



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Administration
DIVISION OF PURCHASES
One Capitol Hill
Providence, RI 02908-5855

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May 27, 2014

ADDENDUM NUMBER ONE

RFQ # 7548743

TITLE: Pastore Center Parking Improvements-Phase II

Closing Date and Time: 6/5/14 at 10:30 AM

Per the issuance of this ADDENDUM #1 (31 pages and PDF file) the following is noted:

- Attached is the sign in sheet from the non-mandatory pre bid conference held 5/21/14 at 9am.
- Attached is the transcript of that conference provided by Allied Court Reporters.
- Attached is additional information provided by the engineer addressing questions from pre bid and sent in on line.
- This bid will be awarded based on the base bid price inclusive of any alternates selected in order of priority as specified on the bid form, based on the availability of funds and in the best interest of the state.
- Unit prices are the basis for any change orders approved in advance by the State after the award and during construction. They can either be addition or subtraction.

END OF QUESTIONS



"NON-MANDATORY" PRE-BID CONFERENCE SIGN IN SHEET

BID NUMBER	7548743
BID TITLE	PASTORE CENTER PARKING IMPROVEMENTS-PHASE II
PRE-BID DATE AND TIME	MAY 21, 2014 9AM

Purchasing Representative	DCADORET
Pre-bid START TIME	9:05
Pre-bid END TIME	9:40

COMPANY NAME	COMPANY REPRESENTATIVE	ADDRESS	CONTACT E-MAIL	CONTACT PHONE NUMBER	CONTACT FAX NUMBER	PROPOSAL SUBMITTED for Purchasing Use (Only)
1 STATE PUMP	DAVID SPONES					
2 CROSSMAN Eng.	Douglas Allen	151 Centerville Rd	doyle.m@crossmaneng.com	401-738-5660	401-738-8157	
3 J.H. LYNETT & SONS INC	Vernon Michael Charn	50 Lynett Pl Cumberland RI	Sales@jhllynett.com	401-333-4300	401-333-2659	
4 J. WALLACE CORP	Capt. Joseph S. (DDA) I.C. Pild Hill	400 Lincoln Ave	Estimating@jwallacecorp.com	759-8300	752-0006	
5 NARRAGANSETT	JOE COVARRIZZO					
6 NARRAGANSETT	ANDREW CROSSLAND	229 Alton St	Andrew@narragansett.com	876-4417	351-6444	
7 WALLACE CORP	William Stamp	206 W. W. Phillips St	stamp@wallacecorp.com	585-6244	228-7882	
8 CROSSMAN Eng.	Steve Cabral	151 Centerville Rd Warwick	scabral@crossmaneng.com	401-738-8157	738-8157	
9 NARRAGANSETT	NARRAGANSETT PROJECTS					
10						
11						
12						
13						
14						
15						

In The Matter Of:
Pre-Bid Conference

Pastore Center Parking Improvements - Phase II project
May 21, 2014



VIDEO CONFERENCE CENTERS

Phone: 401-946-5500

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info@alliedcourtreporters.com

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ADMINISTRATION
DIVISION OF CAPITAL PROJECTS AND PROPERTY MANAGEMENT

PROCEEDINGS IN RE:

BID NUMBER 7548743
NON-MANDATORY PRE-BID CONFERENCE
PASTORE CENTER PARKING IMPROVEMENTS
PHASE II PROJECT

ONE CAPITOL HILL
PROVIDENCE, RI 02908
MAY 21, 2014
9:00 A.M.

BEFORE:

DAVID A. CADORET, CHIEF BUYER
NAMVAR MOGHADAM, ASSOCIATE DIRECTOR
JONATHAN D. DePAULT, CHIEF PROPERTY MANAGER
RONALD N. RENAUD, OPERATIONS MANAGEMENT

APPEARANCES:

FOR CROSSMAN ENGINEERING, INC:
BY: DOUGLAS J. ALLAM, JR., P.E.
& STEVEN M. CABRAL, P.E.

ALSO PRESENT:

VONGVIBOL CHAN, JOE COLAPIETRO, ANDREW CROWSHAW,
WILLIAM STAMP

1 (CONFERENCE COMMENCED AT 9:00 A.M.)

