



Macon-Bibb County
Procurement Department

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April 14, 2014

ADDENDUM #1

To: ALL PROSPECTIVE FIRMS

Re: INVITATION FOR BIDS: **14-012-ND: Reconstruct Road: Full Depth Reclamation**

The Invitation for Bids, referenced above, is modified as follows:

1. The project is to be bid as a whole (Base Bid + Additive Items). A "revised" bid schedule is included with this addendum. Macon-Bibb County reserves the right to exclude any additive item as needed to benefit Macon-Bibb County.
2. A modification has been made to Technical Spec. 301, section 301.3.04(C).1 to clarify what equipment is acceptable. Spec Revisions are included as attachment to this addendum.
3. Macon-Bibb will allow the wet cure process for the cement with the caveat that if wet curing is not properly maintained, Macon-Bibb County has the option to require Prime application at the cost to the contractor. Bid schedule and specs have been revised to reflect that change. (Revisions to 301.2, 301.3.04(G), 301.4(C) & Section 100 - 13(C)).

Please incorporate this change into the Invitation for Bid and acknowledge receipt of this addendum on your bid form.

Sincerely,

Nyeshia Daley

Nyeshia Daley, MBA, CPPB

2014 Macon-Bibb Road Reconstruct- Full Depth Reclamation Bid Schedule

The quantities listed are an approximate estimate of the materials required to complete the full depth reclamation resurfacing projects:

BASE BID: Dobson Road, Brookside Drive, Francis Drive, Elnora Drive, Powers Plantation Court, Corey Court, Clairmont Place, Feagin Road, Level Acres Drive South, Franklinton Road, Cordell Court, St. Anthony's Drive, Stonefield Drive, Lawrence Drive South

Quantity	Unit	Item	Unit Price	Total
52031	SY	Failed paving and sub-grade to be replaced with 6" Full Depth Reclaimed base course	_____	_____
2090	Tons	Millings disposal	_____	_____
1705	Tons	Portland cement installed at 42.3 lb/sq.yd for base stabilization	_____	_____
5724	Tons	12.5 mm Superpave Asphalt installed 2.00 in. thick	_____	_____
500	CY	GABC needed for additional sub-grade excavation	_____	_____
3.8	Miles	Roadway Striping	_____	_____
TOTAL			_____	_____

ADDITIVE ITEMS: LIST #1
(Charles Dr., Willowdale Dr., Randy Dr., Stratford Hills Dr.)

<u>Quantity</u>	<u>Unit</u>	<u>Item</u>	<u>Unit Price</u>	<u>Total</u>
19,306	SY	Failed paving and sub-grade to be replaced with 6" Full Depth Reclaimed base course	_____	_____
253.5	Tons	Millings disposal	_____	_____
408.4	Tons	Portland cement installed at 42.3 lb/sq.yd for base stabilization	_____	_____
2124	Tons	12.5 mm Superpave Asphalt installed 2.00 in. thick	_____	_____
200	CY	GABC needed for additional sub-grade excavation	_____	_____
1.58	Miles	Roadway Striping	_____	_____
TOTAL			_____	_____

ADDITIVE ITEMS: LIST #2

(Taylor Terrace, Vance Cir., Treyburne Way, Fausett Dr., Misty Valley Dr., Carey Dr.)

<u>Quantity</u>	<u>Unit</u>	<u>Item</u>	<u>Unit Price</u>	<u>Total</u>
19,555	SY	Failed paving and sub-grade to be replaced with 6" Full Depth Reclaimed base course	_____	_____
213	Tons	Millings disposal	_____	_____
414	Tons	Portland cement installed at 42.3 lb/sq.yd for base stabilization	_____	_____
2153	Tons	12.5 mm Superpave Asphalt installed 2.00 in. thick	_____	_____
200	CY	GABC needed for additional sub-grade excavation	_____	_____
1.44	Miles	Roadway Striping	_____	_____
TOTAL			_____	_____

ADDITIVE ITEMS: LIST #3

(Dana Dr., Carriage Trl., Woodmere Trl., Tharpe Ct., St. Anne Ct., Prestwick Park)

