



**NAYA RAIPUR DEVELOPMENT AUTHORITY**

**Modified**

**Tender Document for the  
Infrastructure Development for Sector 5, 7, 15, 16 & 22  
(Phase-I), in Naya Raipur**

(Following Three-Envelope Tender Procedure)

**Schedule – A  
Price Tender  
To be submitted in ENVELOPE-3**

**NIT No : 16 /ID/S-5,7,15,16 & 22 Phase-I /EEC-IV / CE (E) / NRDA / 2015-16, Raipur, Dated: 06.06.2015**

**Issued by:** Chief Executive Officer,  
1<sup>st</sup> Floor, Naya Raipur Development Authority (NRDA)  
Utility block, Capitol Complex, Sector- 19,  
Naya Raipur- 492 002, Chhattisgarh  
Tel No: + 91 771 2511500; Fax No.: +91 771 2511400.  
Website: [www.nayarapur.com](http://www.nayarapur.com)

## Tender Document Contains

- (a) Only schedule "A" and Section-I of schedule "D" are to be filled & signed by the tenderer
- (b) All the certificates as per pre qualification criteria shall be appended with relevant forms of schedule "D"

**1. PART ONE (NRDA F-1)-(Attached herewith, to be submit along the tender)**

**Part (A)**

- a) Press Notice
- b) Detailed NIT

**Part (B)**

**a) Schedule-A**

- (i) Cost Abstract
- (ii) Bill of Quantities

- b) Schedule-B –NIL
- c) Schedule-C –NIL
- d) Schedule-D

Section-I..... Technical tender forms

- (i) Letter of Technical Tender
- (ii) Tenderer's Information Sheet
- (iii) Annual Turnover
- (iv) Specific Construction Experience
- (v) Declaration
- (vi) Check list for Technical tender evaluation

Section –II .....Scope of work

Section –III..... Technical specifications of work

Section –IV..... Special Conditions of Contract

Section –V..... List of approved makes

Section –VI..... Drawings

- e) Schedule-E
- f) Schedule-F

**2. PART TWO (NRDA F-2/3) )-Standard form (Not Attached herewith, and not to be submitted along the tender)**

Important note: - Link site <http://nayaraipur.com/documents/gcc.pdf>

1. General Guidelines
2. Tender
3. General rules and directions
4. Conditions of contract
5. Clauses of contract
6. Model rules relating to labour, water supply and sanitation in labour camps safety code
7. Contract forms
  - (a) Draft Format for Performance Security
  - (b) Earnest Money Deposit Form (Bank Guarantee)
  - (c) Format of Contract Agreement
  - (d) Draft Format for Performance Guarantee for Water Proofing and Anti-termite Works
  - (e) Indemnity Bond
  - (f) Indenture Bond
  - (g) Notice for Appointment of Arbitrator
8. Proforma of schedules (Schedule 'A' to Schedule 'F')

# Naya Raipur Development Authority (NRDA) Raipur, Chhattisgarh

## Document details

Name of work : Infrastructure Development for Sector 5, 7, 15, 16 & 22 (Phase-I), in Naya Raipur

Name of Tenderer:

## Details

a) Cost of Tender Document : Rs

b) EMD : Rs

Signature of Tenderer

Date: \_\_\_\_\_

Signature of Contractor.....

Signature of NRDA.....

**COST ABSTRACT****" Infrastructure Development for sector-5,7,15,16 && 22(phase-I), in Naya Raipur"**

<b>Sl. No.</b>	<b>Description of Items</b>	<b>Amount in INR</b>	<b>Amount in Words ( In INR)</b>
<b>(A)</b>	<b>Road works</b>	<b>Rs. -</b>	
<b>(B)</b>	<b>Drainage work</b>	<b>Rs. -</b>	
<b>(C)</b>	<b>Water Supply work</b>	<b>Rs. -</b>	
<b>(D)</b>	<b>Sewerage work</b>	<b>Rs. -</b>	
	<b>Total</b>	<b>Rs. -</b>	