2 MR. CADORET: Good morning,
3 everybody. My name is Dave Cadoret with Rhode
4 Island State Purchasing. I will handle the
5 questions as far as the bid process itself goes.
6 We have a representative from Crossman
7 Engineering, Doug, who will answer the questions
8 as far as the scope of work. We have a
9 stenographer here, so when the time comes for a
10 question period, we ask that you state your name
11 and spell it preferably. She is going to enter
12 that into the script. So we will get started.
13 This is a non-mandatory pre-bid conference. There
14 may be other vendors submitting bids other than
15 those on the sign-in sheet. We're accepting
16 questions online until Friday, May 23rd, at 5 P.M.
17 The e-mail address is on the invitation to bid.
18 There is a bid bond required, and there are
19 payment and performance bonds required, and all
20 the specifications and plans are online for your
21 viewing.

22 Completion time for this project is 130
23 calendar days from the date of the purchase order.
24 This has been identified as a Public Works project
25 and will require a public copy be submitted at the

1 time of the bid proposal in addition to your paper
2 copy. The instructions on how to submit that disk
3 are included. If your disk is not submitted at
4 the time of the bid, your bid will be deemed
5 nonresponsive.

6 On the bid form itself there are some
7 allowances. Please take note of them. There are
8 a couple of alternates, and we're asking for
9 several unit prices be included. There are
10 liquidated damages of \$500 per day on this bid.
11 There are 11 pages of clauses. They're relatively
12 new as of the first of the year; I ask that you
13 pay attention to those clauses and make yourself
14 aware of those. There is a general contractor
15 apprenticeship certification form. This is for
16 projects of one million dollars and more. If this
17 form is not submitted at the time of the bid, your
18 bid will be deemed nonresponsive. There is a
19 subcontractor apprenticeship certification form.
20 This will be required of any subcontractors that
21 you use. That is between you and them. You're
22 usually required to get that form prior to any
23 start of work. There is a general contractor
24 apprenticeship recertification form. We will
25 request that at the time of tentative letter of

1 award to the vendor.

2 This is a prevailing wage job. There is a
3 certification that you are aware that this is
4 prevailing wage. It should be signed and
5 submitted with your bid proposal.

6 There is a checklist that we include for
7 items that should be submitted. It's not a
8 substitute. You should make yourself aware of all
9 the instructions to the bidders. And we ask that
10 you submit a W-9 with your bid proposal.

11 Any questions as far as the bid proposal
12 itself goes? All right, Doug.

13 MR. ALLAM: The project is at the
14 Pastore Government Center. This is actually a
15 Phase II. Last year there were several other
16 parking lots done. The primary roadways for this
17 project are Howard Avenue from Cherrydale Court
18 down to Pontiac Avenue, which will consist of
19 micromilling bituminous pavement, and also West
20 Road from Howard Avenue to Roberta Richman Way.
21 The parking areas that are part of this project
22 are the following adjacent to these buildings as
23 labeled on the plans: The Louis Pastore Building,
24 which is Building Number 57. The Department of
25 Corrections Buildings Number 75, 152, and 76.

1 It's the parking lot across the street. The
2 Reagan Building, which is labeled Number 60, and
3 Building Number 81, and also the parking lot
4 behind the Matthews Building, which I believe is
5 labeled Number 56.

6 The work for the project includes bituminous
7 crack sealing and resurfacing, the use of asphalt
8 overlay, geotextiles, installation of sidewalks
9 along the eastern segment of Howard Ave,
10 wheelchair ramps, signage, lighting, limited
11 drainage, landscaping, and other miscellaneous
12 items.

13 MR. CADORET: We'll open it up to
14 questions for either Doug or myself.

15 MR. STAMP: William Stamp, S-t-a-m-p.
16 Can we use precast catch basins instead of the
17 block, solid block?

18 MR. ALLAM: I'd have to look at why
19 block was specified.

20 MR. STAMP: They're both on the
21 detail sheets, but it only calls out for block
22 ones on the drains.

23 MR. CABRAL: Steve Cabral with
24 Crossman Engineering. Yes, typically the precast
25 would be acceptable subject to shop drawing

1 review.

2 MR. STAMP: I have a question again.
3 William Stamp. The geogrids, some of the asphalt
4 vendors I spoke to are kind of nervous about using
5 that. Have you used it on other projects? That
6 goes over a tack oil, and you put a tack down, and
7 then the geogrid goes on the tack oil.

8 MR. ALLAM: Yes, it was used last
9 year in the Phase I project for the parking lots.

10 MR. STAMP: Is there much cracking in
11 that parking lot as of now?

12 MR. ALLAM: There's sporadic
13 cracking. There are areas that are alligator
14 cracked and there are areas that have longitudinal
15 cracks running through it. It's not really
16 consistent. It depends on the area of the parking
17 lot.

