

List of Machinery and Equipment

I. Road and Bridge Inspection

Description	Specification	Qty	Unit	Unit Cost	Total Cost	Related Activity	Proposed Destination
Bridge inspection vehicle	ABC Bridge Inspection Vehicle with the following Specs 1. Platform length = 11 m or 36 ft, 2. Platform width = 1.05 m or 3.45 ft, 3. Payload on platform = 500 kg or 1,100 lbs, 4. Payload on telescopic platform = 300kg or 660 lbs, 5. Rotation range underbridge = 180 deg, 6. Maximum lowering depth = 6.0m 19.7 ft, 7. Launching time 5 min., 8. Total weight of unit 14,000 kg or 30,850 lbs, 9. Space required on bridge = 2.5 m or 8.2 ft.	1	pc	15,000,000	15,000,000	B. Bridge Maintenance Activity under Items a, b, d & e	Reg VII
Concrete Test Hammer	Hammer Test Set, (Concrete Hammer) CONTROLS: 58-C0181N, Kg/cm ² calibration with case for the non-destructive testing of the surface of hardened concrete in order to evaluate the strength in various parts of a structure. Impact energy: 2.207 Nm. Dimensions with plastic case: 78 mm dia x 355 mm Weight approx: 1.5 kg (with case and grinding stone)	4	Sets	40,000	160,000	B. Road and Bridge Maintenance Activity under Items a, b, d & e	2-Reg VII & 2-Reg XI
Paint thickness gauge	DCN 900, measures the thickness of paint coatings, anodize on aluminum, brass, zinc, stainless steel and other non-ferrous metals.	4	pcs	33,147	132,588	B. Bridge Maintenance Activity under Items a, b, d & e	2-Reg VII & 2-Reg XI
Ultrasonic (Pulse Velocity Tester)	Ultrasonic Pulse Velocity Tester CONTROLS: 58-E0048 To measure the velocity of propagation of ultrasonic pulses through concrete, Microprocessor incorporated, Frequency range = kHz, Transmitter output - 800 v, Battery life = 18 working hours, Dimension = 138 x80x200 mm, Weight = 1.1 kg approx, complete set = 2.9 kg	1	Sets	155,000	155,000	B. Road and Bridge Maintenance Activity under Items a, b, d & e	Reg VII
Spirit level with straight edge		5	pcs	500	2,500	B. Bridge Maintenance Activity under Items a, b, d & e	1-CAR, 2-Reg VII & 2-Reg XI
II. Material Testing							
		Qty	Unit	Unit Cost	Total Cost		
Corrosion Detection Machine	Half-cell Digital Corrosion Meter CONTROLS: 58-E0065, Measurement automaticall converted and displayed as copper/copper sulphate equivalent potential, Display 3 1/2 digit plus sign via 12.5 mm LCD, Range/Resolution = +1999 mV/ + 1 mV, Battery operated giving typically 1000 hours use with low battery indication, Automatic on/off action, Dimension = 400x270x13 mm, Total weight = 2 kg approx.	2	Sets	210,000	420,000	A. Construction Management Activity under Items a, c & d	1-Reg VII & 1-Reg XI
Rebar Locator	Concrete Cover Meter CONTROLS: 58-E0060A - For determination of the depth and size of reinforcement located within a concrete structure. Main features: On screen menu driven operations, Pulse induction technique for stability and performance, Automatic zeroing embedded instrumentation computer, Automatic sizing of single bars, Simple 4-button operation with large graphic LCD, Switchable audible signal, Battery operated upto 50 hours use per set, Power source removable primary 4xaa mm 1500 l6, DIMENSION = 220X110X75MM, Weight = 2KG approx.	2	Sets	200,000	400,000	A. Construction Management Activity under Items a, c & d	1-Reg VII & 1-Reg XI

