AC Specimen#	Weight in Air	SSD Weight	Weight in Water	Volume	Gmb @Ndes	Unit Weight
4.6						
A	4743.5	4749.3	2730.1	2019.2	2.349	146.6
B	4742.2	4748.1	2731.2	2016.9	2.351	146.7
Average =				2018.1	2.350	146.7
5.1						
A	4744.6	4747.2	2745.6	2001.6	2.370	147.9
B	4745.1	4748.9	2748.2	2000.7	2.372	148.0
Average =				2001.2	2.371	148.0
5.6						
A	4744.9	4756.2	2765.6	1990.6	2.384	148.7
B	4741.8	4743.9	2758.0	1985.9	2.388	149.0
Average =				1988.3	2.386	148.9
6.1						
A	4742.9	4743.4	2771.4	1972.0	2.405	150.1
B	4739.6	4739.9	2770.7	1969.2	2.407	150.2
Average =				1970.6	2.406	150.1
A						
B						
Average =						

Rice Test: Theoretical Maximum SpG of the Mix (Gmm) @ Ndes

Flask Number	AC % = 4.6		AC % = 5.1		AC % = 5.6		AC % = 6.1		AC % =	
	1	2	1	2	1	2	1	2	1	2
Samp., Cont. & Sol.	3891.1	3906.6	3885.4	3901.2	3888.8	3899.1	3879.4	3895.5		
Cont. & Sol. (g)	3287.3	3300.3	3287.3	3300.3	3287.3	3300.1	3287.3	3300.3		
Samp. in Air (g)	1008.2	1012.9	1004.7	1011.0	1016.2	1009.8	1007.3	1012.2		
Samp. in Sol. (g)	603.8	606.3	598.1	600.9	601.5	599	592.1	595.2	0	0
Vol. of Voidless Mix	404.4	406.6	406.6	410.1	414.7	410.8	415.2	417	0	0
Theoretical Max. SpG	2.493	2.491	2.471	2.465	2.450	2.458	2.426	2.427		
Difference Between Flasks	0.002 In Tolerance		0.006 In Tolerance		0.008 In Tolerance		0.001 In Tolerance			
Avg Theor. Max. SpG	2.492		2.468		2.454		2.427			
Effective SpG	2.678		2.671		2.677		2.665			
AC Absorption	0.4		0.3		0.4		0.2			

Avg Effective SpG: 2.673

Voids Analysis of the Mix @ Ndes

	4.6	5.1	5.6	6.1	
AC Content (%)					
Bulk Specific Gravity of the Mix (Gmb)	2.350	2.371	2.386	2.406	
Percent Aggregate	95.4	94.9	94.4	93.9	#VALUE!
Theor. Maximum SpG of Mix (Gmm)	2.492	2.468	2.454	2.427	
Air Voids, Va (%)	5.7	3.9	2.8	0.9	#VALUE!
Voids in Mineral Agg. (VMA)	15.4	15.1	15.0	14.7	#VALUE!
Voids in Mineral Agg. Filled (VFA)	63.0	73.9	81.4	94.2	#VALUE!
Asphalt Absorption (%)	0.33				

SUPERPAVE MIX DESIGN
Gyratory Compactor Information

CH 1101

5/28/13

Superpave Gyratory Compaction Effort

Number of Gyration @ Ninitial:	7
Number of Gyration @ Ndesign:	75
Number of Gyration @ Nmaximum:	115

Gyratory Plugs Compacted to Ninitial and Ndesign

	AC % = 4.6		AC % = 5.1		AC % = 5.6		AC % = 6.1		AC % =	
Plug Number	1	2	1	2	1	2	1	2	1	2
Plug Weight (g)	4743.5	4742.2	4744.6	4745.1	4744.9	4741.8	4742.9	4739.6		
Plug Height @ Nini (mm)	123.9	123.5	122.1	122.4	121.4	121.1	119.8	119.6		
Plug Height @ Ndes (mm)	114.7	114.9	113.6	113.8	112.7	112.4	111.5	111.4		
% Gmm initial	87.3	87.7	89.4	89.3	90.2	90.2	92.3	92.3		
Avg. % Gmm initial	87.5		89.3		90.2		92.3			

