PAKISTAN AIRPORTS AUTHORITY

Engineering Services (Civil) Makran, NGIAP

NAME OF WORK: UPGRADATION OF AIRSIDE PAVEMENTS FOR ATR 72 CATEGORY AIRCRAFT OPERATIONS AT PANJGUR AIRPORT

Bill of Quantities

Item No	Item of Work	Quantity	Rate (Rs.)		Unit	Amount
			In Figure	In Words		
1	Cold milling (0-70)mm of Asphalt layer to designated level and width by mean specialized equipment and ensured through electronic sensors, cable of giving an accuracy of +- two (2)mm and removal of cut material and disposal as per directions of the engineer-in-charge	506,025 Sft			P.Sft	
2	Formation of Embankment from Borrow excavation in common material including watering and compacting including all lifts and leads complete as per Engineer incharge	400,000 Cft			100 Cft	
3	Excavation or Cutting un suitable Common Material by mechanical means and dispose of surplus excavaed material upto 10 miles lead complete as per difredction of Engineer incharge.	647,205 Cft			100 Cft	
4	Ploughing & Preparation of sub-grade over bottom of excavation with required dressing to required grade, camber and side slopes including cutting to required depth and . breaking clods watering and consolidation with suitable mechanical means to attain minimum density of 95% modified A.A.S.H.O. maximum dry density for top 6" (152mm) layers including disposal of surplus earth within 3 chains (92 m) lead complete.	369,831 Sft.			100Sft	
5	Supplying and laying machine crushed 2" to 1/2" (51 mm to 13 mm) stone ballast of approved grade and quality in sub-base or base courses in required grade and camber and compacting to the required density by approved mechanical means (Vibratory Roller, Road Packer and Smooth Wheel Roller etc.) including watering with all lead and all lift complete (actual compacted depth shall be considered for payment) compact in layears, 100% density and as per direction of the Engineer Incharge.	389,839 Cft			100 Cft	
6	Providing and laying hot-mix bituminous concrete runway pavement laid with mechanical paver and mixed in central mixing plant in required thickness and density, rolled hot with different types of rollers complete as per specifications and job-mix formula and design: in two layers upto 3" (76 mm) thickness including priming coat @20 Lbs per %Sft complete.	13,089 Tonne			P.Tonne	

Item No	Item of Work	Quantity	Rate (Rs.)		Unit	Amount
			In Figure	In Words		
7	Providing and laying hot-mix bituminous concrete pavement laid with mechanical paver and mixed in central mixing plant in required thickness and density, rolled hot with different types of rollers complete as per specifications and job-mix formula and design: in single layer upto 2" (51 mm) thickness including tack coat @12 Lbs per %Sft	8,901 Tonne			P.Tonne	
8	Repainting of markings 100 microns DFT with water base runway marking paint of ICI Dulux/Berger or equivalent (Rate of spray not exceed than 2.2 Sq.m / Ltr.) approved shade applying through mechanical marking machine (atomizing spray type marking machine) complete as per FAA specifications (P-620) including cleaning etc. complete ins all respect as per direction of the Engineer Incharge.	89,357 Sft			Sft	
9	Providing and filling of rigid pavement joints 3/4"X5/8" (average) with jet fuel resistant sealant manufactured by M/s CRAFCO USA or Equivalent (imported) conforming to ASTM D6690 as per specification including Removal / cleaning of existing sealant, cleaning of interfaces by sawing or mechanical abrasion, Blowing dry with compressor and disposal of rubbish and P/L backer rod/rubber strip of approved quality and size in the joints etc. complete as per direction the engineer-in-charge.	10,425 Rft			P.Rft	
10	Compaction of Natural Ground i/c levelling, dressing and watering complete as per directions of engineer in charge	5,820,000 Sft.			100Sft	
11	Excavation in ail kind of soils in trenches and channels including dressing to required section and back filling excavated stuff including watering, ramming etc. in layers as per direction of Engineer-in-Charge and disposal of surplus earth complete: lift upto 5 ft. (1.52 m) and lead upto 100 ft. (30.5 m)	8,775 Cft			100 Cft	
12	Providing and laying 1:4:8 cement concrete in any thickness using 2" (51 mm) and down gauge stone ballast of approved grade and quality over prepared sub-grade or sand cushion in roads, paths, creteways laid to required gradient and camber including cost of necessary form work and its removal compacting with vibrators including curing etc. complete	975 Cft			100 Cft	
13	Providing and fixing RCC pipe of class "C" or equivalent in trenches including cutting, fitting and jointing with maxphalt composition and cement mortar (1:1) and testing with water including all lead and lift: 12" (300 mm) dia pipe.	600 Rft			P. Rft	

Item No	Item of Work	Quantity	Rate (Rs.)		Unit	Amount
			In Figure	In Words		
14	Providing and laying reinforced cement concrete using crush graded boulder 3/4 inch (19 mm) and down gauge having a minimum works cube crushing strength of 3770 lbs. per sq inch (23.24 N/mm2) at 28 days with a mix not leaner than 1:1:2 in raft or strip foundation with columns and pillars, of any shape including formwork and its removal, compacting, leveling and curing etc. complete but excluding the cost of reinforcement, in foundation basement and plinth.	4,746 Cft			100 Cft	
15	Providing and laying in situ 1:2:4 (1 cement 2 sand and 4 coarse aggregate) cement concrete using crushed graded boulders 3/4 inch (19 mm) and down gauge in foundation, basement and plinth including form work, compacting, curing and removal of form work etc. complete, foundation and basement up to 5 feet depth (1.52 m) and plinth up to 4 feet (1.2 m) height from ground level.	7,118 Cft			100 Cft	
16	Providing and laying hard grade ribbed deformed (minimum yield point 60,000 psi) reinforcement bars with & including the cost of straightening, cutting, bending, binding, wastage, and such overlaps as are not shown in the drawings, placing in position on cement concrete 1:2:4 precast or m.s. chairs, tying with binding wire, cost of chairs and wires etc. in all kinds of RCC work in foundation, basement, plinth and ground floor of building including septic tanks and under ground tanks and in projections for future extension.	1,851 Kg			P.Kg	
					Total	

Divisional Engineer (Civil)
ES Makran

Contractor