18 MR. STAMP: Why are you using the
19 geogrid? Does it support the pavement better?

20 MR. CABRAL: The purpose is that it
21 extends the time before reflective cracking
22 occurs. We recognize that if we were just to
23 crack seal, crack coat overlay, we'd have
24 reflective cracking within a year.

25 MR. STAMP: Right.

1 MR. CABRAL: The intent of the
2 geofabric is that it extends the time before you
3 can expect to have reflective cracking.

4 MR. STAMP: It states the contractor
5 will own crack sealing within a year. Does the
6 geogrid manufacturer warranty any asphalt with the
7 use of it?

8 MR. CABRAL: Well, that question is
9 really not applicable to the design. That's
10 really between the contractor and his
11 subcontractor or supplier.

12 MR. STAMP: Okay. Would it be an
13 option to eliminate that, or are you set on using
14 the geogrid?

15 MR. CABRAL: I'm sorry, could you
16 repeat that question.

17 MR. STAMP: Would it be an option to
18 eliminate the geogrid, or are you guys set on
19 using the geogrid under the pavement?

20 MR. CABRAL: We're definitely using
21 the geogrid. We all recognize there could be
22 reflective cracking.

23 MR. STAMP: Okay. I just haven't
24 used it so I was asking the question. I have
25 another question. The project is lump sum then by

1 the way I'm reading it?

2 MR. CADORET: Yes.

3 MR. STAMP: And all the units are
4 added if there's additional work?

5 MR. CADORET: If the alternates are
6 taken, yes.

7 MR. STAMP: Okay.

8 MR. CROSHAW: Andrew Crowshaw,
9 Narragansett Improvement. The unit costs that you
10 want on the bid form don't have any quantities
11 associated with them, so they're just used for
12 adds?

13 MR. CADORET: Correct.

14 MR. CROSHAW: Not for deducts?

15 MR. CADORET: Correct.

16 MR. CROSHAW: And billing on the
17 project where it's a lump sum basis, how are we
18 determining billing?

19 MR. MOGHADAM: Let me just go back to
20 the previous question.

21 MR. CADORET: Go ahead.

22 MR. MOGHADAM: I think that we need
23 to talk about adds, if the unit items are used for
24 adds or deducts.

25 MR. CADORET: Well, the unit prices

1 are separate from the add or deducts.

2 MR. MOGHADAM: Separate from the add
3 alternates.

4 MR. CADORET: Right.

5 MR. MOGHADAM: But the unit prices
6 that are there, my understanding is we need to
7 clear it with your office in the case of if
8 additional work comes up, it may be used as a unit
9 price to add something?

10 MR. CADORET: Correct.

11 MR. MOGHADAM: But also may be used
12 as something to be subtracted from the job in
13 order to pay for the addition?

14 MR. CADORET: Right.

15 MR. MOGHADAM: Because we have to
16 stay within the contract amount, but that's
17 something we clarify with your office?

18 MR. CADORET: Right.

19 MR. MOGHADAM: If it can be used as a
20 deduct or not.

21 MR. CADORET: That's after the fact
22 of the job being awarded.

23 MR. MOGHADAM: That is correct.

24 MR. CADORET: We base it on the base
25 bid. The base bid is the base bid, and then there

1 are two alternates, I believe, in the job, whether
2 we chose to do that or not. The unit prices are
3 separate from that.

4 MR. STAMP: So the unit prices are
5 for add and deduct?

6 MR. CADORET: Correct.

7 MR. STAMP: So if you guys decided to
8 take away curbing, that would be the unit price
9 that would be deducted?

10 MR. MOGHADAM: As I said, I know for
11 sure it's for add. That I can say. I need to
12 check with the Division of Purchasing if it can be
13 used for deduct. For example, let's say we call
14 for granite curbing and we decided that, you know,
15 that we want to add another 30 feet of paving and
16 we cannot afford the quantity of the paving, and
17 we use a deduct for the granite and substitute
18 concrete that is cheaper, and then we can pay for
19 that, but that's something that I need to check
20 with Purchasing.

21 MR. CADORET: If that doesn't clarify
22 it for you, we will enter an addendum form for
23 you.

24 MR. CROSHAW: Yeah, my concern is
25 that in some of these, if, for instance, in the

1 case of the granite curb item, we may have
2 purchased that and have it on site already for
3 installation, so it's not something where you can
4 just deduct it out without an impact to the
5 contractor. Typically if you're going to use unit
6 costs for adds and deducts, there are two prices
7 that we get, a price for the add and a price for
8 deduct, so typically we're allowed to keep a
9 reasonable markup on those units as it affects the
10 lump sum bid.