Gyratory Plugs Compacted to Nmaximum at Design Optimum Asphalt Content

%AC @ Optimum Specimen#	Weight in Air	SSD Weight	Weight in Water	Volume	Gmb @Ndes	Unit Weight
5.1						
A	4744.0	4744.9	2769.2	1975.7	2.401	149.8
B	4743.5	4744.1	2769.0	1975.1	2.402	149.9
			Average =	1975.4	2.401	149.848

%Gmm at Nmaximum = 97.2

Moisture Sensitivity (Minimum Percent Strength Retention)

No data is needed to be entered here at this time.

HOT MIX DESIGN DATA - SUPERPAVE

5/28/13

Lab. No.		Project Specification	Section 410
Location	CASS CO	Type of AC (top lift)	58-34
Project	CH 1101	Type of AC (bot lift)	58-28
District		Letting Date	
County	Cass Co	Plus #4 (%)	27.2
Date	5/28/13	Minus #4 (%)	72.8
Pit Owner(s)		Gyratory Compactive Effort	
Pit #1 Location	LOMSDALEN	Ninitial	7
Pit #2 Location	WALLER	Ndesign	75
Pit #3 Location	AGG INDUSTRIES	Nmaximum	115

Mix Properties at Recommended Asphalt Content

	Mix Design	Specification
Optimum AC (%)	5.1	
Density (pcf)	148.0	
Air Voids (%)	4.0	4.0 TARGET
VMA (%)	15.1	
VFA (%)	74.1	65-78%
%Gmm @ Ninitial	88.8	90.5% max
%Gmm @ Nmaximum	97.2	98% Max
AC Film Thickness (m)	7.9	7.5-13
Dust/Effective AC Ratio	1.0	.6-1.3
Fine Agg Angularity (%)	42.5	42% Min
Sand Equivalent (%)	50.9	40% Min
Coarse Agg Angularity (%)	79.4	75% Min
Flat/Elongated Pieces (%)	0.3	10% MAX
Maximum SpG @ Ndes	2.471	
Frac. Faces Fine (%)	44.2	
Frac. Faces Course (%)	65.4	

Summary of Aggregate Characteristics from Mix Design

Gradation (% passing)	
5/8"	100.0
1/2"	96.1
3/8"	84.3
#4	72.8
#8	57.5
#16	43.4
#30	30.1
#50	15.8
#100	7.3
#200	4.9

Asphalt Absorption (%)	0.33
Water Absorption (%)	0.90
Light Wt Particles (%)	0.0
Toughness (% Loss)	

Final Aggregate Blend (%)

4	5/8 Free	Lomsdalen
13	5/8 Crushed	Lomsdalen
7	Man Sand	Lomsdalen
10	VSI Sand	Agg Ind
46	BA Sand	Waller
20	RAP	Gardner Site

Specific Gravity Information

Bulk (Gsb)	2.650
Apparent (Gsa)	2.705
Effective (Gme)	2.673

Remarks:

4.1% New AC

Distribution:

Materials and Research
0

SUPERPAVE HOT MIX DESIGN GRAPHS

Department of Transportation, Materials and Research (Rev. 5-07)