<u>Quantity</u>	<u>Unit</u>	<u>Item</u>	<u>Unit Price</u>	<u>Total</u>
17,135	SY	Failed paving and sub-grade to be replaced with 6" Full Depth Reclaimed base course	_____	_____
198	Tons	Millings disposal	_____	_____
365	Tons	Portland cement installed at 42.3 lb/sq.yd for base stabilization	_____	_____
1887	Tons	12.5 mm Superpave Asphalt installed 2.00 in. thick	_____	_____
200	CY	GABC needed for additional sub-grade excavation	_____	_____
0.84	Miles	Roadway Striping	_____	_____
TOTAL			_____	_____

SECTION 100: MILLING, HOT MIX ASPHALT AND PATCHING PROCEDURES:

A. Milling:

Milling operations will occur on roadways confined by curb and gutter drainage systems. This will be required in such cases as needed to render the final asphalt overlay at an elevation consistent with the elevation at the top of the gutter.

1. Materials:

a. Delivery, Storage, and Handling

When specified, stockpile the milled material at locations shown on the drawings or as directed by the engineer

1. Uniformly stockpile the materials approximately 6 – 8ft high.
2. Maintain the existing drainage pattern of water from the stockpile storage area.
3. Dress the reclaimed asphalt area to drain rainwater from the material.
4. Obtain the Engineer's approval of the stockpile locations and the method used to prevent milled material degradation, segregation, and reconsolidation.

2. Equipment:

a. Milling Equipment

Use power-driven, self-propelled milling equipment that is the size and shape that allows traffic to pass through areas adjacent to the work. Also, use equipment that is:

1. Designed to mill and remove a specified depth of existing asphalt paving
2. Equipment with grade and slope controls that will provide accurate control of the milling operation
3. Capable of removing pavement to an accuracy of 1/8 in.

4. Provided with conveyors capable of side, rear, or front loading to transfer the milled material from the roadway to a truck.

3. Dust Control:

Provide power brooms, vacuum, power blowers, or other means to remove loose debris or dust. Do not allow dust control to restrict visibility of passing traffic or to disrupt adjacent property owners.

4. Milling Operations:

Follow the drawings or statement of work to mill the designated areas and Depths including bridge decks, shoulders, and ramps, as required.

Ensure the following requirements are met:

- a. Schedule the construction operation. Use milling methods that will produce a uniform finished surface and maintain a constant cross slope between extremities in each lane.
- b. Provide positive drainage to prevent water accumulation on the milled pavement, as shown on the Plans or directed by the Engineer.
- c. Bevel back the longitudinal vertical edges greater than 2 in that are produced by the removal process and left exposed to traffic. Bevel them back at least 3 in for each 2 in of material removed. Use an attached method.
- d. When removing material at ramp areas and ends of milled sections, taper the transverse edges 10 ft to avoid creating a traffic hazard and to produce a smooth surface.
- e. Protect with a temporary asphaltic concrete tie-in (paper joint) vertical edges at other areas such as bridge approach slabs, drainage structures, and utility appurtenance greater than ½ in that are left open to transversing vehicles. Place the temporary tie-in at taper rate of at least 6 to 1 horizontal to vertical distance.
- f. Remove dust, residue, and loose milled material from the milled surface. Do not allow traffic on the milled surface and do not place asphaltic concrete on the milled surface until removal is complete. The reclaimed asphaltic pavement becomes the Contractor's property unless otherwise specified.

5. Quality Acceptance:

Ensure that the milling operation produce a uniform pavement texture that is true to line, grade, and cross section.

Milled pavement surface acceptance testing will be performed using a visual inspection.

Milled pavement will be evaluated on individual test sections.

Milled pavement surfaces are subject to visual and straightedge inspection.

Keep a 10 ft straightedge near the milling operation to measure surface irregularities of the milled pavement surface.

Remill irregularities greater than 1/8 in per 10 ft at no additional cost to Bibb County.

Ensure that the cross slope is uniform and that no depressions or slope misalignments greater than 1/4 in per 12 ft exist when the slope is tested with a straightedge placed perpendicular to center line.

