

ERRATUM

DEPARTMENT/ INSITUTION	BID NUMBER & PROJECT DESCRIPTION	CONTACT PERSON
DEPT OF TRANSPORT		
DEPARTMENT/ INSITUTION	<p>SCMU10-21/22-0030; UPGRADING OF THE ROAD, DR08303, DR08329, DR08308 AND DR08309 FROM R61 AT ST BARNABAS HOSPITAL TO HLULEKA NATURE RESERVE PHASES 2 (32km)</p> <p>This “Notice to Tenderers / Addendum” is an addition to the Tender Documents listed in the List of Contract Documents. Any tender submitted will be deemed to be in accordance with those Documents amended in accordance with the following instructions:</p> <p>AD1-1 COVER PAGE</p> <p><i>Replace “12 November 2021” with “22 November 2021”.</i></p> <p>AD1-2 PART T1.1: TENDER NOTICE AND INVITATION TO TENDER</p> <p>A. <u>TENDER INVITATION</u></p> <p><i>In the second last paragraph replace “Friday 12 November 2021” with “Monday 22 November 2021”</i></p> <p>E. <u>TENDER SUBMISSIONS:</u></p> <p><i>In the first paragraph replace “Friday 12 November 2021” with “Monday 22 November 2021”</i></p> <p>AD1-3 PART T2.2: RETURNABLE SCHEDULES</p> <p>SBD1: INVITATION TO BID AND TERMS AND CONDITIONS FOR BIDDING</p> <p><i>Replace the closing date “12/11/2021” with “22/11/2021”</i></p> <p>AD1-4 PART C2.2: PRICING SCHEDULE</p> <p><u>SCHEDULE A: ROADWORKS</u></p> <p>SECTION 1200 GENERAL REQUIREMENTS AND PROVISIONS</p>	<p>SCM SPECIFIC ENQUIRIES</p> <p>Mr. Nqikashe Cell no: 067 419 8001 Email address: Philasande.Nqikashe@ectransport.gov.za</p>

Page C2.7 **Amend** the rate and amount of item B12.09 (a) from “2,500,000” to “3,000,000”.

Page C2.7 **Amend** the quantity of item B12.09 (b) from “2,500,000” to “3,000,000”.

SECTION 1500 ACCOMMODATION OF TRAFFIC

Page C2.15 **Amend** the quantity of item B15.03 (a) from “13,000” to “15,000”.

Page C2.15 **Amend** the quantity of item B15.03 (h) (ii) from “1,600” to “20,000”.

SECTION 3300 MASS EARTHWORKS

Page C2.30 **Amend** the quantity of item 33.01 (b) (iii) from “8,000” to “37,500”.

Page C2.30 **Amend** the quantity of item 33.01 (e) from “8,500” to “110,000”.

Page C2.30 **Amend** the quantity of item B33.04 (a) (i) from “27,700” to “110,000”.

Page C2.32 **Amend** the quantity of item 33/B16.02 from “1,000,000” to “1,500,000”.

SECTION 3400 PAVEMENT LAYERS OF GRAVEL MATERIAL

Page C2.33 **Amend** the quantity of item 34/B16.02 from “410,000” to “600,000”.

SECTION 3600 CRUSHED-STONE BASE

Page C2.36 **Add** the following new item:

Item	Description	Unit	Quantity
“36/35.02	Chemical stabilizing agent:		
	(a) Cement		
	(i) CEM II 32.5 N	t	75”

Page C2.36 **Amend** the quantity of item 36/35.02 (c) from “150” to “75”.

SECTION 4600 BITUMINOUS SINGLE SEAL WITH SLURRY (CAPE SEAL)

Page C2.38 **Delete** item B46.01 (a) (i)

Page C2.38 **Amend** the quantity of item B46.01 (a) (ii) from “150,000” to “30,000”.

Page C2.38 **Add** the following new item:

Item	Description	Unit	Quantity
“B46.01	Bituminous single seal with 20mm aggregate and two slurries (Cape Seal) (excluding 2nd application of binder)		
	(a) Single 20mm seal (minimum aggregate ALD 12mm) with two slurries (total 15 kg/m ² spread by hand) with a tack coat of:		
	(iii) Homogenous hot applied polymer modified binder (Binder Class S-E1)	m ²	270,000”

Page C2.38 **Amend** the quantity of item B46.03 (e) from “200,000” to “40,000”.

Page C2.38 **Amend** the quantity of item B46.03 (m) from “195,600” to “2,000”.