CH 1101

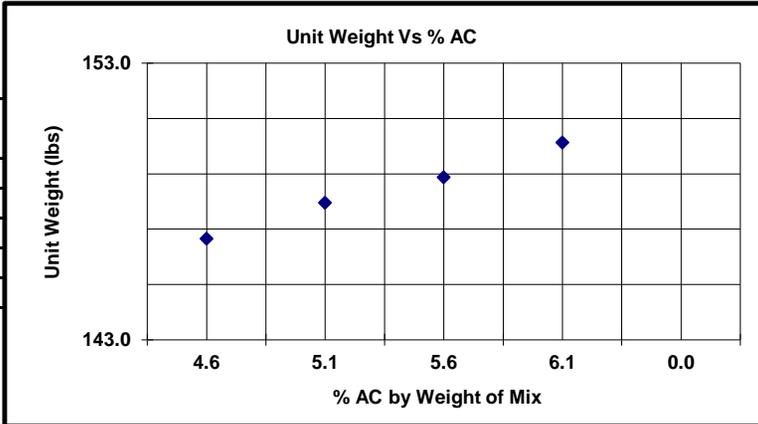
5/28/13

Y Scale Settings

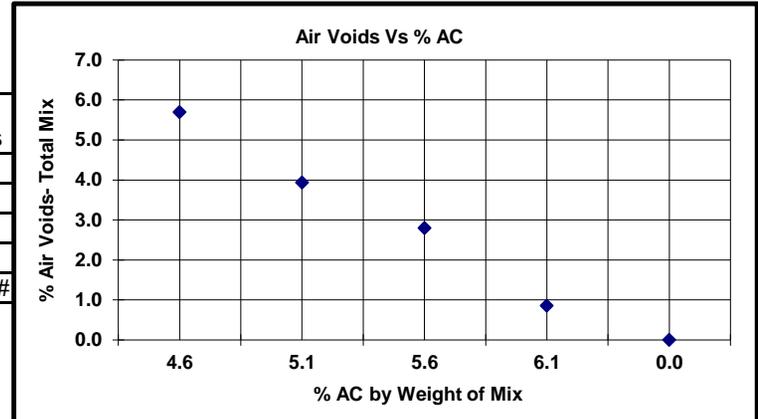
Air Voids Vs % AC

Max Scale **Set Scale**
Min Scale
Major Unit **Clear**

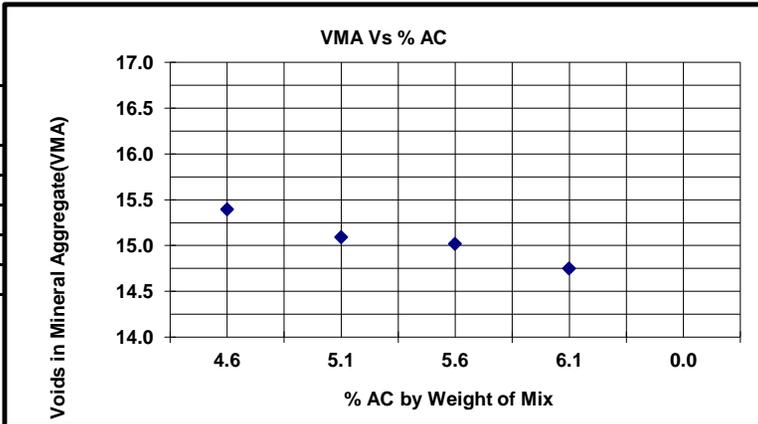
AC%	UNIT WT.
4.6	146.7
5.1	148.0
5.6	148.9
6.1	150.1
0.0	



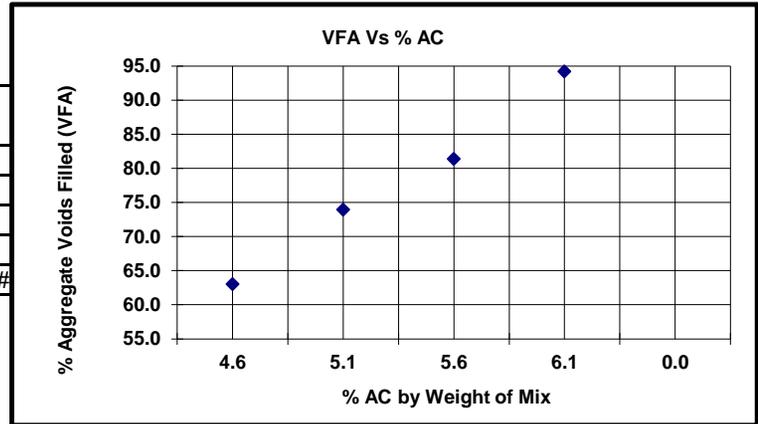
AC%	Air Voids
4.6	5.7
5.1	3.9
5.6	2.8
6.1	0.9
0.0	#####



