STATEMENT OF WORK

DRIVEWAY REPAIR AND RESURFACING ASPHALT WORK AT 9 CLOVER CLOSE DRIVEWAY

US EMBASSY KUALA LUMPUR

1.0 PROJECT DESCRIPTION

The project is described as the repair and resurfaces the asphalt located at the 9 CLOVER CLOSE driveway. The Contractor is required to furnish all materials, labor, transportation, tools and equipment and perform all work within in a fixed-price contract.

The entire 9 CLOVER CLOSE driveway asphalt is damaged with potholes. The soil is settling around with cracks.

The work consists of milling, sweeping and overlaying the entire 9 CLOVER CLOSE driveway with a 1 ½ inch compacted lift of asphalt.

Major Milling work shall be done with a self-propelled grinding machine capable of removing 7ft of the asphalt in a single pass at a depth ranging from 1 to 2 inch. Minor milling at the end of the lot or may be done with a smaller machine capable of removing up to a 30 inch width. Unless otherwise noted, all milling shall do to an average depth of 1 ½ inches. All milling must be removed immediately from the pavement and must not allow remaining in the lot more than a day. Care must be taken to avoid damaging the existing concrete cover on the underground tanks adjoining storm sewer inlets. As such, some chipping by use of a jackhammer maybe required.

2.0 GENERAL CONDITIONS

1. **Fixed-Price Proposal.** The Contractor shall provide one fixed-priced Proposal for the complete Project that includes every aspect of the Work.
2. **Specifications.** The Work shall be governed by the US Embassy Kuala Lumpur. International Codes, which includes the National Fire Prevention Association (NFPA), International Building Code, International Mechanical Code, International Plumbing Code, and National Electric Code (NEC), also are applicable. Should there be a discrepancy between the US Embassy Specifications and the applicable Building Code, the more stringent of the two shall govern.

   The Contractor is responsible for compliance with all Building Codes; Work not in compliance with the Codes shall be deemed to be unacceptable.

3. **Work Hours.** Unless otherwise agreed with COR or the Facility Manager/COR , the Work shall be executed during normal Embassy work hours. Night, weekend or holiday work shall not be permitted except as arranged in advance with Facilities Management and COR. Embassy holiday schedule is available from Facilities Management or COR. If any aspect of this work is deemed by the Facility Manager to be interruptive of normal embassy operations, the contractor shall be required to perform that portion of the work at night, on Saturdays and Sundays. A provision for this should be included in the

response to the request for quotation. Working at night, on Saturdays and Sundays will not be considered a change order or a change in field conditions, but rather a standard provision of the contract.

4. **Safety.** The Contractor shall be responsible for conducting the work in a manner that ensures the safety of the employees and visitors to the Embassy, as well as the Contractor's employees. All contractor personnel shall wear hard hats, safety glasses, ear-plugs, gloves, close-toes shoes and any other Personal Protection Equipment deemed necessary by the Facility Manager/ COR.

5. **Workforce.** The contractor shall provide all supervision, skilled and unskilled labor needed to perform the work. The contractor shall prepare list of all the names of personnel working for the contractor and any subcontractors, with national ID numbers and submit the list to the Facility Manager/COR for vetting of employees by the RSO at least 14 days prior to commencement of work.

6. **Equipment.** The contractor shall also provide the Facility Manager /COR with a list of all equipment, listing the manufacturer, model, serial number of all equipment to be used on this project at least seven (7) days prior to the commencement of any work. Any vehicles utilized by the contractor are also considered equipment. The contractor must provide make, year, model number and license plate number. All vehicles will be inspected prior to entering and prior to leaving the premises. The contractor must notify the Facility Manager in writing at least 24 hours in advance of the pending removal of any contractor owned equipment.

7. **Subcontractors**. Contractor shall be responsible for the conduct and workmanship of Subcontractors engaged in the Project, and for Subcontractors compliance with the terms of this Statement of Work. The Contractor is responsible for the behavior and workmanship of Subcontractors while on Embassy property.

8. **Modification to Contract**. The Contractor shall not incur any costs beyond those described in this SOW unless directed otherwise in writing by the Contracting Officer. Any work performed by the Contractor beyond this SOW without written direction from the Contracting Officer will be at the Contractor's own risk and at no cost to the Embassy.

