

Un-Priced Bid Format, Schedule of quantity						Volume-II of NIT	
<b>Name of Work: REPAIR AND RESTORATION OF DAMAGED ROADS, DRAINS, FENCE AND CONSTRUCTION OF CULVERTS AND OTHER CIVILWORKS AT SOLAR POWER PLANT OF 1X50MW NTPC, MANDSAUR, MP.</b> <b>Enquiry no.TOAUX00049, dated:24.07.2021</b>							
Abstract sheet							
SL. No.	Description	Unit	Qty	Rate (In Rs)	Total Amount (Rs.)	Weighatege%	Remarks
A	B	C	D	E	F	G	H
1	Road Works	1	Set	No need to quote here	No need to quote here	<b>25.1566051</b>	Refer section-A for BOQ
2	Fencing	1	Set			<b>44.17819816</b>	Refer section-B for BOQ
3	Retaining wall	1	Set			<b>30.66519674</b>	Refer section-C for BOQ
	Total Weightage in Percentage					<b>100.00</b>	
Note.1	Bidders should quote only the Total Amount in BHEL NIC Portal. They should not fill/quote/write anything in col. (E ) & ( F ) of Abstract sheet as well as section - A, B & C . These rates & amount will be derived from the Total amount quoted and weightage factor assigned against respective items indicated in col. G. (Bidder to quote the total price in BHEL NIC portal <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a> )						
2	Evaluation Shall be based on total amount quoted by bidder.						

BOQ for Road Works						Section-A
Sl. No	DESCRIPTION	Unit	Qty	Rate	Amount	Weightage (In %)
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.(DSR:2.31)	100sqm	5			0.253067072
2	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. <b>All kinds of soil (DSR:2.6.1)</b>	cum	100			0.733390391
3	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed. <b>Ordinary rock (DSR:2.7.1)</b>	cum	25			0.355352548
4	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed. <b>Hard rock (blasting prohibited) (DSR:2.7.3)</b>	cum	25			1.02456876
5	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. All kinds of soil (DSR:2.26.1)	cum	25			0.091144475
6	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. Ordinary or hard rock (DSR:2.26.2)	cum	75			0.490304849
7	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earthwith lead upto 50 metres.(DSR:16.1)	sqm	500			3.160817813
8	<b>Banking excavated earth</b> in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with ½ tonne roller, or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead upto 50 m and lift upto 1.5 m <b>(All kinds of soil)</b> (DSR 2.3)	cum	2500			47.44251425
9	Construction of granular sub-base by providing close graded/coarse graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge. With material conforming to <b>Grade-I</b> (size range 75 mm to 0.075 mm ) having CBR Value-30. (DSR 16.78.1)	cum	35			3.553807786
10	Supplying and stacking at site. 63 mm to 45 mm size stone aggregate (DSR 16.3.2)	cum	17			1.052841695
11	Supplying and stacking at site. 53 mm to 22.4 mm size stone aggregate. (DSR 16.3.3)	cum	13			0.917363095

Sl. No	DESCRIPTION	Unit	Qty	Rate	Amount	Weightage (In %)
	Supplying and stacking at site.Stone screening 11.2 mm nominal size (Type B) (DSR 16.3.7)	cum	7			0.558542218
13	Supplying and stacking at site.Moorum (binding material) (DSR 16.3.10)	cum	20			0.651562011
14	Laying, spreading and compacting stone aggregate of specified sizes to WBM specifications in uniform thickness, hand picking, rollingwith 3 wheeled road / vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . (DSR 16.4)	cum	23			0.711683084
15	Providing and applying tack coat using hot straight run bitumen of grade VG - 10, including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications : On W.B.M. @ 0.75 Kg / sqm (DSR 16.30.1)	sqm	150			0.254377778
16	2 cm premix carpet surfacing with 1.8 cum and 0.90 cum of stone chippings of 13.2 mm size and 11.2 mm size respectively per 100 sqm. and 52 kg. and 56 kg. of hot bitumen per cum of stone chippings of 13.2 mm and 11.2 mm size respectively including a tack coat with hot straight run bitumen including consolidation with road roller of 6 to 9 tonne capacity etc. complete: (tack coat to be paid for separately).With Refinery Modified Bitumen CRMB 55 conforming to IRC: SP: 53-1999. (DSR 16.32.3)	sqm	150			1.11672147
17	Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade VG - 10 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface including rolling and finishing with road roller all complete. (DSR 16.40)	sqm	150			0.44584167
18	Providing and laying dry stone pitching of 230 mm thickness for slope protection in cement mortar 1:6 including hammer dressing, raking of joints, pointing, preparing the bedding surface and voids filling with stone aggregate etc. all complete.	sqm	1200			34.10029393
19	Brick work with common burnt clay F.P.S. bricks of class designation 7.5 in foundation and plinth including scaffolding etc,in:Cement mortar 1:4 (1 cement : 4 coarse sand) (D.S.R 6.1.1)	CUM	12			3.085805103
	Total Weightage for Section-A					100%