11 MR. MOGHADAM: The point is well
12 taken. Again, I'm going to go back to -- that's
13 something that's contractual, and we will discuss
14 it with David and the head of Purchasing and we
15 will get back to you.

16 MR. CADORET: We will clarify that.

17 MR. CHAN: Yeah, I tried to ask about
18 this, what he already mentioned about this. If
19 you can clarify that in the items that are coming,
20 I think we would be glad.

21 MR. MOGHADAM: We already answered
22 that we will clarify.

23 MR. STAMP: William Stamp again. How
24 is the payment structure then over the 130 days?

25 MR. CADORET: I can't answer a

1 question as far as payment structure goes. We
2 issued the purchase order. I will see if I can
3 find something for you, and we will clarify.

4 MR. CROSHAW: Andrew Crowshaw. So
5 right now we're not clear whether or not it's one
6 payment at the end of the project or we're going
7 to do 30-day requisitions based on percentage
8 complete?

9 MR. MOGHADAM: It's a 30-day
10 requisition based on the percentage that is
11 complete. So you submit your requisition. The
12 engineers, the owner's rep on the job, they will
13 review it, and hopefully we don't have to go back
14 and forth too many times to an agreed-to price,
15 and we process it.

16 MR. CADORET: Any other questions?
17 Thank you very much for coming. I appreciate it.

18 (PROCEEDINGS CONCLUDED AT 9:18 A.M.)
19
20
21
22
23
24
25

1 C E R T I F I C A T E

2 I, Jane M. Poore, hereby certify that the
3 foregoing is a true, accurate, and complete
4 transcript of my notes taken at the above entitled
5 hearing.

6 IN WITNESS WHEREOF I have hereunto set my
7 hand this 21st day of May, 2014.

8
9
10
11 *Jane M. Poore*
12 *Notary Public*
13 

14 JANE M. POORE, NOTARY PUBLIC/RPR
15 My commission expires 9/11/17

16
17
18
19
20 DATE: May 21, 2014
21 IN RE: Bid Number 7548743

Addendum 1:

Pre Bid Meeting Questions and Responses May 21, 2014

- Question No. 1:** Can we use precast catch basins instead of the block, solid block?
- Response:** Yes, precast catch basins are acceptable subject to shop drawing review.
- Question No. 2:** The geogrids, some of the asphalt vendors I spoke to are kind of nervous about using that. Have you used it on other projects? That goes over a tack oil, and you put a tack down, and then the geogrid goes on the tack oil.
- Response:** Yes, the asphalt overlay geotextile was used on the Phase I Pastore Center Parking Improvement project last year.
- Question No. 3:** Is there much cracking in that parking lot as of now?
- Response:** There is sporadic cracking in the existing parking areas that include alligator cracking and longitudinal cracking.
- Question No. 4:** Why are you using the geogrid? Does it support the pavement better?
- Response:** The asphalt overlay geotextile is proposed to extend the time before reflective cracking occurs.
- Question No. 5:** It states the contractor will own crack sealing within a year. Does the geogrid manufacturer warranty any asphalt with the use of it?
- Response:** The question is not applicable to the design and is a question between the Contractor and his Subcontractor or supplier.
- Question No. 6:** Would it be an option to eliminate that, or are you set on using the geogrid under the pavement?
- Response:** No, the asphalt overlay geotextile will definitely be used as part of the project.
- Question No. 7:** The project is lump sum then by the way I'm reading it?
- Response:** Yes. Refer to Bid Form.
- Question No. 8:** And all the units are added if there's additional work?
- Response:** The unit prices are used to perform work beyond the base bid and any of the

add alternates.

Question No. 9: The unit costs that you want on the bid form don't have any quantities associated with them, so they're just used for adds?

Response: See response to question number 8.

Question No. 10: Not for deducts?

Response: Unit costs are used for deduct items.

Question No. 11: And billing on the project where it's a lump sum basis, how are we determining billing?

Response: Progress payments are allowed. Refer to the Contract Documents.

Question No. 12: So the unit prices are for add and deduct?

Response: Yes for both.

Question No. 13: So if you guys decided to take away curbing, that would be the unit price that would be deducted?

Response: Yes.

Question No. 14: How is the payment structure then over the 130 days?

Response: Progress payments are allowed. Refer to the Contract Documents.

Question No. 15: So right now we're not clear whether or not it's one payment at the end of the project or we're going to do 30-day requisitions based on percentage complete?

Response: Progress payments are allowed.