Bill of Quantity						
Infrastructure Development for sector-5,7,15,16 & 22(phase-I), in Naya Raipur						
Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
<b>A</b>	<b>Road works</b>					
1	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used inclusive of all lead including removal and disposal of top organic soil not exceeding 150mm in thickness if required and as per relevant clauses of section-200					
i	In the Area of Light Jungle	ha	55.00			Rs. -
2	Cutting of trees, including cutting of trunks, branches and removal of stumps, roots, stacking of serviceable material with all lifts and lead and earth filling in the depression/pit and as per relevant clauses of section-200 for :-	each	80.00			Rs. -
3	Excavation in Soil (by Mechanical Means.) Excavation for roadway in soil using mechanical means including dewatering, loading in tipper for carrying of cut earth to embankment site and unloading with all lifts and lead as per relevant clauses of section 300.	cum	95493.00			Rs. -
4	Construction of Embankment & subgrade with Material Deposited from Roadway Cutting (Construction of embankment with approved materials having C.B.R.>5 (unless specified otherwise in the contract) deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2) all complete	cum	110038.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
5	Construction of sub-grade with Material Obtained from Borrow Pits/Borrow Area (Construction of sub-grade with approved material/selected soil having C.B.R.>5(unless specified otherwise in the contract) obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2) all complete. <b>The contractor shall identify and arrange suitable Borrow pits for the work.</b>	cum	349342.00			Rs. -
6	Construction of granular sub-base by providing graded Material, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface density, complete as per clause 401 watering, rolling and compacting with vibratory power roller at OMC to achieve the desired density, complete as per clause 401					
	<b>A Plant mix method (with Mechanically crushed stone only)</b>					
a	For Lower Sub-base with					
i	Grading-III Material	cum	51111.00			Rs. -
b	For Sub-Base cum drainage Layer or upper sub-base with					
ii	Grading -VI material	cum	50407.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
7	Wet Mix Macadam ( Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed material by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density as per clause 406)	cum	72707.00			Rs. -
8	Prime Coat (Providing and applying primer coat with oil based bitumen emulsion (SS-1, grade conforming to IS:8887) on prepared surface of granular base including clearing of road surface and spraying prime using mechanical means as per clause 502					
i	(i) on WBM/WMM surface @0.85Kg/Sqm	Sqm	367357.00			Rs. -
9	Dense Bituminous Macadam(Providing and laying dense bituminous macadam with minimum 40-60 TPH capacity HMP using crushed aggregates of specified grading , premixed with bituminous binder @4.0 to 4.5% by weigth of total mix of mix and filler, transporting the hot mix to work site , laying with a hydrostatic paver finisher to the required grade,level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.505 complete in all respects.)					
a	With sensor paver finisher					
i	(for Grading -II(26.5mm nominal size bitumen content 4.50%)	cum	17812.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
10	Tack Coat providing and applying tack coat with bitumen emulsion (RS-1, grade confirming to IS:8887) using using amulsion pressure distributor on the prepared bituminous /granular surface cleaned with mechanical broom and as per clause 503.					
i	(i)Bituminous surface @0.25kg/Sqm	Sqm	367357.00			Rs. -
11	Bituminous concrete( Providing and Laying bituminous concrete with minimum 40-60 TPH capacity hot mix plant using crushed aggregates of specified grading, premixed with bituminous binder@5.0 to 6.0% by weight of total mix of mix and filler, transporting the hot mix to work site,laying witha hydrostatic paver finisher with sensor control to the required grade,level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507 complete in all aspects)					