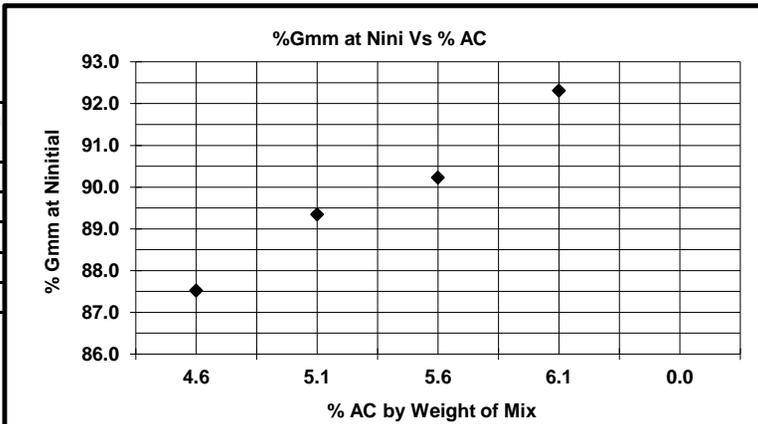
AC%	VMA
4.6	15.4
5.1	15.1
5.6	15.0
6.1	14.7
0.0	#####



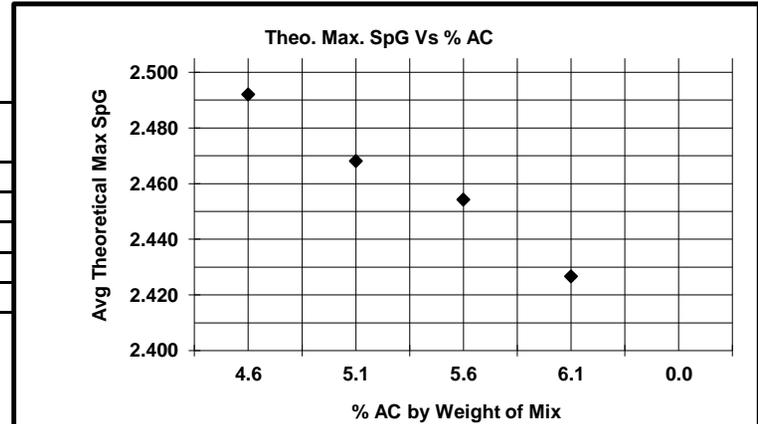
AC%	VFA
4.6	63.0
5.1	73.9
5.6	81.4
6.1	94.2
0.0	#####