B. Special Base Repair:

1. Perform repairs while maintaining traffic unless otherwise specified.
2. Procedure for installation:
 - a. Where pavement distress is greater than can be repaired through full depth reclamation, the contractor shall remove existing pavement and base material; the contractor must then excavate subgrade to a depth as required by Macon-Bibb Engineering to ensure subgrade structural integrity.
 - b. Place suitable sub-grade fill material (GABC) in maximum 6" lifts to the existing pavement surface. Compact lifts to ensure integrity of sub-grade to 98% of the maximum dry density using a standard proctor.

C. Hot Mix Asphaltic Concrete Construction: (Resurfacing)

1. General Description

The work includes constructing one or more courses of bituminous plant mixture on the prepared foundation or existing roadway surface. The mixture shall conform with lines, grades, thickness, and typical

cross sections shown on the drawings or in the statement of work established by the engineer.

This section includes the requirements for all bituminous plant mixture regardless of the gradation of the aggregates, type and amount of bituminous material, or pavement use.

2. Preparation

Prepare the existing surface for full depth reclamation as specified in Section 301, "Cement Stabilized Reclaimed Base Construction".

3. Omitted

4. Construction

Provide Macon-Bibb Engineering at least one day's notice prior to beginning construction, or prior to resuming production if operations have been temporarily suspended.

5. Observe Weather Condition Limitations

Do not mix and place asphaltic concrete if the existing surface is wet or frozen. Do not lay asphaltic concrete at air temperature below 55F. For other courses, follow the temperature guidelines in the following table:

Table4-Lift Thickness Table

Lift Thickness	Minimum Temperature
1 in (25 mm) or less	55 F (13 C)
1.1 to 2 in (26 mm to 50 mm)	45 F (8 C)
2.1 to 3 in (51 mm to 75 mm)	35 F (2 C)
3.1 to 4 in (76 mm to 100 mm)	30 F (0 C)
4.1 to 8 in (101 mm to 200 mm)	Contractor's discretion

6. Perform Spreading and Finishing

- a. 12.5 mm "Superpave" hot mix asphalt is to be spread and finished to a mat thickness of 2.0 in.

- b. Unload the mixture into the paver hopper or into a device designed to receive the mixture from delivery vehicles.
- c. Except for leveling courses, spread the mixture to the loose depth for the compacted thickness or the spread rate, Use a mechanical spreader true to the line, grade, and cross section specified.
- d. Obtain Macon-Bibb Engineering's approval for the sequence of paving operations, including paving the adjoining lanes. Minimize tracking tack onto surrounding surfaces.
- e. Ensure that the outside edges of the pavement being laid are aligned and parallel to the roadway center line.
- f. Where mechanical equipment cannot be used, spread and rake the mixture by hand. Obtain Macon-Bibb Engineering's approval of the operation sequence, including compactive methods, in these areas.
- g. Keep small hand raking tools clean and free from asphalt build-up. Do not use fuel oil or other harmful solvents to clean tools during the work.
- h. Do not use mixture with any of these characteristics:
 - Segregated
 - Nonconforming temperature
 - Deficient or excessive asphalt cement content
 - Otherwise unsuitable to place on the roadway in the work
- i. Remove and replace mixture placed on the roadway that the Engineer determines has unacceptable blemish levels from segregation, streaking, pulling and tearing, or other characteristics. Replace with acceptable mixture at the Contractor's expense. Do not continually place mixtures with deficiencies.

Do not place subsequent course lifts over another lift or course placed on the same day while the temperature of the previously placed mix is 140 F or greater.

- j. Obtain the Engineer's approval of the material compaction equipment. Perform the rolling as follows:
 1. Begin the rolling as close behind the spreader as possible without causing excessive distortion of the asphalt surface.

2. Continue rolling until roller marks are no longer visible.
- k. If applicable, taper or “feather” asphalt from full depth to a depth no greater than 0.5 in long curbs, gutters, raised pavement edges, and areas where drainage characteristics of the road must be retained. The Engineer will determine the location and extent of tapering.

7. Maintain Continuity of Operations

Coordinate plant production, transportation and paving operations to maintain a continuous operation. If the spreading operations are interrupted, construct a transverse joint if the mixture immediately behind the paver screed cools to less than 250 F.