DIVISION 0 - BIDDING REQUIREMENTS, CONTRACT FORMS, AGREEMENT, CONDITIONS OF CONTRACT, DIVISION 1 SPECIFICATIONS, AND TECHNICAL SPECIFICATIONS

1. Delete page TOC-3 in its entirety and insert revised page TOC-3, attached to this Addendum No. 1.
2. Delete Section 000900 Addenda page 000900-1 in its entirety and insert revised Section 000900 Addenda page 000900-1, attached to this Addendum No. 1.

DIVISION 2 SITE CONSTRUCTION:

1. Insert pages M.03-R-9 through M.03-R-18, attached to this Addendum No. 1.

FINAL CONSTRUCTION PLANS:

Delete Sheet No. 10 of 19 in its entirety and insert revised Sheet No. 10 of 19, attached to this Addendum No. 1.

M.01	Borrow and Aggregates.....	6
M.02	Portland Cement Concrete.....	9
M.03	Bituminous Pavements.....	18
M.04	Drainage.....	6
M.05	Metals.....	9
M.06	Paints.....	6
M.09	Curbing.....	4
M.10	Dust Control, Riprap, Stone Walls, Cobblestones, Flagstones, and Highway Bounds.....	3
M.16	Signs and Support Systems.....	20
M.17	Pavement Markings.....	11
M.18	Landscaping Materials.....	12

PART B DRAWINGS

<u>Drawing</u>	<u>Title</u>
	Cover Sheet
C1	General Notes and Legend
C2	Key Plan
C3	Site Plan Area No. 1
C4	Site Plan Area No. 2
C5	Site Plan Area No. 3
C6	Site Plan Area No. 4
C7	Site Plan Area No. 5
C8	Site Plan Area No. 6
C9	Site Plan Area No. 7
C10	Site Plan Area No. 8
C11	Additive Bid Item No. 1
C12	Additive Bid Item No. 2 Sheet 1
C13	Additive Bid Item No. 2 Sheet 2
C14	Miscellaneous Detail Plan No. 1
C15	Miscellaneous Detail Plan No. 2
C16	Miscellaneous Detail Plan No. 3
C17	Miscellaneous Detail Plan No. 4
C18	Miscellaneous Detail Plan No. 5

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SECTION 000900

ADDENDA AND MODIFICATIONS

ADDENDUM NO. 1, May 27, 2014

RE: Proposed Roadway and Parking Improvements
Pastore Government Center
Cranston, Rhode Island 02920

FROM:

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated April 2014 as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of pages(s) and the attached drawing(s), Sheet No. 10 of 19.

CHANGES TO PRIOR ADDENDA:

1. N/A

CHANGES TO BIDDING REQUIREMENTS:

2. N/A

CHANGES TO THE CONDITIONS OF THE CONTRACT:

3. N/A

CHANGES TO SPECIFICATIONS:

4. M.03 Bituminous Pavements

CHANGES TO DRAWINGS:

5. C9 Site Layout Plan No. 7

END OF SECTION 000900

Addenda and Modifications

CLASS 9.5 (SURFACE COURSE)

DESCRIPTION:

Class 9.5 (Surface Course) shall conform to the requirements of the RI Standard Specifications for Road and Bridge Construction with the following exceptions and modifications.

MATERIALS:

1. Aggregate

The aggregate shall conform to the 3 to <10 million ESAL requirements of Table 5 in AASHTO M 323. No more than 10% of the aggregate shall be natural sand. All aggregate properties of Section M.03 shall apply.

2. Performance Graded Binder

The binder shall meet the requirements of PG 64-28, Grade S as specified in AASHTO M 320 and MP 19. The contractor may use an approved warm mix additive (WMA) at a dosage rate recommended by the manufacturer. Only chemical or organic WMA's may be used. Mechanical water injection will not be allowed. If a WMA is used it shall be provided at no additional cost to the Owner.

3. Mix Design

HMA mixes shall conform to AASHTO M 323, "Standard Specification for Superpave Volumetric Mix Design". The design procedure shall follow AASHTO R 35 "Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)". The design specifications found in AASHTO M 323 shall supersede those found in the RI Standard Specifications for Road and Bridge Construction. A mix design using PG 64-28 Grade S shall be used to determine the design binder content. The voids in the mineral aggregate (VMA) and $VMA_{\text{effective}}$ shall be calculated for each asphalt content during the mix design process. The following specific requirements and exceptions to AASHTO M 323 shall apply.