a	With sensor paver finisher					
i	(iii) for GradingII( 13.2mm nominal size ) with CRMB 60-5.5%	cum	16836.00			Rs. -
12	Road Marking with Hot Applied Thermoplastic Compound with Reflectorizing Glass Beads on Bituminous Surface (Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorizing glass beads @ 250 gms per sqmt area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35-1997 .The finished surface to be level, uniform and free from streaks and holes.)	sqmt	20,656.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
13	Direction and Place Identification signs upto 0.9 sqmt size board. (Providing and erecting direction and place identification retro-reflectrized sign as per IRC:67 made of encapsulated lens type reflective sheeting vide clause 801.3, fixed over aluminum sheeting, 2 mm thick with area not exceeding 0.9 sqmt supported on a mild steel single angle iron post 75 x 75 x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 x 45 x 60 cm, 60 cm below ground level as per approved drawing)	sqmt	9.6			Rs. -
14	Retro- reflectrized Traffic signs (Providing and fixing of retro-reflectrized cautionary, mandatory and inforatory sign as per IRC :67-2012 made of encapsulated lens type reflective sheeting vide clause 801.3, fixed over aluminum sheeting, 1.5 mm thick supported on a mild steel frame of size 40 x 40 x 5 mm and mild steel iron post firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing) ( Make : Bajaj/ Equivalent)					
i	90 cm equilateral triangle	each	100.00			Rs. -
ii	60 cm equilateral triangle	each	100.00			Rs. -
iii	60 cm circular	each	100.00			Rs. -
iv	80 cm x 60 cm rectangular	Each	100.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
v	60 cm x 45 cm rectangular	Each	100.00			Rs. -
vi	60 cm x 60 cm square	each	100.00			Rs. -
vii	90 cm high octagon	each	100.00			Rs. -
15	Providing & Fixing; Object Marker of size 30 cm equilateral Triangle made of 1.5 mm thick Aluminum sheet pasted with High intensity Grade Retro Reflective Sheeting duly treated with HLVA complete with post of angle size 50x50x5 mm of 0.75 m and fixing the same in M 15 concrete block of size 30x30x30cm including transportation etc. complete.	Each.	100.00			Rs. -
16	Boundary pillar (Reinforced cement concrete M15 grade boundary pillars of standard design as per IRC:25-1967, fixed in position including finishing and lettering but excluding painting)	each	100.00			Rs. -
17	Providing and fixing of Route Marker Sign Board with High Intensity Grade Retro-reflective Sheeting ( as per section 800.1.3 ) made of 1.5 mm thick aluminum sheet. The single vertical post made from M.S. firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing .Size of board 600 mm x 440 mm for the upper board and 300 mm x 250 mm for the lower plate as per I.R.C. Specifications.	each	100.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
18	Cast in Situ Cement Concrete M20 kerb (Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408)	meter	58396.00			Rs. -
19	Cast in Situ Cement Concrete M20 kerb with channel (Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation 150 mm thick,kerb channel 300mm wide ,50mm thick in PCC M20 grade,sloped towards the kerb,kerb stone with channel laid with kerb stone laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408)	meter	48537.00			Rs. -
20	Two Coats on new surfaces(Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces)	Sqm	31826.00			Rs. -
21	Precast interlocking concrete paver blocks:Providing & laying factory made confirm technical specification of Bureau of Indian Standards 15658 of 2006 of heavy duty pavers resulting in consistent and uniform quality, rubber moulded, white cement based , pigmented block lacquer coating and cured through drying process mechanically vibrated and compacted precast interlocking premium concrete paver blocks in M40 grade , 60mm thickness of approved size, design and colour with providing and laying in position over 40 mm thick average complete coarse sand bed with joints of 3mm thick filled by fine sand including leveling with surface vibrator, temping and sweeping etc. complete. Coloured pigment precast interlock concrete blocks. (Make : Ultra / Equivalent)					