8. Construct the Asphalt Joints

a. Construct Asphalt Joints:

1. Construct asphalt joints to facilitate full depth exposure of the course before resuming placement of the affected course.
2. Properly clean and tack the vertical face of the transverse joint before placing additional material.
3. Straightedge asphalt joints immediately after forming the joint.
4. Immediately correct any irregularity that exceeds 3/16 in. in 10 ft.
5. Never burn off heat the joint by applying fuel oil or other volatile materials.

9. Protect the Pavement

Protect sections of the newly finished pavement from traffic until the traffic will not mar the surface or alter the surface texture. If directed by the Engineer, use artificial methods to cool the newly finished pavement to open the pavement to traffic more quickly.

10. Testing

The Hot Mix Asphalt that is used in any resurfacing project is subject to random geotechnical testing. The contractor will be required to submit 5 grab samples of hot mix asphalt as it is delivered to the project site. These samples will be tested for gradation and AC content. The contractor must use a certified commercial testing laboratory as directed by the engineer. The engineer will determine when these tests are to be

performed. The contractor shall forward the results of random testing to the engineer within 14 days of sampling. Furthermore, a mix design shall be submitted to the engineer 14 calendar days prior to the overlay being applied.

11. Segregated Mixture

If the mixture is segregated in the finished mat, Bibb County will take actions based on the degree of segregation. The actions are described below.

Unquestionably Unacceptable Segregation:

When the Engineer determines that the segregation in the finished mat is unquestionable unacceptable, following these measures:

1. Suspend Work and require the Contractor to take positive corrective action. The Engineer will evaluate the segregated areas to determine the extent of the corrective work to complete.
2. If there is a mechanical failure that results in a petroleum spill onto the hot mix asphalt mat then production must cease until the necessary mechanical repairs have been made to the equipment and the areas of the mat that have been affected by the spill have been removed and replaced.

12. Measurement

A. Milling

Milling existing asphalt pavement is measured by the ton. The contractors shall submit disposal tickets from a certified disposal facility for all material removed from the site.

B. Special Base Course Repair

Measurement for sub-grade failures requiring additional excavation below the cement stabilized base course depth will be measured by the cubic yard of material used. The contractor will be required to submit quantity calculations for excess material used in patched areas 48 hours following placement.

C. Hot Mix Asphalt

Hot mix asphaltic concrete, complete in place and accepted, is measured in tons. Since payments will be by the ton of asphalt used,

the contractor shall provide a copy of the asphalt load tickets to the inspector at the time of delivery. Tack coat will be measured by the gallon.

13. Payment

A. Milling

Milling asphaltic concrete pavement, measured as specified, will be paid for the Contract Unit Price bid per ton removed.

Payment is full compensation for furnishing equipment, milling, hauling, stockpiling milled material, and satisfactorily performing the work.

B. Special Base Course Repair

The area measured as specified above will be paid for at the Contract Unit Price per cubic yard. Payment is full compensation for equipment, tools, labor, incidentals to complete the work, including but not limited to:

1. Removing damaged asphalt, base, and sub-grade material.
2. Furnishing, placing, and finishing materials for grade stabilization

Payment for excess sub-grade material will be by the cubic yard, in place and compacted.

C. Hot Mix Asphalt

Payment for hot mix asphalt of the various types are paid for at the Contract Unit price per ton. Payment is full compensation for furnishing and placing asphalt, and for cleaning and repairing, preparing surfaces, hauling, mixing, spreading, rolling, and performing other operations to complete the Control item.

D. Submittals

Para#	Description	Date Required	Inspector Check
C.10	Asphalt Mix Design	14 days prior	_____
C.10	Random Asphalt Testing Results	14 days following	_____
C.12.A	Millings Disposal Tickets	5 days following	_____
C.12.B	Quantity calculations (Excess Sub-grade Material)	2 days following	_____
C.12.C	Asphalt Load Tickets	Upon Delivery	_____

Section 301-Cement Stabilized Reclaimed Base Construction

301.1 GENERAL DESCRIPTION

This work includes constructing a cement stabilized base course by pulverizing the existing pavement structure and mixing with Portland cement to the depth specified by Macon-Bibb Engineering. Construct according to these specifications and to lines, grades, thickness, and typical cross-sections specified by Macon-Bibb Engineering.

