

**Construction of New Air Traffic Control Tower (ATCT), Fire Station and Allied Facilities
at Skardu International Airport, Skardu**

Bill of Quantities

Bill No. 4 - Roads and Pavement Works

Item No	Description	Quantity	Unit	Rate (USD)	Rate (Rs)	Amount (Rs)
(1)	(2)	(3)	(4)	(5)	(6)	(7) = [(5)*280]+(6)]*(3)
R-1	Compaction of natural ground including scarifying, breaking of clods, watering or drying, mixing, grading, levelling and compacting the existing/natural ground to the required density and formation levels, including dressing, proof rolling and field density testing, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0100, Section - 0075	13,976.29	Sqm	Not Applicable		
R-2	Preparation of subgrade in earth cut including scarifying to the required depth, watering or drying, mixing, grading and shaping to the required camber/crossfall, lines and levels, compacting to the specified degree of compaction, including correction of soft or yielding spots, trimming, dressing, proof rolling and field density testing, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0100	26,680.00	Sqm	Not Applicable		
R-3	Formation of embankment from roadway excavation in common material, including excavation, loading, hauling, unloading, spreading in layers not exceeding 200 mm loose thickness, watering, mixing and compacting each layer to 95% Modified AASHTO MDD, proof rolling, dressing of side slopes (1V:1.5H) and formation to the required lines, grades and levels, including field density testing, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0100	9,769.73	Cum	Not Applicable		
R-4	Formation of embankment from roadway excavation in medium material, including excavation/loosening by suitable mechanical means, loading, hauling, unloading, breaking of clods, spreading in layers not exceeding 200 mm loose thickness, watering, mixing and compacting each layer to 95% Modified AASHTO MDD, proof rolling, dressing of side slopes (1V:1.5H) and formation to the required lines, grades and levels, including field density testing, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0100	9,769.73	Cum	Not Applicable		
R-5	Formation of embankment from roadway excavation in hard rock material, including excavation of rock by approved methods, breaking to sizes suitable for placement, loading, hauling, unloading, spreading in layers of specified thickness, watering, compacting each layer to the specified degree of compaction, benching of cut slopes where required, dressing of slopes and formation to the required lines, grades and levels, including testing, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0100	2,171.05	Cum	Not Applicable		

R-6	Providing, laying, spreading, watering, mixing, compacting, finishing, testing, and maintaining 150 mm thick (compacted) Granular Sub-Base (GSB) course of approved material for carriageway and shoulders, laid in layers not exceeding 200 mm loose thickness and compacted to 100% Modified AASHTO Maximum Dry Density (MDD); finished true to the required lines, grades, levels, camber/crossfall, and thickness shown on the drawings; including trimming, surface tolerance checks using a 3 m straightedge, sampling, laboratory and field testing, quality control, and all incidental works necessary to complete the work in accordance with the drawings, Technical Specifications, and the instructions of the Engineer-in-Charge. Reference: Technical Specifications Section 0340.	4,994.00	Cum	Not Applicable		
R-7	"Providing, laying, spreading, watering, compacting, finishing, testing and maintaining granular base course of approved material, laid with mechanical paver in layers not exceeding 150 mm loose thickness and compacted to 100% Modified AASHTO MDD, true to the lines, grades, camber/crossfall (-2%) and thickness shown on the drawings, including surface tolerance checks with 3 m straightedge and all sampling and testing, complete in all respects as per drawings, specifications and as directed by the Engineer. Granular Base: 300mm on Carriageway & 380mm on Shoulders REF: Technical Specifications Section - 0340"	11,549.59	Cum	Not Applicable		
R-8	Providing, laying, spreading, watering, compacting, finishing, testing and maintaining crushed aggregate base course of approved material, laid with mechanical paver in layers not exceeding 150 mm loose thickness and compacted to 100% Modified AASHTO MDD, true to the lines, grades, camber/crossfall (-2%) and thickness shown on the drawings, including surface tolerance checks with 3 m straightedge and all sampling and testing, complete in all respects as per drawings, specifications and as directed by the Engineer. ABC: 80mm on Carriageway REF: Technical Specifications Section - 0340	1,104.00	Cum	Not Applicable		
R-9	Providing, laying, and compacting 50 mm thick (compacted) plant-mixed Asphaltic Concrete Wearing Course (Class B) in accordance with the approved Job Mix Formula (JMF), including heating and mixing of aggregates and bituminous binder at an approved asphalt mixing plant; transportation to site; laying with a self-propelled electronic sensor paver true to the required lines, levels, grades, and 2% crossfall (camber); breakdown, intermediate, and finish rolling within the specified temperature limits to achieve the required density and surface finish; construction, trimming, sealing, and painting of longitudinal and transverse joints; preparation and approval of trial section; sampling, laboratory and field testing, quality control, and all incidental works necessary for the construction of the wearing course on carriageway and shoulders, complete in accordance with the drawings, Technical Specifications, and the instructions of the Engineer-in-Charge. Reference: Technical Specifications Sections 0100 and 0340.	3,864.00	Cum	Not Applicable		