9. **Stop Work**. At any time during the Project, the Contracting Officer reserves the right to Stop Work for protection of employees or visitors, security, or any other reason at his/her discretion.

10. **Submittals.** The contractor is responsible to submit the following documents for COR Review and approval. The Facility Manager/COR review, however, does not relieve of the contractor's responsibility for the engineering work as to provide a complete working system:

a. *Installer Qualifications*:
All work under this Scope of work shall be performed by Construction Contractor having experiences on asphalt works. The Contractor shall have the following qualifications:
1. Qualifications for installation firm and installation supervisor
2. A list of the relevant projects. Do not list projects that proposed staff was not involved, even if your firm was.
3. Qualifications/Experience of the firm
4. References

b. *Materials*
The Contractor shall provide product data and material safety data sheet for each type of manufactured material with the design mixtures for the cationic emulsion, binder course and hot mix asphalt as per ASTM standards.

c. *Proposed design and construction schedule*
The Contractor shall submit a project design and construction bar chart schedule with their technical proposal.
The bar chart schedule developed by the Contractor shall reflect their recommended project phases, phase activities and activity durations.
A written narrative shall also be included with the technical proposal explaining the schedule submitted and the reasons why and how it can be completed in the time frame proposed by the Contractor.
This schedule and narrative will be reviewed by the Technical Evaluation Committee as part of the evaluation process and will be assigned a score with clarity and comprehensiveness of the submission.

d. *Hazard control measures plan*
The contractor must document in the bid for work how the hazard controls will be implemented and maintained during the project.

11. **Housekeeping.** The contractor is responsible to clean up daily after working. All cleanups should be done and completed before 4:30 PM daily.

3.0 SCOPE OF WORK:

"9 CLOVER CLOSE driveway": the contractor shall be furnishing, handling, placing, and compacting all paved surfaces as set forth in this specification.

1. General Requirements

a. Within 5 days of Notice to Proceed/ PO issued, the contractor shall provide to the COR a project schedule showing start to completion including significant milestones.

b. Within 10 days of Notice to Proceed/ PO issued, the Contractor shall provide to the COR details of the proposed installation utilizing written description or sketches or both.

c. The contractor is responsible to dispose of the construction debris outside of the Embassy Compound.

d. The contractor is responsible to prepare the installation based on locations provided by the Facility Manager.

e. When pursuing the work, the contractor is to take extra care as not to damage the existing structure. The cost of any contractor damage to the structure will be calculated by the Facility Manager and deducted from the payment of the final invoice.

f. The Contractor shall provide protection such as taping, covers, plastic sheathing, drop cloths and any other protective materials as needed so as to protect all areas that are not to be coated prior to surface preparation.

g. The Contractor shall properly dispose of all soiled rags and protect unused product from freezing.

2. Asphalt work

The asphalt work will concern the entire 9 CLOVER CLOSE driveway Asphalt Parking area where many areas are damaged with potholes and the soil is settling around with cracks.

2.1. Preparation

a. The Contractor shall assess all points that are affected and mark out all areas.
b. The Contractor will remove all affected areas asphalt by milling at the base course surface for at least 1 ½ inch – 2 inch and all edges shall be thoroughly broomed and coated with an asphalt tack coat.
c. The Contractor shall ensure that the surface to be paved is cleaned with compressed air and any dusts shall not be present for the adhesion of primer and tack coat.

2.2. Asphalt

All asphalt materials shall be preliminary approved by the COR before any application. The Contractor shall submit in advance all aggregates and asphalt analysis as per ASTM or AASHTO standards for testing. The test designations listed below are those that are currently specified for use at least in this Project.