- a. N_{initial} shall be 6, N_{design} shall be 50 and N_{max} shall be 75 gyrations.
- b. A moisture susceptibility test will not be required.
- c. The mix shall be designed at 4% voids.
- d. The VMA shall be greater than or equal to 16.5%.
- e. The voids filled with asphalt (VFA) shall be 70 to 80%.

- f. The mix shall be coarse graded as defined in Section 6.1.3 of AASHTO M 323.
- g. The dust to binder ratio ($P_{0.075}/P_{be}$) shall be 0.5 – 1.0. The design effective binder content shall be used to calculate this ratio.
- h. No RAP will be allowed in the mix.
- i. In addition to the sieves listed in Table 3 of AASHTO M 323, the 0.600 mm, 0.300 mm and 0.150 mm sieves will be required. The 50.0 mm and 37.5 mm sieves will not be required.

The following procedures shall be adhered to for the mix design:

- Three aggregate trial blends shall be submitted and accepted before beginning the mix design procedure.
- All trial mixture data and calculations determined for Section 9 of AASHTO R 35 shall be submitted to the Engineer. The Engineer will determine which trial mixture shall be used for the mix design procedure.
- After the mix design is completed it shall be submitted to the Engineer for acceptance.
- The correction factors for the ignition furnace in the plant lab shall be provided.

The gyratory cores and Rice (AASHTO T 209) samples at the design binder content shall be submitted to the Engineer.

A successful plant trial batch shall be performed before beginning production of HMA.

CONSTRUCTION:

1. Plant Laboratory

In addition to the requirements of Section 930, the contractor provided lab shall be equipped with the following:

- Gyratory compactor conforming to AASHTO T 312 and two molds.
- All equipment required to determine the theoretical maximum specific gravity in accordance with AASHTO T 209 Test Method A and Section 13.1. A metal pycnometer and electronic digital vacuum gauge shall also be provided.

- All sieves required for the mix design process.
- Facilities and equipment to perform a wet-wash in accordance with AASHTO T 30 and a faucet spray hose shall be provided.

2. Production Tolerances

In the event that the air void content deviates from the design air void content by more than 2.0% or if the binder content deviates from the design binder content by more than 0.5% for any single test, the plant shall cease production of HMA. Production will be allowed to resume after completion of a successful trial batch.

The following tolerances for gradation shall apply:

12.5 mm	100%
9.5 mm	90% - 100%
4.75 mm	90% max.
2.36 mm	Established by the mix design $\pm 5\%$
0.075 mm	Greater than or equal to 2.0%

3. Mix Production – Lots and Sublots

One standard lot shall be 3,000 tons and one standard subplot shall be 600 tons for HMA sampled at the plant. An acceptance test will be performed once every subplot.

In the event production of a specific mix finishes for the contract before a standard 600 ton subplot is completed, the HMA tonnage will be added to the previous subplot if it is less than 300 tons or will be considered a separate subplot if it is greater than or equal to 300 tons.

If a test is not performed on a subplot then the quantity in that subplot will be combined with the previous subplot and the previous test result will be apply to this combined subplot.

If the quantity of HMA needed to finish production is projected to be less than 600 tons, a sample may be taken at the Engineer's discretion.

If one or two sublots are tested after the end of the final standard 3,000 ton lot, they will be added to the previous lot. Three or more sublots will constitute a new lot.

4. Pay Adjustments

The following pay adjustments for deviation from the Design Binder Content (DBC) established by the mix design will apply:

Deviation from DBC	Pay Adjustment
Less than or equal to 0.2 %	+3%
0.3%	+1%
0.4%	0%
0.5%	-5%
0.6%	-15%
0.7%	-30%
0.8%	-40%
Greater than 0.8 %	Remove and Replace

The following pay adjustments for deviation from the design air void content will apply:

Deviation from Design Air Void Content	Pay Adjustment
Less than or equal to 0.5%	+2%
0.6% to 1.0%	0%
1.1% to 1.5%	-5%
1.6% to 2.0%	-20%
2.1% to 2.5%	-30%
2.6% to 3.0%	-40%
Greater than 3.0%	Remove and Replace

5. Calculation of Pay Adjustments for DBC and Air Void Content

For each test, absolute deviations will be used when determining DBC and air void content pay adjustments. Absolute deviations are the values of deviation regardless of sign (\pm).

The average of the absolute deviations from the DBC of all of the sublots in each lot will be used to determine the appropriate pay adjustments for the lots. The same will apply for air void content. The pay adjustments will be applied to their respective total lot tonnage to determine the adjusted unit price for the lots. The final adjustment for tonnage will be rounded to two decimal places.