R-10	Providing and applying bituminous prime coat using cut-back asphalt of approved grade over the prepared and accepted granular base course surface at the specified rate of application, including cleaning and brooming of surface, heating and uniform spraying by pressure distributor, protection of treated surface and curing for 24–48 hours before overlaying, and making good any defective areas, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340	33,296	Sqm	Not Applicable		
R-11	Providing and applying bituminous tack coat using cut-back asphalt of approved grade over existing bituminous/concrete surfaces and on vertical faces of joints, at the specified rate of application, including cleaning of surface, heating and uniform spraying by pressure distributor and protection until overlaying, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340	33,296	Sqm	Not Applicable		
R-12	Providing and fixing precast concrete kerb in concrete Class A-1, of size H 350 x W 300mm x T 150 mm true to line, level and curvature, including preparation of foundation, cement concrete bedding and haunching/backing, jointing and pointing in cement mortar, curing and making good and paint work, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0150	4,240.00	RM	Not Applicable		
R-13	Providing and applying pavement marking in reflective thermoplastic paint for lines of 20 cm width, including cleaning and preparation of pavement surface, setting out, application of thermoplastic material with reflectorizing glass beads by approved road marking machine to the specified thickness and rates, and protection of markings until fully set, complete in all respects as per drawings, specifications, NHA General Specifications for pavement markings and as directed by the Engineer. REF: Technical Specifications Section - 0340	7,360.00	RM	Not Applicable		
R-14	Providing and laying lean concrete (blinding) of the specified mix and thickness under pavements/structures, including formwork to edges, mixing by approved mechanical means, placing, compacting, levelling and finishing to the required lines and levels, curing and testing, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0150	539.47	Cum	Not Applicable		
R-15	Providing and laying in position, true to line and level, reinforced cement concrete of cylinder strength as mentioned on the drawings, using 3/4" down gauge graded crushed stone aggregate (as approved), sand (as approved) and SR cement (where required), to the dimensions and design shown on the drawings, including mixing with approved mechanical means, placing, compacting/vibrating, finishing smooth, curing, lifting, all arrangements for scaffolding, and formwork using dent-free steel plates or laminated wooden ply with building paper, complete in all respects as per drawings, specifications and as directed by the Engineer; reinforcement measured and paid separately under the relevant item. (Non Schedule) REF: Technical Specifications Section - 0340	2,706.99	Cum	Not Applicable		

R-16	Providing, cutting, bending, fabricating, placing and fixing in position deformed steel bar reinforcement, Grade 60 conforming to AASHTO M-31, of all required diameters, including binding wire, approved bar chairs/spacers, laps as shown or required, cleaning and maintaining the reinforcement in correct position during concreting, complete in all respects as per bar bending schedules, drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0145	191.22	Ton	Not Applicable		
R-17	Providing, fabricating and fixing M.S. grating for drainage channels comprising 63.5 × 63.5 × 6.3 mm M.S. angle iron frame, 25.4 × 25.4 × 3.1 mm M.S. cramp welded to angle iron frame, 50.8 × 50.8 × 6.3 mm M.S. angle grating members, and RCC Channel No. 3 bars at 8–9 inches c/c, including cutting, welding, grinding, drilling, complete shop fabrication, anti-rust primer, two coats of synthetic enamel paint, lifting arrangements, anchoring, installation, and all necessary hardware, consumables, labour, tools, and accessories, complete in all respects, as per approved drawings and Engineer's instructions.. (Non Schedule) REF: Technical Specifications Section - 0340, Section - 0180	2,208.00	Sqm	Not Applicable		
R-18	Removal of obstructing sand dunes, including excavation by suitable mechanical means, loading, hauling to Engineer-approved disposal/spoil areas, unloading, spreading, levelling and dressing of the disposal areas, complete in all respects as per specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0100	546,917.00	Cum	Not Applicable		
R-19	Transportation and disposal of unsuitable/surplus excavated material from site to Engineer-approved dumping areas for a lead up to 5 km, including loading, hauling, unloading, spreading, levelling and dressing of the dumped material and maintenance of the disposal areas, complete in all respects as per specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0100	164,479.33	Cum	Not Applicable		
R-20	Supplying, laying and fixing 150 mm diameter PVC conduit/duct pipe of approved make and quality in cable trench within the road cross-section, including cutting, jointing with solvent cement, providing necessary bends, couplers and accessories, provision of draw-wire in each conduit, proper alignment and levelling, and coordination with the utility/MEP works, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0610	5,520.00	RM	Not Applicable		
R-21	Supplying, laying and fixing 100 mm diameter PVC conduit/duct pipe of approved make and quality in cable trench within the road cross-section, including cutting, jointing with solvent cement, providing necessary bends, couplers and accessories, provision of draw-wire in each conduit, proper alignment and levelling, and coordination with the utility/MEP works, complete in all respects as per drawings, specifications and as directed by the Engineer. REF: Technical Specifications Section - 0340, Section - 0610	5,520.00	RM	Not Applicable		
R-22	Providing and laying Tuff Pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope as per Complete in all respect. (50% Grey / 50% Coloured) complete in all respects as per drawings, specifications and as directed by the Engineer. (80mm thick)	5152	Sqm	Not Applicable		

R-23	Providing, fabricating, supplying and installing complete Road Sign Boards, including all signage designs, types, sizes and quantities as indicated on the approved drawings, including posts, frames, reflective sheeting, sign plates, foundations and all fixing accessories, complete in all respects, in accordance with the approved drawings, specifications and the Engineer's instructions.	1	Job	Not Applicable		
Total Amount (Rs)						0.00