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Skid Resistance Tester	Skid Resistance and Friction Tester CONTROLS: 48-B0180, Used for the measurement of surface friction properties, the apparatus is suitable for both site and laboratory applications and for polished stone value tests using curved specimens from accelerated polishing tests. The test equipment is supplied complete with: a) additional scale for tests on polished stone value specimens, b) 6 rubber sliders for site use, completed with conformity certificate, c) Thermometer -10/ +10 degree centigrade for surface temperature measurement, d) 1 liter washing bottle for surface wetting, e) Tool set with case, for machine assembly, f) Rule for sliding length variation, g) carrying case, and h) Calibration certificate conforming to EN 1097-8 assued by controls.	2	Sets	470,000	940,000	A. Construction Management Activity under Items a, c & d	1-CAR & 1-Reg XI
Dynamic Cone Penetrometer	Dynamic Cone Penetrator Controls : 16-0013 - Used to establish the thickness of different stratifications when investigating the suitability of a site for bridge, road and other construction works. The penetrometer set consists of: 10 kg, rammer with handles, anvil, guiding rod 22 mm diameter x 1 m L, sounding rod 22 mm diameter x 1 m length (11 pieces) complete with threaded collar M16 Percussion head with handles, Grooved rod 22 mm diameter x 1 m long with sharpened point and threaded nipple M16, Threaded nipple M16 allen type, Drive point 90 degrees, 5 cm2 surface, 24.2 mm diameter; Drive point 90 degrees, 10 cm2 surface, 35.6 mm diameter; Base Plate: Lifting device for sounding rods, carrying case (116 x 37 x 22 cm). The 10 kg rammer fall is 50 cm. TRL (prepared and issued) software programme for recording and evaluating the field results by computer.	2	Sets	170,000	340,000	A. Construction Management Activity under Items a, c, d & e	1-CAR & 1-Reg XI
III. Laboratory Equipment				Unit Cost	Total Cost		
Universal Testing Machine (UTM)	Universal Testing Machine CONTROLS - 70-C0820/C (with Complete Accessories), 1000 KN capacity in tension, 2000 KN capacity in compression complete with Platens; 70-C 0801/5 for compression tests.	3	Sets	8,000,000	24,000,000	A. Construction Management Activity under Items a, b, c, d & e	1-CAR, 1-Reg VII & 1-Reg XI
Temperature Gauge	Temperature Gauge (Dial Thermometer) CONTROLS: 82-B0150 - Number of Channels = 4, Battery operated = 500 hours with 60' printing intervals, Power socket for 12 V supply and auto shut-off, Printing intervals selectable from 1 to 180 minutes, Printer: 14 character per line, 38 mm plain paper, Working environment 0 to 50°C, RH 95%, Dimensions = 220x82x66mm (hxdxbt), Weight = 550g approx	3	Sets	3,900	11,700	A. Construction Management Activity under Items a, b, c, d & e	1-CAR, 1-Reg VII & 1-Reg XI
Core Drilling Machine (Coring Machine)	Pavement Coring Machine CONTROLS 83-B0202 8.5 HP, 4-stroke petrol engine Coring range: up to 200 mm dia. (max) Weight approx: 110 kg	2	Sets	380,000	760,000	A. Construction Management Activity under Items a, c, d & e	1-Reg VII & 1-Reg XI
IV. Road and Bridge Maintenance				Unit Cost	Total Cost		
Sand Blast Machine		2	pcs	70,000	140,000	B. Bridge Maintenance Activity under Items a, b, d & e	1-Reg VII & 1-Reg XI
Generator	Diesel Generator Set 60 KW - Three phase Power Unit equipped with Perkins engine	6	Sets	522,000	3,132,000	B. Road and Bridge Maintenance Activity under Items a, b, d & e	2-CAR, 2-Reg VII & 2-Reg XI
Air Compressor	Porter Cable CPF4515 - 4.5 hp and 15 gallon air compressor	6	Sets	17,747	106,482	B. Bridge Maintenance Activity under Items a, b, d & e	2-CAR, 2-Reg VII & 2-Reg XI