301.1.01 RELATED REFERENCES

A. Standard Specifications

GDOT SECTION 800: Coarse Aggregate

GDOT SECTION 814: Soil Base Materials

GDOT SECTION 830: Portland Cement

GDOT SECTION 880: Water

B. Referenced Documents: Testing Methods

GDOT 19

GDOT 21

GDOT 65

GDOT 86

GDOT 20

GDOT 59

GDOT 67

C. Submittals

Provide Macon-Bibb engineering with a plan of work to include scheduling for base construction and paving operations. Identify the equipment to be used for the construction of the base course and include the compaction procedures that will be used to install this base course.

301.2 MATERIALS

Material	GDOT Specification
Coarse Aggregate	800
Soil Base Material	814.2.02
Portland Cement (Type I or II)	880.2.01

301.3 CONSTRUCTION REQUIREMENTS

301.3.01 Personnel

Ensure that only experienced and capable personnel operate equipment

301.3.02 Equipment

Use a 500-600 hp reclaimer with injection capabilities to mix 42.3 lb/sq.yd. of Portland cement, water, existing pavement and base materials to a consistent depth. Equipment must provide a homogeneous base material.

301.3.03 Preparation

Loosen and pulverize the in place pavement structure to the width and depth to be stabilized without damaging the underlying materials. Add water as necessary.

301.3.04 Construction

A. Weather Limitations

1. Mix cement stabilized base only when the weather permits the course to be finished without interruption within the time specified
2. Mix materials only when the moisture of the materials to be used in the mixture meets the specified limits.
3. Begin mixing only when the air temperature is above 40°F in the shade and rising.
4. If the work is interrupted for more than two hours after the cement has been added, or if rain increases the cement's moisture content outside the specified limits, the

affected area of completed cement stabilized base course shall be tested for unconfined compressive strength.

B. Moisture Adjustment

Adjust the moisture content of the roadway materials to within 100 to 120 percent of the optimum moisture immediately before spreading the cement. The optimum moisture content is determined by the Job Mix Design. The contractor must submit the Job Mix Design to Macon-Bibb Engineering 30 days before construction begins.

C. Cement Application

1. A mechanical Cement Spreader is required that has an adjustable rate of flow and will distribute the cement uniformly across the width to be reclaimed. The cement shall be spread at the required rate in one pass. The spreader unit is to be equipped with a filtration/dust cyclone type dust control system. Pneumatic distribution or broadcasting is prohibited.
2. Apply cement at a rate of 42.3 lb/sq.yd. and mix to a depth of 8" of loose material to be compacted to a depth of 6" finished product. Maintain the application rate within \pm 10 percent of the 42.3 lb/sq.yd. rate specified.
3. Provide equipment and personnel for the onsite verification of the cement application rate
4. Apply cement on days when wind will not interfere with spreading.
5. If cement content is below the 10 percent limit in the mixing area, add additional cement to bring the affected area within the tolerance specified and recalibrate the mechanical spreader's spread rate. If the cement content is more than the 10 percent limit in the mixing area, the excess quantity will be deducted from the contractor's pay for cement.
6. Regulate operations to limit the application of cement to sections small enough so that all of the mixing, compacting, and finishing operations can be completed within the required time limits.
7. Pass only spreading and mixing equipment over the spread cement and operate this equipment so that it does not displace cement.
8. Replace damaged cement at no cost to Macon-Bibb Engineering when damaged cement is caused by:
 - Hydration due to rain, before or during mixing operations
 - Spreading procedures contrary to the requirements stated above
 - Displacement by the contractor's equipment or other traffic
9. Do not place cement on any areas that "pump" under construction traffic.

D. Mixing

1. Begin mixing as soon as possible after the cement is spread and continue until a homogeneous and uniform mixture is produced. Make any necessary changes to meet Macon-Bibb Engineering requirements if the equipment does not produce a homogeneous and uniform mixture conforming to these specifications.
2. Continue pulverizing until the base mixture is uniform in color and conforms to the following gradation requirements:
 - 95 percent passing through the 2 inch sieve and
 - 55 percent of the roadway material, excluding GABC passing through a No. 4 sieve.
3. Add water as needed immediately after the preliminary mixing of the cement and roadway material to maintain or bring the moisture content to within the required levels.
4. Mix the additional water homogeneously into the full depth of the mixture.