Page C2.38 **Add** the following new item:

Item	Description	Unit	Quantity
“B46.03	Bituminous binder variations:		
	(n) Homogenous hot applied polymer modified binder (Binder Class S-E1)	litre	120,000”

SCHEDULE F: SMME SUB CONTRACTOR EMPLOYMENT

SECTION F1000 SMME SUB CONTRACTOR EMPLOYMENT

Page C2.58 **Amend** the rate and amount of item F10.05 from “R 800,000.00” to “R 8,000,000.00”.

AD1-5 PART C3: SCOPE OF WORKS

SECTION B3300: MASS EARTHWORKS

B3307 FILLS

(c) Constructing a pioneer layer

Add the following new paragraph after the first paragraph:

“When the road is in cut, all unsuitable material shall, in accordance with clause B3302(b), be cut to spoil to a depth of 800mm below the final road level (FRL) or to a depth as determined by the Engineer. The unsuitable material shall be replaced with a suitable fill material (gravel or rock) as directed by the Engineer.

If the use of gravel fill material is ordered it shall be placed in layers not exceeding 200mm in thickness and paid for under the relevant fill payment items.

If the use of rock is ordered, the layer thickness shall not exceed either 350mm or 375mm, as ordered by the Engineer, and the layer shall be classified as a pioneer layer and paid for under the relevant pioneer layer payment items. The maximum size of rock used in the layer shall be 300mm. The surface of the layer of rock shall be blinded with finer material so that the following selected layer can be placed and compacted.”

SECTION B4300: SEALS: MATERIALS AND GENERAL REQUIREMENTS

B4302 MATERIALS

a) Bituminous binders

(v) Homogeneous hot applied polymer modified binders

Replace the entire sub-sub-clause with the following:

“(1) Base bitumen

The base bitumen or blends thereof, shall comply with the requirements of SANS 4001-BT1:2016. In addition, the chemical composition of the bitumen shall be such as to permit blending with the proposed polymer to form a stable product.

(2) Polymer

The type and percentage of polymer to be blended with the bitumen is not prescribed, however the contractor shall indicate, in the relevant pay item in the Pricing Schedule, the type of polymer to be utilized.

(3) Polymer modified blend

The polymer modified bitumen shall be blended at the factory.

The polymer modified bitumen to be used on this project shall be S-E1 and shall comply with the requirements of table B4302/7.

The binder for the day's production shall be tested on site to determine the softening point before any seal work is commenced with. No claim for delays due to this requirement shall be considered. As a control, a hand held spindle viscometer shall be used to monitor the viscosity of the binder at the spray temperature.

(4) Cutting back of binder in a dedicated plant

Cutting back of binder in a dedicated plant

The cutting back of bitumen shall be done with MC30 in accordance with SABITA: Guide for the control of HSE hazards associated with the field production of medium curing cutback bitumen. MC30 shall comply with the requirements of SANS 4001 – BT2.

The percentage of cut back using MC30, for this contract, shall be 4.5% during the start and end of winter, with a maximum of 9% during the coldest periods in the middle of winter.

Replace Table 4302/7 with the following table B4302/7:

TABLE B4302/7 PROPERTIES OF POLYMER MODIFIED BINDERS FOR HOT SEALING APPLICATIONS (SUMMER GRADES)

Property	Unit	Test Method	Class	
			S-E1	S-E2
Before ageing				
Softening Point ⁴	°C	MB-17	50–70	60-80 ¹
Elastic recovery @ 15°C	%	MB-4	>50	>60
Dynamic Viscosity @ 165°C	Pa.s	MB–18	≤ 0.55	≤ 0.60
Storage Stability @ 180°C ²	°C	MB-6	≤ 5	≤ 5
Flash Point	°C	ASTM D92	≥ 230	≥ 230
After ageing (RTFOT)				
Mass change ³	%	MB-3	≤ 1.0	≤ 1.0

Elastic recovery @15 °C	%	MB-4	>50	>60
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- ¹ *The softening point values obtained for bitumen modified with SBS will tend to fluctuate over time and on reheating. Road surfaces could become too rigid at low overnight temperatures with resultant poor adhesion properties.*
- ² *Certain base bitumens, when used in the production of modified binders, are prone to cause segregation of the modified binder. The Storage Stability test result should be interpreted as an indicator of the compatibility of the base bitumen and the modifier used. In cases where compliance limits are not met, proposals of site agitation procedures of the binder to prevent segregation shall be submitted to the client for consideration. In all cases whenever there is any reason to believe that the composition of the base bitumen has changed, the test shall be repeated to ensure compliance or to determine the need for measures to prevent segregation*
- ³ *Mass loss gives an indication of the presence of volatiles in the binder.*
- ⁴ *The prescribed test method is based on not using stirrers although it has been reported that the use of stirrers has shown no difference in test results. For refereeing purposes no stirrers should be used.*

Add the following sub-clauses:

“f) Testing of polymer modified bitumen/emulsion

Testing shall be in accordance with the methods described in “Technical Guideline: The use of Modified Bituminous Binder in Road Construction (TG 1-2019)”.