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
i	60mm thick Plain precast interlock concrete block	sqm	94140.00			Rs. -
22	Footpaths and Separators (Construction of footpath/separator by providing a 150 mm compacted granular sub base as per clause 401 and 75 mm thick cement concrete base with PCC grade M-15, overlaid with precast pre-polished cement concrete floor tiles conform to IS 1237:1980 (Reaffirmed in 1996) for heavy duty tiles (Exterior Grade) of 22-25mm thick in cement mortar fixed in 20mm thick cement mortar 1:3 including provision of all drainage arrangements but excluding kerb channel excluding cost of GSB.) as per clause 410. (Make : Ultra / Equivalent)	Sqm	10273.00			Rs. -
23	Precast interlocking concrete grass paver blocks:Providing & laying factory made confirm technical specification of Bureau of Indian Standards 15658 of 2006 of heavy duty pavers resulting in consistent and uniform quality, rubber moulded, white cement based , pigmented block lacquer coating and cured through drying process mechanically vibrated and compacted precast interlocking premium concrete paver blocks in M40 grade , 60mm thickness of approved size, design and colour with providing and laying in position over 40 mm thick average complete coarse sand bed with joints of 3mm thick filled by fine sand including leveling with surface vibrator, temping and sweeping etc. complete. Coloured pigment precast interlock concrete blocks. (Make : Ultra / Equivalent)	Sqm	6000.00			Rs. -
	<b>Sub Total of Road Work</b>					Rs. -

