### SECTION 412 – PAVEMENT SURFACE TREATMENTS – SLURRY SEAL/MICRO-SURFACING

**CONSTRUCTION**

**412.03.01 SLURRY SEAL/MICROSURFACING MIXTURES**

***delete PARAGRAPH “G.4” and replace with the following:***

* + - 1. The aggregate manufacturer shall produce and stockpile each specified gradation of aggregate in 1,200‑ton lots. The first lot of material shall be sampled and tested by the Engineer.

***delete PARAGRAPH “G.6” and replace with the following:***

* + - 1. Each successive lot of 1,200 tons shall be sampled and tested once.
				1. When the “job target gradation” has been tested and accepted, the Contractor shall continuously manufacture the aggregate until the total estimated quantity is produced, tested, and accepted.
				2. The Contractor shall not receive compensation for unused aggregate.
				3. The approved lots of aggregate shall be stockpiled in a secured area, protected from contamination, and reserved for use on this contract.

**412.03.02 PREPARATION OF SURFACE**

***delete PARAGRAPH “C.3” and replace with the following:***

* + - 1. All surface debris from the crack cleaning process shall be thoroughly cleaned prior to placement of slurry seal.

***delete PARAGRAPH “D.2.b” and replace with the following:***

* + - * 1. The mandrel shall be studded with a minimum of 128 cutter bits to provide a pavement texture acceptable to the Engineer.

**412.03.03 MIXING UNIT**

***delete PARAGRAPH “C.4” and replace with the following:***

* + - 1. Equipped with a hydraulically controlled steel pugmill gate for positive discharge operations. Discharge from the pugmill shall be controlled by a metal diverter chute or other suitable mechanical device.

***ADD the following TO PARAGRAPH“D” of this subsection:***

* + - 1. Calibrations will not be accepted if City staff is not present to observe the calibrations.

**412.03.06 APPLICATION**

***delete PARAGRAPH “C” and replace with the following:***

C. The slurry seal shall be placed in accordance with the following:

|  |  |
| --- | --- |
| **Aggregate** | **Application Rate****(pounds per square yard)** |
| Type I | 10-12 |
| Type II | 13-20 |
| Type III | 19-30 |

***delete PARAGRAPH “e.2” and replace with the following:***

* + - 1. A report indicating the percentage of emulsion used to dry aggregate used and the application rate in pounds of aggregate applied per square yard of area covered. This report will verify compliance with the mixture of materials to the mix design and the specified aggregate application rate.

***ADD THE FOLLOWING TO PARAGRAPH “F” TO THIS SUBSECTION:***

* + - 1. The emulsion supplier shall attach a tag on the tanker lid and another on the valve.
			2. The Contractor shall remove the tags under the supervision of the Engineer unless otherwise directed.
			3. The Contractor shall attach the tags to the bill of lading and submitted to the Engineer.
			4. If the tags have been tampered with or removed or the delivery tags numbers do not match the bill of lading, the shipment will be rejected

***ADD THE FOLLOWING PARAGRAPHS TO THIS SUBSECTION:***

I. Application rates adjusted for tight or rough pavement surface textures may be applied outside of the specified ranges for each type of gradation, with prior authorization from the Engineer.

J. The ranges specified are estimated to be representative of the City of Las Vegas roadway network.

**412.03.08 PRODUCTION**

***delete SUBSECTION IN ITS ENTIRETY AND REPLACE WITH following:***

A. The Contractor’s average daily production shall be between 25,000 and 40,000 square yards of material, in place, each working day for work performed within the public right-of-way.

B. At the direction of the Engineer, parking lot applications, heavy application rates, and areas not feasible to close entirely are excluded from the required production rate.

C. The maximum daily production, without prior authorization from the Engineer, shall be 40,000 square yards.

D. Any deviation from the required average production rate shall be authorized by the Engineer prior to commencement of the work and by reflected on a revised progress schedule.

**412.03.11 CURING**

***delete PARAGRAPH “D” and replace with the following:***

D. Areas that are damaged within 15 days of application of slurry or prior to moving to new work locations and the completion of the punch list items shall be repaired by the Contractor at his expense.

**412.03.16 STORAGE OF EQUIPMENT AND MATERIALS**

***ADD THE FOLLOWING PARAGRAPHS TO THIS SUBSECTION:***

C. On-site emulsion storage tanks shall be empty and cleaned of all residual asphalt prior to delivery of the first load of approved emulsion.

**412.03.17 CLEANUP**

***ADD THE FOLLOWING PARAGRAPHS TO THIS SUBSECTION:***

C. Excessive raveling, as determined by the Engineer, shall be swept by the Contractor at no additional cost to the City.

**METHOD OF MEASUREMENT**

**412.04.01 MEASUREMENT**

***ADD THE FOLLOWING TO THIS SUBSECTION:***

The quantity of SLURRY SEAL will be measured per square yard.

No direct measurement shall be made for Surface Preparation.

No direct measurement shall be made for Ravel Sweeping.

**BASIS OF PAYMENT**

**412.05.01 PAYMENT**

***ADD THE FOLLOWING TO THIS SUBSECTION:***

The accepted quantity of SLURRY SEAL will be paid for at the contract unit price of square yard and shall conform to the requirements of subsection 412.05.01 of the Uniform Standard Specifications and shall include all materials, equipment, labor, and disposal required to perform this work and all work as shown on the Plans, as specified herein and as directed by the Engineer. The above payment shall also include: developing the mix design; furnishing the material; mixing; hauling; loading; placing; rolling; surface preparation; crack cleaning; ravel sweeping; surface grinding; test sections; protection of existing facilities; cleanup; and all other items necessary to complete the work as shown on the Plans, as specified herein, and as directed by the Engineer. The work shall include sealing of cracks in pavement prior to applying the slurry mix.

All striping and marking within limits of area to be slurry sealed shall be removed prior to sealing. Removal of existing striping and marking within areas to be crack and slurry sealed shall be incidental to the cost of slurry seal work and shall be full compensation for all labor, materials, equipment, and services necessary to remove the existing markings by means of sandblasting.

The accepted quantity of cleaning of motor oil deposits from pavement shall be incidental to the slurry seal work and shall be full compensation for all labor, material, equipment, and services necessary to clean by heat lance or other means approved by the Engineer, motor oil deposits from the surface of the Asphalt prior to the placement of the Crack and Slurry Seal. It shall be the contractors responsibility to insure that the surface is suitable for the proper adhesion of Slurry Seal when complete.

Unless otherwise provided in the Special Provisions, no payment will be made for Surface Preparation as such. The cost thereof shall be considered as included in the price bid for construction or installation of the items to which Surface Preparation is required.

Unless otherwise provided in the Special Provisions, no payment will be made for Ravel Sweeping as such. The cost thereof shall be considered as included in the price bid for construction or installation of the items to which Ravel Sweeping is required.

Payment will be made under:

|  |  |  |
| --- | --- | --- |
| **ITEM NO.** | **ITEM DESCRIPTION** | **UOM** |
| 412.0000 | SLURRY SEAL | SY |

**END OF SECTION 412**