E. Compaction and Finishing

1. Test Section

Use the first section of each constructed cement stabilized base course as a test section. The contractor, through an approved commercial testing laboratory, will evaluate compaction, moisture, homogeneity of mixture, thickness of stabilization, and finished base surface. If the engineer deems it necessary, the contractor will be required to make needed changes to bring mixture into compliance with these compaction specifications.

2. Time Limits

- a. Begin compaction within 45 minutes from the time water is added to the cement mixture.
- b. Complete compaction within two hours
- c. Complete all operations within four hours, from adding cement to finishing the surface.
- d. Do not perform vibratory compaction on materials more than 90 minutes old, measured from the time cement was added to the mixture.

3. Moisture Control

During compaction, ensure that the moisture is uniformly distributed throughout the mixture at a level of between 100 and 120 percent of the optimum moisture content.

5. Compaction Requirements

- a. Use a sheep's foot or steel wheel roller for initial compaction effort unless an alternative method is approved by Macon-Bibb Engineering.
- b. Compact the cement stabilized base course to a minimum of 98% maximum dry density established by the Job Mix Design
- c. Uniformly compact the mixture and then shape to the grade , line and cross section specified.
- d. Remove all loosened material accumulated during the shaping process. Do not use additional layers of cement treated materials in order to conform to cross sectional or grade requirements
- e. Use a pneumatic tired roller to finish the base course surface until it is smooth, closely knit, and free from cracks or deformations, and conforming to the proper line, grade and cross section.
- f. In places that are inaccessible to the pneumatic roller, obtain the required compaction with mechanical tampers approved by Macon-Bibb Engineering. Apply the same compaction requirements as stated above in subsection 301.3.04.E.4.
- g. Perform final grading operations immediately after the placement and compaction operations have been completed. Roll the stabilized base course with a pneumatic roller upon completion of the grading operations

F. Construction Joints

1. Form a straight transverse joint at the end of each day's construction or whenever the work is interrupted.
2. Create the straight transverse joint by cutting back into the completed work to form a true vertical face free of loose or shattered material
3. Form the joint at least two feet from the point where the spreader comes to rest at the end of the day's work, or at the point of interruption.
4. Form a longitudinal joint as described above if cement stabilized mixture is placed over a large area where it is impractical to complete the full width during one day's work. Use the procedure for forming a straight transverse joint. Remove all waste material from the compacted base.

G. Priming the Base - Omitted

A wet cure process will be used in lieu of prime application. Macon-Bibb County reserves the right to require a prime application in the event that the contractor is not utilizing the wet cure process properly. Any prime application will be at the sole expense of the contractor.

H. Opening to Traffic

1. Do not permit any traffic or equipment on the finished surface of the base course until the prime has hardened enough so that it does not pick up under traffic. For the first seven days after priming, restrict traffic to light weight vehicles such as passenger cars and pickup trucks. Do not allow vehicles with an average axle load exceeding 20,000 lbs on the unfinished base at any time.
2. Correct any failures caused by traffic at no additional cost to Macon-Bibb Engineering.

I. Protection of Base course

Maintain the course until Macon-Bibb Engineering has determined that it has sufficiently cured and is ready to be covered with the pavement course. Make repairs whenever defects appear. This preservation action does not relieve the contractor from his responsibility to maintain the work until final acceptance.

301.3.05 Omitted

301.3.06 Quality Acceptance

A. Compaction Tests

The contractor is responsible for securing the services of a certified geotechnical engineering firm to perform compaction testing at a minimum of 1 test per 500 LF. The results of the testing are to be submitted to Macon-Bibb Engineering verbally immediately upon completion of the field test and in writing no later than 2 days after performing any compaction test.

1. Determine maximum dry density from representative samples of compacted materials, according to GDOT 19 or GDOT 67.
2. Determine the in-place density of finished courses according to GDOT 20, GDOT 21, or GDOT 59 as soon as possible after compaction but before the cement sets.