Bill of Quantity						
Infrastructure Development for sector-5,7,15,16 & 22(phase-I), in Naya Raipur						
Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
B	<b>Drainage work</b>					
1	Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including dewatering, disposal of excavated stuff with all lead , (at least 5m away from the excavated area), including dressing and leveling of pits, grading of disposal stuff as per instruction of EIC.					
	In all types of soils	Cum	123564			Rs. -
2	Filling available excavated earth in trenches, plinth sides of foundation in layers not exceeding 20cm. in depth including consolidation of each layer by ramming watering, lead upto 50m and lift up to 1.5m in all kinds of soils	Cum	18262			Rs. -
3	Providing and laying mechanically mixed cement concrete with crushed stone aggregate excluding centering and shuttering (with 40mm nominal size graded stone aggregate)					
a	M-10 Grade	Cum	6566			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
4	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including concrete laying, cost of centering, shuttering, finishing and including Admixtures in recommended proportions as per IS9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. M-20 grade design mix reinforced cement concrete by using 405 kg. of cement per cum of concrete. All work upto plinth level excluding the cost of reinforcement.					
a	M-20	Cum	34977			Rs. -
5	Providing and fixing formwork i/c centering shuttering, strutting, staging, propping, bracing etc. complete and i/c removal of formwork.					
a	Foundation /footing /column base/ plinth beam of any shape and size up to plinth level	sqm	17690			Rs. -
b	Wall of any thickness including attached plastered etc.	sqm	52621			Rs. -
6	Providing and fixing un-polished 45mm to 50mm thick RAJIM SAND STONE laid on drainage wall top for the base of drain slab, as per drawing and as per direction of Engineer complete etc.	sqm	14347			Rs. -
7	Providing and fixing one side polished 30 mm thick RAJIM SAND STONE shelves fixed in Drain wall top complete as per drawing.	sqm	18657			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
8	Providing,laying and placing of precast cement concrete cover of drain M-35 grade in superstructure including form work but excluding reinforcement complete .					
a	RCC M35 grade	Cum	3767			Rs. -
9	Providing and placing in position reinforcement for R.C.C. work including straightening, cutting, bending, binding etc. complete as per drawings including cost of binding wire in foundation and plinth all complete:					
a	Thermo-Mechanically Treated bars FE -500	kg	2108453			Rs. -
10	Structural steel hot dip galvanized MS angle welded over a base plate including cutting, welding ,hoisting and fixing in position with 3 nos. of 12mm diameter fastners etc. complete as per drawings and direction of Engineer complete etc.	kg	128351			Rs. -
	<b>Horizontal direction drilling</b>	Rm	150			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
11	Providing, Laying, Jointing, and commissioning of sewer networks by trench less method by carrying out horizontal directional drilling (HDD) along roads as per the requirement at various locations as per detailed design and drawing approved by the authority including survey, information collection regarding under ground utilities, sensing of utilities by sensing equipment, pit making, pilot drilling, pre-reaming pulling the ducts of suitable size as per the designed invert levels. Providing barricades and necessary signal lights, closing of pits with excavated earth including cost of casing pipe of 12mm thick MS pipe with epoxy paint and carrier pipe of GRP ,consolidating pit are, including road restoration, cost of all materials, labour, conveyance, hire charges etc. complete preparation of pit by excavated soil/ hard morum & refilling compacting surface as it is position / horizontal drilling across road for pipe line laying propose as per guide line and detail technical specifications all complete as per direction of Engineer in charge. The rate shall be inclusive of supplying, laying and testing of casing pipe and all other structures need to be constructed to meet the requirements of the sanctioning authority including necessary excavation, dewatering, refilling, transportation of surplus stuff of earth,as per technical specification and as per direction of Engineer in charge etc, complete.					
	800mm diameter pipe	Meter	240.00			Rs. -
12	Providing and laying Reinforced Cement Concrete pipe NP 3 / prestressed concrete pipe. (Laying Reinforced cement concrete pipe NP3 /prestressed concrete pipe for culverts including fixing collar with cement mortar 1:2 but excluding bedding below pipes, excavation, protection works, backfilling, concrete and masonry works in head walls and parapets . )					
a	300 mm dia		1908			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
b	450 mm dia	Rmt	372			Rs. -
c	225 mm dia	Rmt	225			Rs. -
d	600 mm dia	Rmt	108			Rs. -
e	1000 mm dia	Rmt	192			Rs. -
13	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 :					
a	150 mm dia. R.C.C. pipe	Rmt	1350			Rs. -
14	Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawing and Technical specification.	Cum	25			Rs. -
15	<b>Granular filling:-</b> Providing 1 st class bedding below pipes with graded sand or other granular materials passing through 5.6 mm sieve as per clause 2904.		190			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
16	Filling with murum/ river sand for pipe bedding or over the pipe including supply .	Cum	471			Rs. -
17	Excavation for Structures (Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material). The work is inclusive of dewatering, disposal of excavated stuff with all lead and lift and grading of disposed earth as per instruction of EIC.					
	Mechanical Means					
a	Upto 3 m depth		4456			Rs. -
18	Plain/Reinforced cement concrete in open foundation including formwork etc.complete as per drawing and technical specifications					
	PCC Grade M15	Cum	289			Rs. -
19	Furnishing and Placing Reinforced/Prestressed cement concrete in super-structure as per drawing and Technical Specification sections 1500, 1600 and 1700; including formwork all complete					
a	R.C.C. Grade M-20	Cum	33			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
b	RCC Grade M 30 ( For Solid Slab Super Structure ) ; Height upto 5m	Cum	672			Rs. -
20	Providing and laying Plain/Reinforced cement concrete in sub-structure complete as per drawing and technical specifications section 1500, 1700 and 2200 including formwork etc. all complete					
	R.C.C. Grade M-30 ; Height upto 5m	Cum	2065			Rs. -
21	Supplying, fitting and placing HYSD bar reinforcement in super-structure complete as per drawing and technical specifications ; Thermo-Mechanically Treated bars FE -500	MT	64			Rs. -
22	Supplying, fitting and placing HYSD <b>bar reinforcement in sub-structure</b> complete as per drawing and technical specifications section 1600 and 2200; Thermo-Mechanically Treated bars FE -500	MT	186			Rs. -
23	Providing and laying boulders apron on river bed for protection against scour with stone boulders weighing not less than 40 kg each complete as per drawing and Technical specification.	Cum	360			Rs. -
24	Designing and providing suitable RCC foundation for 7 metre to 12 metre high GI octagonal pole including steel reinforcement (minimum 90kg per cum), form work, embedding 2 nos 50mm dia PVC pipe for cable entry in each foundation, excavation disposal of surplus soil and curing etc. as required. (RCC M30 Grade)	Cum	255			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
25	Supplying and laying <b>double wall HDPE</b> pipe having corrugation on the outer wall and plan surface on inner wall in ground below road, path etc at a depth not less than 40 cm including excavation, dismantling of road if required and refilling the trench etc. as required.					
a	40 mm	Meter	11220			Rs. -
	<b>Sub Total of Drainage Work</b>					Rs. -