ASTM C-29	Test for Unit Weight of Aggregate
ASTM C-88	Test for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C-117	Test for Materials Finer than No. 200 Sieve in Mineral Aggregates
ASTM C-127	Test for Specific Gravity and Absorption of Coarse Aggregate
ASTM C-128	Test for Specific Gravity and Absorption of Fine Aggregate
ASTM C-131	Test for Resistance to Abrasion of Small Size Coarse Aggregate by
Use	of Los Angeles Abrasion Machine Test for Sieve or Screen Analysis
of	Fine and Coarse Aggregate
ASTM D-75	Sampling Stone, Slag, Gravel, Sand and Stone Block for Use as Highway Materials
ASTM D-140	Sampling Bituminous Materials
ASTM D-242	Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D-4125	Standard Test Method for Asphalt Content of Bituminous Mixtures by Nuclear Method
ASTM D-4791	Flat and Elongated Particles
ASTM D-5821	Percent Fracture
AASHTO M-29	Fine Aggregate for Bituminous Paving Mix
AASHTO M-43	Standard Size of Coarse Aggregate for Highway Construction
AASHTO M-156	Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures.
AASHTO M-208	Specification for Cationic Emulsified Asphalt
AASHTO M-226	Viscosity Graded Asphalt Cement - Table Three (3)
AASHTO M-320	Standard Specifications for Performance-Graded Asphalt Binder
AASHTO T-30	Test for Mechanical Analysis of Extracted Aggregate
AASHTO T-43	Test for Specific Gravity of Bituminous Materials
AASHTO T-85	Specific Gravity and Absorption of Coarse Aggregate
AASHTO T-102	Spot Test of Asphaltic Materials

AASHTO T-164	Test for Quantitative Extraction of Bitumen
AASHTO T-195	Test for Coated Particles for Bituminous Mixtures
AASHTO T-168	Sampling Bituminous Paving Mixtures
AASHTO T-304	Uncompacted Void Content of Fine Aggregate (Fine Aggregate Angularity)
AASHTO T-308	Determining the Asphalt Content of Hot Mix Asphalt (HMA) by Ignition Method
AASHTO T-209	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
AASHTO T-166	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface Dry Specimens
AASHTO T-275	Bulk Specific Gravity of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens

iii) The asphalt paver shall lay the material to the required thickness and level.

iv) The mix shall be compacted as soon as possible after spreading the material. Tandem rollers shall follow the laying operation to carry out breakdown rolling up to temperature of 110- 120° C. Pneumatic tired rollers and tandem rollers shall follow the breakdown rolling and sufficient passes shall be made to achieve the required compaction.

Rolling shall start from the sides and proceed toward the center. Each trip of the roller shall overlap the pervious trip by at least 30 cm. Roller wheel shall be kept moistened. The roller shall be capable of reversing without backlash and shall be free from worn parts.

Heavy rollers shall be used to complete all rolling including elimination of waves caused by the lighter rollers. Full compaction shall be obtained before the asphalt temperature reaches 100° C. Compaction shall be in accordance with specification of relevant standard.

v) The construction joints shall be prepared by cutting the layer vertically down by means of asphalt saw cutting machine or with jack hammer. The joint shall be cleaned well by compressed air and tack coat material shall be applied on the vertical and horizontal surface for better bonding. Extremely good care shall be taken when asphalt is laid at construction joints.

vi) The areas inaccessible for heavy rollers shall be compacted with plate compactors or hand tampers. After reaching the base course top level, suitable fill material (dune sand) shall be dumped to the top level of base course on the sides of road shoulders. It shall be leveled, shaped (1:6 ratios) and compacted to 90% maximum dry density.

a. Tack coat

Provide emulsified asphalt conforming to ASTM D 2397 and AASHTO M-208 - Standard Specification for Cationic Emulsified Asphalt.
Dilute the emulsified asphalt with equal parts of water. The base asphalt used to manufacture the emulsion shall show a negative spot when tested in accordance with AASHTO T 102.

i) The material shall be applied at the rate of 0.3 to 0.6 lit/ sq.m at the temperature not exceeding 54 °C above the binder and at where there is a joint with existing asphalt surface.

ii) The surface shall be cured for the period as per manufacturer's recommendations until a tacky surface is visible.

b. Surface course

Surface Course Bituminous Concrete design mixtures shall respond to all ASTM and AASHTO standard specifications for Hot Mix Asphalt stipulated above. The Contractor shall submit, with the design mixtures, the sufficient passes to reach the optimum compaction of the asphalt.

i) The hot asphalt mix shall be spread over the cured surface of tack coat by automatic asphalt paver to the required profile and thickness.

ii) The mix shall be compacted as soon as possible after spreading the material. Tandem roller shall follow the laying operation to carry out breakdown rolling up to a temperature of 110-120° C.

Self-propelled rollers and Tandem rollers shall follow the breakdown rolling and sufficient passes shall be made to achieve the required compaction.

Rolling shall start from the sides and proceed toward the center. Each trip of the roller shall overlap the previous trip by at least 30 cm.