Note: All deviation values will be rounded to the nearest 0.1% before applying pay adjustments.

All other tolerances shall conform to the RI Standard Specifications.

HAULING EQUIPMENT:

Cleaning of truck beds shall be done off site and will not be allowed in any area that will

be paved.

IN-PLACE DENSITY:

The mat and joint densities will be determined by taking field cores and using the respective bulk and maximum theoretical densities. Bulk densities of the field cores will be determined in the central lab and the maximum theoretical densities will be determined in the plant lab.

1. Density Cores

One standard lot shall be 3,000 tons and one standard subplot shall be 600 tons for mat density. One 4 inch core shall be taken randomly from the mat every 300 tons for a total of two cores per 600 ton subplot.

The location of all cores will be determined by the Engineer. The center of each core used to determine mat density will be at least one foot away from any transverse or longitudinal joints and three feet away from any drainage structures.

One 4 inch joint density core shall be taken from the joint for every subplot placed when a joint is formed. Joint cores shall be taken within two inches of the middle of the sloped portion of the joint for notched-wedge joints or within two inches of the intersection of the two paving passes for butt joints.

All cores shall be taken by the contractor after completion of rolling operations and within 30 days of the pavement being placed. The Engineer will take immediate possession of the cores upon extraction.

The section of the mat and joint at the end of paving for each mix will be added to the previous subplot if it is less than 300 tons or will be considered a full subplot if it is greater than or equal to 300 tons.

The contractor may obtain cores for QC purposes to monitor in-place density.

2. Pay Adjustments

The following pay adjustments will be made for in-place density:

In-Place Mat Density	Pay Adjustment
95.0% and greater	+3%
94.0% to 94.9%	+2%
93.0% to 93.9%	0%
92.0% to 92.9%	-10%
91.0% to 91.9%	-20%
90.0% to 90.9%	-30%
89.0% to 89.9%	-40%
Below 89.0%	Remove and Replace

In-Place Joint Density	Pay Adjustment
93.0% and greater	+3%
92.0% to 92.9%	+2%
91.0% to 91.9%	0%
90.0% to 90.9%	-10%
89.0% to 89.9%	-20%
88.0% to 88.9%	-30%
87.0% to 87.9%	-40%
Below 87.0%	-100%

In the event material must be removed and replaced, the Engineer will determine the limits of the removal.

3. Calculation of Pay Adjustments for In-Place Density

For Mat Density:

The bulk specific gravity (G_{mb}) of the mat density cores within a subplot shall be averaged and compared with the corresponding plant theoretical maximum specific gravity (G_{mm}) to calculate the in-place density for each subplot. The average of the subplot densities in a lot will be used to determine the appropriate pay adjustment for that lot. The lot pay adjustments will be applied to their respective total lot tonnage to determine the adjusted tonnage for the lots. For sublots that form joints the calculated quantity of material used to form the joint will be subtracted from the subplot. The final adjustment for tonnage will be rounded to two decimal places.

For Joint Density:

The G_{mb} of each joint density core shall be compared with the average of the two corresponding plant G_{mm} 's to calculate the in-place joint densities. The average of five joint densities will be used to determine the appropriate pay adjustments. The calculation of material quantity used to construct the joints will be based on the core density, the design thickness, a width of one foot and the length of the joint that each core represents. This quantity will be deducted from the overlapping paving pass that formed the joint. The final adjustment for tonnage will be rounded to two decimal places.

JOINTS:

A notched wedge joint shall be used. It shall be constructed so that the height of the notch is the same as the nominal maximum aggregate size. The width of the sloped portion of the joint shall be at least 6 inches for each inch of lift thickness if the joint will be exposed to traffic, otherwise it shall be 12 inches minimum.

DROP-OFFS:

Any longitudinal drop-offs that are left open to traffic require a notched wedge joint.

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Longitudinal drop-offs will not be allowed on both sides of a lane. Tack coat shall be applied to the longitudinal notched wedge joint using a brush or the tack coat distribution truck. Transverse joints and joints at intersections shall be manually brushed with tack coat.

METHOD OF MEASUREMENT:

Subsection 401.04 of the RI Standard Specifications for Road and Bridge Construction will be used as the method of measurement with the following modifications:

Five Percent Tolerance Limitation. Pavement thickness will be considered acceptable when placed within the tolerances specified. The total tonnage delivered and placed shall not exceed the tonnage calculated from the approved areas measured from the final surface course width, by the project length, and the pavement thickness in the Contract, by more than five percent (5%).