BOQ for Fencing Works						Section-B
Sl. No	DESCRIPTION	Unit	Quantity	Rate	Amount (Rs.)	Weightage (In %)
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.(DSR:2.31)	100 sqm	5			0.144105207
2	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. <b>All kinds of soil(DSR: 2.6.1)</b>	cum	55			0.229689921
3	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed as per direction of Engineer-in -charge. <b>Ordinary rock(DSR:2.7.1)</b>	cum	3			0.024282014
4	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed as per direction of Engineer-in -charge. <b>Hard rock (Blasting prohibited)(DSR:2.7.3)</b>	cum	3			0.070011017
5	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. <b>All kinds of soil (DSR:2.26.1)</b>	cum	5			0.010380168
6	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. <b>Ordinary or hard rock (DSR:2.26.2)</b>	cum	5			0.018613111
7	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) upto plinth level with : Cement mortar 1:6 (1 cement : 6 coarse sand).(DSR:7.1.1)	cum	20			2.811280165
8	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).(DSR:4.1.5)	cum	8.00			1.149920512
9	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) (DSR:4.1.3)	cum	6.00			0.935400104
10	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level Like fencing footing etc : 1:1½:3 (1 Cement: 1½ coarse sand: 3 graded stone aggregate 20 mm nominal size).(DSR:4.1.2)(OR DESIGN MIX AS PER APPROVAL)	cum	6.00			0.993540527
11	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. All works upto plinth level.(DSR:5.33.1)	cum	100.00			18.36577806
12	Centering and shuttering including strutting, propping etc. and removal of form for : Foundations, footings, bases of columns, etc. for mass concrete.(DSR:4.3.1)	SQM	500			3.270786315
13	Centering and shuttering including strutting, propping etc. and removal of form for : Lintels, beams, plinth beams, girders, bressumers and cantilevers.(DSR:4.3.3)	SQM	300			5.054820262
14	Steel reinforcement for R.C.C. work including straightening, cutting, bending, binding wire, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars.(DSR:5.22.6)	KG	5500			10.54666396
15	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	1.2			2.771725295

Sl. No	DESCRIPTION	Unit	Quantity	Rate	Amount (Rs.)	Weightage (In %)
16	Brick work with common burnt clay F.P.S. bricks of class designation 7.5 in foundation and plinth including scaffolding etc,in:Cement mortar 1:4 (1 cement : 4 coarse sand) (D.S.R 6.1.1)	CUM	30			4.39291232
17	Supply and fixing of hot dip galvanised mild steel posts for fencing. Rate of zinc coating shall not be less than 710 g/m2 on steel posts.	MT	7			15.95604045
18	Supply, Fabrication and erection of Structural steel work any kind of section riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete: For fencing post, grill work, gate, hinges, aldrops, guide track, castor wheel, lock and latch and any similar kind of works etc	MT	5			11.68343014
19	Providing and fixing G.I chain link fencing with mesh size 75x75 mm and of minimum 4 mm diameter. The chain link fencing material requirement shall confirm to IS: 2721. The chain link fence fabric shall have zinc coating of type Heavy as given in IS 4826. The G.I. chain link wire mesh will be stretched and attached by clips to 3 strands of High Tensile Spring Steel (HTSS) wire of 4 mmdia interwoven in chain link wire mesh and kept under tension which in turn are attached to the fence post with security nuts and bolts. On every fourth post a clamping strip ( U bolt 3 nos to hold HTSS wire) will be threaded through the links of chain link and bolted to the fence post with the help of security nuts and bolts. On each post 3 nos GI plate shall be provided with nut & bolt to support chainlink fencing. All nuts, fasteners, bolts, clamping strips, clamps, clips, etc. shall be galvanised. IS 4826 <b>(Please refer attached drg. )</b>	SQM	350			6.407686836
20	Providing and fixing GI: Galvanized reinforced twisted barbed wire/tape with double edge profile, twisted around minimum 2.5mm (minimum) galvanized bare wire, between the half Y steel posts fitted and fixed with G.I. staples, turn buckles etc. complete IS 278, at all height and level <b>(Please refer attached drg. )</b>	MET	600			11.71213636
21	Supply, Fabrication and erection, Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete: including chequered plate, stiffner plate etc. <b>(DSR:10.2)</b>	KG	1200			2.804023234
22	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work. <b>(DSR:13.61.1)</b>	SQM	200			0.5582785
23	Providing and fixing bolts including nuts and washers complete. <b>(DSR:10.20)</b>	KG	30			0.088495524
	<b>Total Weightage of Section-B</b>					<b>100</b>