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Disc Sander (Grinder)	Htachi 6'	6	pcs	8,000	48,000	B. Bridge Maintenance Activity under Items a, b, d & e	2-CAR, 2-Reg VII & 2-Reg XI
Plate compactor	Model JVPC, without prime mover powered by 5HP Robin, Gasoline powered by 10HP Honda Gasoline	4	Sels	21,268	85,076	B. Road Maintenance Activity under Items a, b, d & e	1-CAR, 2-Reg VII & 1-Reg XI
Concrete Cutter	Model JCC-14D, without prime mover, powered by 7.5HP Robin Gasoline, powered by 10HP Robin Gasoline, powered by 13HP Honda Gasoline	4	pcs	39,298	157,198	B. Road and Bridge Maintenance Activity under Items a, b, d & e	1-CAR, 2-Reg VII & 1-Reg XI
High Pressure Epoxy Injection (Gal Injection System)	The Gal Injection System consists of the CD15 Dispenser, the TA-15 Gal Hopper, A-118-2 Pudge Tank and A-117 Gal Mixing Assembly. This system is designed to dispense paste consistency epoxy for the injection of cracks in concrete. The Gal Injection System	2	Sels	525,393	1,050,786	B. Road and Bridge Maintenance Activity under Items a, b, d & e	1-Reg VII & 1-Reg XI
Asphalt Sealer Sprayer (CBS95)	Spray Unit-Heavy 5.5 Hp Honda Engine with direct drive 6:1 reduction gear box, rotary gear pump, pressure relief valve with return to tank, "Y" strainer on the suction side of pump and fully assembled "turnkey" system. Spray Assembly- Spray gun and wand	2	Sels	282,750	565,500	B. Road Maintenance Activity under Items a, b, d & e	1-CAR & 1-Reg VII
V. Service Maintenance							
Description	Specification	Qty	Unit	Unit Cost	Total Cost		
Pick-up Vehicle	Isuzu D-Max Pick-up 4x2 MT	3	pcs	1,269,000	3,807,000	Field Inspection, maintenance works supervision works of regional counterpart and experts etc	1-CAR, 1-Reg VII & 1-Reg XI
Nissan Patrol GR 4x2 AT	ZD30 Turbo Intercooler NEO Di Diesel Engine; 4-Cylinder In-Line DOHC; 96.0x102.0 Bore & Stroke 155 hp/3600 rpm Max. Power; 354 Nm/2000 rpm Max. Torque; 2,953 cc Displacement; 17.9 to 1 Compression ratio; EDCS, electronic Fuel injection Control System (EFI)	2	pcs	2,511,000	5,022,000	Field Inspection, maintenance works counterparts and experts etc	Central Office
VI. Others							
Description	Specification/Brand	Qty	Unit	Unit Cost	Total Cost		
Electronic White board		4	pcs	10,000	40,000	Office facilities	1-CAR, 1-Reg VII, 1-Reg XI & Central Office
Phenolphthalein		100	pcs.			Testing	To be distributed to the three regions
Safety belt	Blue Mountain	40	pcs	680	27,190	Training and inspections	To be distributed to the three regions
Safety jackets	leather for welding	40	pcs	377	15,080	Training and inspections	To be distributed to the three regions
Safety shoes	Wolverine	40	pcs	1,200	47,990	Training and inspections	To be distributed to the three regions
Safety cones	17"x17"x30"	40	pcs	923	36,920	Training and inspections	To be distributed to the three regions
Hard hat	blue eagle	40	pcs	206	8,240	Training and inspections	To be distributed to the three regions
Mask	Blue Mountain	40	pcs	60	2,390	Training and inspections	To be distributed to the three regions

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Gloves	Blue Mountain	100 pcs	38	3,775	Training and inspections	To be distributed to the three regions	
Goggles	Blue Mountain	40 pcs	120	4,790	Training and inspections	To be distributed to the three regions	
Life jacket	Vest type	20 pcs	1,280	25,600	Training and inspections	To be distributed to the three regions	
Digital Camera	Canon DC 10 with DVD Video Camera, 10xOptical Zoom, mini SD card/8 cm, DVD-R/RW, 25" TFT LCD screen, USB 2.0, Weight 415g	10 pcs	52,500	525,000	Training and inspections	2-CAR, 2-Reg VII, 2-Reg XI & 4-Central Office	
Laptop (External Drive 300 GB)	DELL DL-6400-6185DT, INTEL CORE DUO 1.66 GHZ, 1024 DDR2 MEMORY, 80 GB HDD/CD/DVD WRITER, WIRELESS LAN/MS WINDOWS XP	10 pcs	79,995	799,950	Office and field equipment	2-CAR, 2-Reg VII, 2-Reg XI & 4-Central Office	
Laser printer Part #7158A042AA	Cannon image CLASS 2300N, Laser Printer (20ppm, 600x600 dpi), copier (20ppm 1200x600 dpi), scanner (400x400 more), 5760x1440 optimized dpi, 15.8 ppm color, 6 color individual ink USB, CD/DVD Direct printing	5 Sets	136,189	680,946	Office equipment	1-CAR, 1-Reg VII, 1-Reg XI & 2-Central Office	
Projector	Epson EMP-750 Multimedia Projector -2000 ANSI Lumens; 1.7 kg; Resolution: XGA 1024x768	2 pcs	105,995	211,990	Training	2-Central Office	
Photocopy Machine		4 pcs	200,000	800,000	Office equipment	1-CAR, 1-Reg VII, 1-Reg XI & 1-Central Office	
Video machine		2 pcs	60,000	120,000	Training	2-Central Office	
				59,785,693			