A thicker pavement may be acceptable; however, no payment will be made for all quantities of hot-mix asphalt delivered which exceed 105-percent of the final measured length, multiplied by the measured width, multiplied by the specified thickness, multiplied by the unit weight derived from the density cores, even when the pavement thickness is within tolerance.

BASIS OF PAYMENT:

Subsection 401.05 of the RI Standard Specifications for Road and Bridge Construction will be used as the basis of payment.

CLASS 12.5

DESCRIPTION:

Class 12.5 shall conform to the requirements of the Specifications with the following exceptions and modifications:

MATERIALS:

1. Aggregate

The aggregate shall conform to the 3 to <10 million ESAL requirements of Table 5 in AASHTO M 323. No more than 10% of the aggregate shall be natural sand. All aggregate properties of Section M.03 shall apply.

2. Performance Graded Binder

The binder shall meet the requirements of PG 64-28, Grade S as specified in AASHTO M 320 and MP 19. The contractor may use an approved warm mix additive (WMA) at a dosage rate recommended by the manufacturer. If a WMA is used it shall be provided at no additional cost to the Owner.

3. Mix Design

HMA mixes shall conform to AASHTO M 323, "Standard Specification for Superpave Volumetric Mix Design". The design procedure shall follow AASHTO R 35 "Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)". The design specifications found in AASHTO M 323 shall supersede those found in the RI Standard Specifications for Road and Bridge Construction. A mix design using PG 64-28 Grade S shall be used to determine the design binder content. The voids in the mineral aggregate (VMA) and $VMA_{\text{effective}}$ shall be calculated for each asphalt content during the mix design process. The following specific requirements and exceptions to AASHTO M 323 shall apply.

- a. N_{initial} shall be 6, N_{design} shall be 50 and N_{max} shall be 75 gyrations.
- b. A moisture susceptibility test will not be required.
- c. The mix shall be designed at 4% voids.
- d. The VMA shall be greater than or equal to 15.5%.
- e. The VFA shall be 70 to 80 percent.
- f. The mix shall be coarse graded as defined in Section 6.1.3 of AASHTO M 323.

- g. The dust to binder ratio ($P_{0.075}/P_{be}$) shall be 0.5 – 1.0. The design effective binder content shall be used to calculate this ratio.
- h. No RAP will be allowed in the mix.
- i. In addition to the sieves listed in Table 3 of AASHTO M 323, the 0.600 mm, 0.300 mm and 0.150 mm sieves will be required. The 50.0 mm and 37.5 mm sieves will not be required.

The following procedures shall be adhered to for the mix design:

- Three trial blends shall be submitted and accepted before beginning the mix design procedure.
- All trial mixture data and calculations determined for Section 9 of AASHTO R 35 shall be submitted to the Engineer. The Engineer will determine which trial mixture shall be used for the mix design procedure.
- After the mix design is completed it shall be submitted to the Engineer for acceptance.
- The correction factors for the ignition furnace in the plant lab shall be provided.

The gyratory cores and Rice (AASHTO T 209) samples at the design binder content shall be submitted to the Engineer.

A successful plant trial batch shall be performed before production of the HMA begins.

CONSTRUCTION METHODS:

1. Plant Laboratory

In addition to the requirements of Section 930, the contractor provided lab shall be equipped with the following:

- Gyratory compactor conforming to AASHTO T 312 and two molds.
- All equipment required to determine the theoretical maximum specific gravity in accordance with AASHTO T 209 Test Method A and Section 13.1. A metal pycnometer and electronic digital vacuum gauge shall also be provided.
- All sieves required for the mix design process.

- Facilities and equipment to perform a wet-wash in accordance with AASHTO T-30 and a faucet spray hose shall be provided.

2. Mix Production

Samples will be taken at the plant every 600 tons. The following mix production tolerances shall apply:

- a. The air voids (V_a) shall be 3.0 – 5.0 percent.

The following tolerances for gradation shall apply:

19.0 mm	100%
12.5 mm	90% - 100%
9.5 mm	90% max.
2.36 mm	Established by the mix design $\pm 5\%$
0.075 mm	Greater than or equal to 2.0%

In-place density shall be a minimum of 92.0% of the theoretical maximum density obtained at the plant.

METHOD OF MEASUREMENT:

Subsection 401.04 of the RI Standard Specifications for Road and Bridge Construction will be used as the method of measurement.

BASIS OF PAYMENT:

Subsection 401.05 of the RI Standard Specifications for Road and Bridge Construction will be used as the basis of payment.