BOQ for Retaining Wall Works						Section-C
Sl. No	DESCRIPTION	Unit	Quantity	Rate	Amount (Rs.)	Weightage (In %)
1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. <b>All kinds of soil</b> (D.S.R 2.6.1)	cum	550			3.30905683
2	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed. <b>Ordinary rock</b> (D.S.R 2.7.1)	cum	50			0.58303651
3	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. All kinds of soil (D.S.R 2.26.1)	cum	150			0.4486296
4	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. Ordinary or hard rock (D.S.R 2.26.2)	cum	150			0.80445639
5	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m. (DSR 2.25)	cum	550			3.99688937
6	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials. (for <b>All kinds of Soils</b> ) (D.S.R 2.26.1)	cum	170			0.50844687
7	Dismantling manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge : ( <b>bituminous road</b> ) (D.S.R:15.43.2)	sqm	200			2.02908946
8	Demolishing <b>R.C.C. work</b> manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge. (D.S.R:15.3)	cum	50			4.19299939
9	Demolishing stone rubble masonry manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge : In Cement Mortar (D.S.R 15.9.2)	cum	30			1.7412188
10	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm. depth, dressing to camber and consolidating with road roller <b>to achieve 95% or more of standard proctor's MDD</b> , including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth with lead upto 50 metres. (DSR:16.1)	sqm	300			1.55581171
11	Construction of granular sub-base by providing close graded/coarse graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge. With material conforming to <b>Grade-I</b> (size range 75 mm to 0.075 mm ) having CBR Value-30. (DSR 16.78.1)	cum	80			6.66274502
12	Supplying and stacking at site. 63 mm to 45 mm size stone aggregate (DSR 16.3.2)	cum	70			3.5564648
13	Supplying and stacking at site. 53 mm to 22.4 mm size stone aggregate. (DSR 16.3.3)	cum	55			3.18395501
14	Supplying and stacking at site.Stone screening 11.2 mm nominal size (Type B) (DSR 16.3.7)	cum	20			1.30916468
15	Supplying and stacking at site.Moorum (binding material) (DSR 16.3.10)	cum	33			0.88195417
16	Laying, spreading and compacting stone aggregate of specified sizes to WBM specifications in uniform thickness, hand picking, rollingwith 3 wheeled road / vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . (DSR 16.4)	cum	35			0.88845037

Sl. No	DESCRIPTION	Unit	Quantity	Rate	Amount (Rs.)	Weightage (In %)
17	Providing and applying tack coat using hot straight run bitumen of grade VG - 10, including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications : On W.B.M. @ 0.75 Kg / sqm (DSR 16.30.1)	sqm	200			0.27824299
18	2 cm premix carpet surfacing with 1.8 cum and 0.90 cum of stone chippings of 13.2 mm size and 11.2 mm size respectively per 100 sqm. and 52 kg. and 56 kg. of hot bitumen per cum of stone chippings of 13.2 mm and 11.2 mm size respectively including a tack coat with hot straight run bitumen including consolidation with road roller of 6 to 9 tonne capacity etc. complete: (tack coat to be paid for separately).With Refinery Modified Bitumen CRMB 55 conforming to IRC: SP: 53-1999. (DSR 16.32.3)	sqm	200			1.22149002
19	Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade VG - 10 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface including rolling and finishing with road roller all complete. (DSR 16.40)	sqm	200			5.07685925
20	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:3:6 (1 Cement : 3 fine sand : 6 graded stone aggregate 40 mm nominal size) (D.S.R 4.1.6)	cum	10			2.02685624
21	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) (DSR:4.1.3)	cum	45			10.1069697
22	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. All works upto plinth level. (D.S.R 5.33.1)	cum	35			9.26061145
23	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars.	kg	4800			13.2603792
24	Centering and shuttering including strutting, propping etc. and removal of form for :Foundations, <b>footings</b> , bases of columns, <b>cover slabs</b> etc. for mass concrete	sqm	30			0.28272597
25	Centering and shuttering including strutting, propping etc. and removal of form for : Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc	sqm	250			5.03963887
26	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete : 900 mm dia. R.C.C. pipe	meter	130			17.5935422
27	Carriage and disposal of excavated earth/surplus earth as per site condition/requirement as per direction of Engineer-in -charge. including loading, unloading and stacking up to 5 KM	cum	30			0.20032502
	<b>Total Weightage in Percentage for section-C</b>					100.00