Roller wheels shall be kept moistened. The roller shall be capable of reversing without backlash and shall be free from worn parts. Heavy tandem roller shall be used to complete all rolling including elimination of waves caused by the lighter rollers. Full compaction shall be obtained before the asphalt temperature reaches 80° C. Compaction shall be in accordance with specification of relevant standard.

Along curbing, structures, and all places not accessible to the roller, the mixture shall be thoroughly compacted by tampers. Such tampers shall not weigh less than twenty-five (25) pounds and shall have a tamping face of not more than fifty (50) square inches.

iii) No vehicular traffic loads shall be permitted on the newly paved area until adequate stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines. A minimum period of 12 hours shall be considered after the completion of the rolling.

c. Heavy Duty Asphalt Pavement Layers

All pavement thickness referred to in these specifications are compacted thickness. The Contractor shall place sufficient bituminous concrete mix to insure the specified thickness of pavement occurs after compaction.

3. Closeout

1. At completion of work, the Contractor shall clean any impacted areas to a condition equal to original condition.

2. All shipping materials and construction debris are to be disposed of in a legal manner outside of the Compound.

3. All asphalt testing shall be performed by an independent certified laboratory at the Contractor's expenses.

4. Commencement, Prosecution, and Completion of Work

The Contractor shall be required to (a) commence work under this contract within five (5) working days after the date the Contractor receives the Notice to Proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than the proposed days in the schedule after NTP. The time stated for completion shall include final cleanup of the premises.

4.0 RESPONSIBILITIES AND PROJECT MANAGEMENT

1. **COR.** A Contracting Officers Representative (COR) will be assigned to ensure quality assurance goals are met. The Contractor shall provide the COR access to the site at all times.

2. **Point of Contact.** The COR shall be the main point of contact for this Project. The Contractor shall report to the COR on (a) status of the Project, (b) changes in Schedule, (c) accidents and safety issues, (d) disruptions to utility services; and all other important information pertaining to the Project

3. **English Speaking Representative**. The Contractor shall provide an English-speaking representative on-site during all working hours with the authority to make all decisions on behalf of the Contractor and subcontractors.

4. **Management Personnel.** The Contractor shall staff the site, full-time, with a competent senior manager who shall perform project management. Remote project management is not an option. This individual shall keep a detailed written history of the project and shall update the Government weekly.
5. **Site Security.** The Contractor is responsible for on-site security as necessary to ensure no unauthorized access to their work sites. The Contractor is 100% responsible for securing their working materials and equipment. Any damage to facilities or infrastructure, which happens due to a lack of security, will be the responsibility of the Contractor to correct.
6. **Contractor's Temporary Work Center.** The Contractor will be permitted to use a designated area within the contract limits for operation of his construction equipment and office if warranted. If directed by the Contracting Officer, the Contractor shall not receive additional compensation to relocate his operations. The Contractor is responsible for obtaining any required additional mobilization area above that designated. On completion of the contract, all facilities shall be removed from the mobilization area within 5 days of final acceptance by the Contractor and shall be disposed of in accordance with applicable host government laws and regulations. The site shall be cleared of construction debris and other materials and the area restored to its final grade. The Contractor is responsible for maintaining this area in a clear orderly manner.
7. **Health and Safety.** The Contractor shall be solely responsible for risk assessments, managing health, and safety issues associated with this project. Based on hazard assessments, Contractor shall provide or afford each affected employee personal protective equipment (PPE) that will protect the employee from hazards. At a minimum PPE shall consist of eye protection, hard hats, closed toe shoes and respiratory protection with filters. If the workers arrive on-site with sandals or athletic shoes, the Contractor is expected to provide rubber boots to them or send them home. All construction workers and management personnel must wear hard hats at all times on the construction sites. Other PPE such as gloves, dust masks, **air respirators** and boots are also recommended. These items must be provided at the Contractor's expense. Workers may use discretion if they feel unsafe in using the equipment in a hostile environment. Any worker at an elevated location above 4 meters, with the exception of a portable ladder, must be provided and utilize a safety harness.

   The contractor must document in the bid for work how the hazard controls will be implemented and maintained during the project. The Contractor shall prepare and implement an Activity Hazard Analysis (AHA) prior to the start of work. The Contactor must have a competent person on-site for inspection of equipment, training workers in the safe use of equipment and the recognition of hazards related to their use, supervision, and identifying and correcting unsafe work practices for high hazard work.

END OF SOW