During spraying of each batch, the contractor shall draw off at least three test samples of the modified bitumen/emulsion product and submit them to the Engineer for acceptance testing purposes. The supplier shall submit all his tests results to the Engineer for correlation purposes, failing which the Engineer’s results shall be binding in terms of acceptance or rejection of the product.”

B4304 GENERAL LIMITATIONS AND REQUIREMENTS

a) Weather limitations

Delete this sub-clause and replace with the following:

“No bituminous work shall be done during foggy or rainy weather. When a cold wind is blowing, the below temperatures shall be increased by 3°C to 6°C as directed by the engineer.

When strong winds are blowing which are likely to interfere with the proper execution of the work, no sealing, especially spraying of binder, shall be done.

Whenever the temperature of the road surface falls below the specified temperature for the binder in question, or, in the opinion of the engineer, will probably fall below the required temperature before spraying the binder, no binder shall be sprayed.

Only emulsion products, MC3000 and cutback S-E1 binder shall be permitted during the sealing embargo months.

The minimum road-surface rising temperatures at which the spraying of the different types and grades of binder may be done are -

(i) Conventional binders

(1) Bitumens

70/100 penetration-grade.....	25°C
MC-3000 cut-back bitumen.....	10°C

(2) Bitumen emulsions

Bitumen emulsion.....	10°C
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(ii) Homogeneous hot-applied modified binders (summer grade)

S-E1.....	25°C
S-E2.....	25°C

(iii) Homogeneous hot-applied modified binders (winter grade)

S-E1 cut back with 4,5% MC30.....	23°C
S-E1 cut back with 9,0% MC30.....	21°C

(iv) Slurry

Conventional slurry shall not be applied at an air temperature of less than 7°C when temperatures are rising, or less than 13°C when temperatures are dropping. Rapid setting slurry shall be sufficiently versatile to be laid in air temperatures of 4°C to 40°C, as well as capable of being laid under damp conditions.

During hot weather slurry operations shall be suspended when aggregate is being displaced by the spreader box or squeegees.

When the breaking process accelerates to such an extent that it renders the product unworkable to attain the required result, for instance when the surface temperature is in excess of 60°C, or as otherwise prescribed by the engineer, no sealing shall be done.”

(e) Homogeneous hot-applied binders (summer grade)

In the second paragraph, replace table 4305/3 with "table B4305/3":

"TABLE B4305/3: TEMPERATURE/TIME LIMITS FOR HOT POLYMER MODIFIED BINDERS

Binder Class	Short Term Handling/ Transportation		Storage ¹		Spraying/Asphalt Mixing/Application		
	Max temp (°C)	Max holding time (hrs)	Max temp (°C)	Max holding time ² (hrs)	Max temp (°C)	Min temp (°C)	Max holding time (hrs)
S-E1 (SBR)	180	24	150	240	210	175	8
S-E1 (SBS)	180	24	150	240	185	175	12
S-E2	180	24	150	240	185	175	12

¹ When storing product for 48 – 240 hours it is recommended that the tank has agitation circulation.

² If the recommended maximum holding time has been exceeded the binder should be resampled and tested to ensure compliance with the specification"

f) Homogeneous hot-applied modified binders (winter grade)

Add the following:

"When S-E1 is cut back with MC30, the supplier shall provide temperature-viscosity relationships for the different percentages of MC30 addition and recommendations regarding spray temperatures."

SECTION 4600: BITUMINOUS SINGLE SEAL WITH SLURRY (CAPE SEAL)

B4601 SCOPE

Add the following subclause to this clause:

"No emulsion to be used on grades steeper than 8%. All sections steeper than 8% to be surfaced with hot applied modified binder."

B4602 GRADES OF BINDER TO BE USED

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Nominal rates application

		Nominal size of aggregate (mm)	Unmodified bitumen and all emulsions (Net cold bitumen ℓ/m^2)	Homogenous hot applied modified bitumen at spray temperature (ℓ/m^2)	Aggregate (m^2/m^3)	
		20 mm	1,35 ℓ/m^2	1,7 ℓ/m^2	85	"
	<p>(a) Tack coat</p> <p>(iii) Homogenous modified binders</p> <p><i>Delete "(1) latex cationic emulsion" and replace with "Binder Class S-E1".</i></p> <p>B4603 CONSTRUCTION BEFORE SLURRY APPLICATION</p> <p><i>Amend Table 4603/1 for 20mm aggregate to read as follows:</i></p>					