B. Gradation Test

Ensure that the gradation of the completely mixed cement stabilized base course meets the requirements of Subsection 301.3.04.D.2. The contractor shall provide test results from the approved commercial laboratory for all tests performed on each road.

C. Finished Surface

1. Check the finished surface of the cement stabilized base course transversely, also check the finished surface using a 15 ft. straight edge parallel to the centerline. Additionally use one of the following tools:
 - a. A template cut true to the required cross section and set with a spirit level on non-superelevated sections
 - b. A system of ordinates, measured from a string line.
 - c. A surveyor's level
2. The contractor will be responsible for ensuring that ordinates measured from the bottom of a template, string line, or straight edge to the surface do not exceed $\frac{1}{2}$ in. at any point.
3. The contractor will be responsible for correcting any variations from these requirements immediately.

D. Thickness Tolerances

Thickness Measurements

Determine the thickness of the cement stabilized base course by performing depth checks a minimum of 500 LF apart or a minimum of two per lane if the roadway is shorter than 500 LF.

Excess Thickness

- a. Determine the average thickness per linear mile from all of the depth checks taken within that lane mile.
- b. Ensure that the average thickness of the cement stabilized base does not exceed the specified thickness by more than ½ inch.
- c. Any excess quantity of cement stabilized base will be deducted from the contractor’s payment for Portland cement.

E. Strength

- 1. The contractor is responsible to ensure that the compressive strength of the completed cement stabilized base course can support a minimum of 300 psi.
- 2. If there are areas that fail to achieve 300 psi compressive strength then corrective action must be taken as follows:

Compressive Strength

Corrective Action

300 psi	none
200-299 psi	6”-8” base- add 135 lbs/yd ² asphaltic concrete
Less than 200 psi	Reconstruct affected area

*Note:

- 1. Corrective action requiring the use of asphaltic concrete must be at a minimum of 150 LF and cover the full width of the cement stabilized base course surface.
- 2. Perform all corrective actions at no additional cost to Macon-Bibb County.

301.4 MEASUREMENT

A. Cement Stabilized Base Course

The cement stabilized base course will be measured in square yards

B. Portland Cement

Portland cement will be measured by the ton. A copy of the material delivery ticket must be submitted to Macon-Bibb Engineering.

C. Bituminous Prime - Omitted

D. Coarse Aggregate

Coarse aggregate used for special base course repair will be measured by the cubic yard.

301.5 PAYMENT

A. Cement Stabilized Base Course

Cement stabilized base, in place and accepted will be paid at the contract unit price per square yard. Payment will be full compensation for road bed preparation, mixing operations, shaping, pulverizing, watering, compaction, defect repair, bituminous prime application and maintenance.

B. Portland Cement

Portland cement will be paid for at the contract unit price per ton. Payment is full compensation for furnishing, hauling, and applying the material. Only Type I or Type II Portland cement mixed into the cement stabilized base course qualify for payment.. Cement that is of a different type or is used to make repairs or correct defects does not qualify for payment and will be the responsibility of the contractor.

C. Coarse Aggregate

Coarse aggregate will be paid for at the contract unit price per cubic yard. Payment is full compensation for furnishing, hauling, spreading, watering, shaping, and compacting the material.

301.6 SUBMITTALS

Para #	Description	Date Required	Inspector Check
301.1.01	Plan of Work	21 days prior	_____
301.2	Material Spec. Sheets	21 days prior	_____
301.3.02	Equipment Spec. Sheet	21 days prior	_____
301.3.04.A	Unconfined Compressive		

	Strength Results	14 days after	_____
301.3.04.B	Job Mix Design	30 days prior	_____
301.3.04.D	Provide Mixing Results	21 days prior	_____
301.3.06.A	Provide Compaction Results	Same Day	_____
301.3.06.B	Provide Gradation Results	7 days after	_____
301.3.06.D	Provide Thickness Results	Same Day	_____
301.3.06.E	Provide Strength Results	28 days after	_____
301.5.A	Portland Cement Delivery		
	tickets	Same Day	_____
301.3.C	Coarse Aggregate Delivery		
	tickets	Same Day	_____