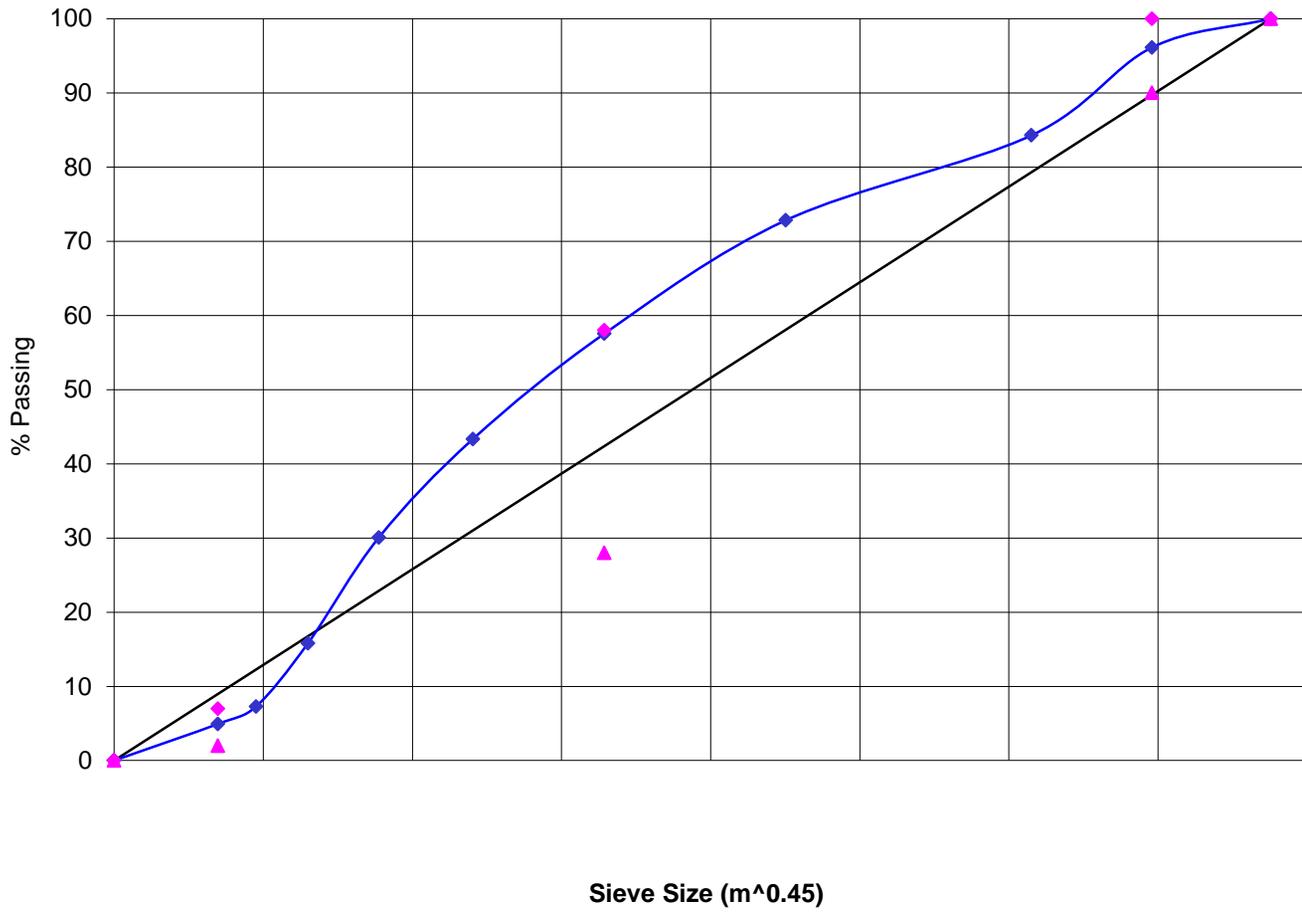
AC%	%Gmm
4.6	87.5
5.1	89.3
5.6	90.2
6.1	92.3
0.0	



AC%	Max SpG
4.6	2.492
5.1	2.468
5.6	2.454
6.1	2.427
0.0	



0.45 Power Chart



▲ Lower Control Point ◆ Upper Control Point — MDL —◆ Blend Gradation

Batch Weights
Superpave Mix Design

CH 1101

5/28/13

MIX DESIGN BATCH WEIGHTS

	Batch 1	Batch 2	Batch 3	Batch 4	Batch 5
AC Contents Used in Mix Design (%):	4.6	5.1	5.6	6.1	

Aggregate Wt per Batch (g):

14000

of AC Percentages used in Design:

4

Batch Weights

	Agg #1	Agg #2	Agg #3	Agg #4	Agg #5	Agg #6
	5/8 Free	5/8 Crushed	Man Sand	VSI Sand	BA Sand	RAP
Tot./Batch (g)	560	1820	980	1400	6440	2800
COURSE						
+3/8 Material	380.8	1237.6	0.0	0.0	386.4	196.0
-3/8, +#4 Material	162.4	527.8	107.8	0.0	386.4	420.0
-#4 Material	16.8	54.6	872.2	1400.0	5667.2	2184.0

AC and Total Batch Weight

AC Content (%)	4.6	5.1	5.6	6.1	
Weight AC (g)	675.1	752.4	830.5	909.5	
Total Batch Wt (g)	14675.1	14752.4	14830.5	14909.5	