Bill of Quantity						
Infrastructure Development for sector-5,7,15,16 & 22(phase-I), in Naya Raipur						
Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
<b>C</b>	<b>Water Supply work</b>					
1	Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including disposal of excavated stuff with all lead , (at least 5m away from the excavated area), including dressing and leveling of pits, grading of disposal stuff as per instruction of EIC.					
i	In all types of soils	Cum	63898			Rs. -
ii	In ordinary Rocks	Cum	5703.6			Rs. -
2	Earth work in Excavation for pipe trench in Hard Soil areas including dressing, dewatering and ramming and disposal of Excavated earth with all lead and lift , disposal earth to be leveled, neatly dressed all complete as per instruction of EIC.					
		Cum	3161			Rs. -
3	Filling available excavated earth in trenches, plinth sides of foundation in layers not exceeding 20cm. in depth including consolidation of each layer by ramming watering, all lead and lift in all kinds of soils	cum	70314			Rs. -
4	Providing and laying mechanically mixed cement concrete with crushed stone aggregate excluding centering and shuttering (with 40mm nominal size graded stone aggregate)					
a	M-10 Grade	Cum	41			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
5	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including concrete laying, cost of centering, shuttering, finishing and including Admixtures in recommended proportions as per IS9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. M-20 grade design mix reinforced cement concrete by using 405 kg. of cement per cum of concrete. All work upto plinth level excluding the cost of reinforcement.					
a	M-20	Cum	458			Rs. -
6	Providing and fixing formwork i/c centering shuttering, strutting, staging, propping, bracing etc. complete and i/c removal of formwork.					
a	Foundation /footing /column base/ plinth beam of any shape and size up to plinth level	Sqm	646			Rs. -
7	Providing and placing in position reinforcement for R.C.C. work including straightening, cutting, bending, binding etc. complete as per drawings including cost of binding wire in foundation and plinth all complete:					
i	Thermo-Mechanically Treated bars FE -500	kg	28361			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
8	Providing, laying, Jointing & field testing of High Density Polyethylene pipes, (HDPE) Conforming to IS4984/ 14151/ 12786/ 13488 with necessary jointing material like mechanical connector or jointing pipes by heating to the ends of pipes with the help of Teflon coated electric mirror/ heater to the required temperature and then pressing the ends together against each other, to form a monolithic & leak proof joint by thermo setting process. It may be required to be done with Jacks/ Hydraulic Jacks /But fusion machine. (50mm & above fusion jointed & below 50 mm mechanical jointed) and as per Technical Specifications and as per direction of Engineer.( Make : KML Classic / Equivalent)					
<b>a</b>	<b>Domestic Use:</b>					
i	110 mm dia.(PE-100) 6 Kg/sq.cm (Blue colour pipe)	Rm	3150.00			Rs. -
ii	160 mm dia.(PE-100) 6 Kg/sq.cm (Blue colour pipe)	Rm	3520.00			Rs. -
iii	200 mm dia.(PE-100) 6 Kg/sq.cm (Blue colour pipe)	Rm	10690.00			Rs. -
<b>b</b>	<b>Land Scaping:</b>					
i	75 mm dia.(PE-100) 6 Kg/sq.cm (Black colour pipe)	Rm	1455.00			Rs. -
ii	110 mm dia.(PE-100) 6 Kg/sq.cm (Black colour pipe)	Rm	6838.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
iii	160 mm dia.(PE-100) 6 Kg/sq.cm (Black colour pipe)	Rm	16383.00			Rs. -
iv	200 mm dia.(PE-100) 6 Kg/sq.cm (Black colour pipe)	Rm	14695.00			Rs. -
9	Providing, laying and jointing socket & spigot centrifugally cast (Spun) Ductile Iron pressure pipes with inside cement mortar lining (classK-9) Conforming to IS8329/2000 with suitable Rubber Gasket (Pushon) joints as per IS:5382/85 including testing of joint (laying Conforming to IS 12288 : 1987)					
i	300mm diameter	Rm	8860.00			Rs. -
ii	400mm diameter	Rm	3350.00			Rs. -
iii	500mm diameter	Rm	50.00			Rs. -
10	Providing & Supplying D.I. Specials & Fittings For all types of specials, bends, tees.. etc.					
i	80mm to 500 mm dia	Kg	650.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
11	<b>Mechanical Joints / Fittings:</b> Providing and Supply of C.I. Mechanical Compression flanged/socket tail piece (Popularly known as 1TM Flanged/Socket Tail piece) suitable for making flanged connection with the plain barrel of C.I. Spun Pipes (as per IS-1536/2001) and D.I. Pipes (as per IS 8329/2000). The Tail piece to be supplied complete with sealing rubber gasket of S.B.R., C.I. Follower Glands and M.S. Nut Bolts. The whole as sembly should be mechanically and hydraulically tested to the provisions as laid down in IS : 1538/1993.					
i	80mm	Each	67			Rs. -
ii	100MM	Each	56			Rs. -
iii	150MM	Each	50			Rs. -
iv	200MM	Each	58			Rs. -
v	300MM	Each	20			Rs. -
vi	400MM	Each	2			Rs. -
vii	500MM	Each	1			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
12	Providing and fixing double flanged cast iron (horizontal cast) pipe as per IS : 7181 of One Meter length.					
a	100mm diameter	Each	31			Rs. -
13	Providing and laying in position sizes of flanged cast iron standard specials Heavy Class					
a	80mm to 300mm dia	Kg	782			Rs. -
14	Providing lead caulked joints to S.C.I or C.I. (spun) pipes and specials including testing of joints but excluding the cost of pig lead:					
a	200 mm diameter pipe	Each	10			Rs. -
15	Supplying pig lead at site of work.	quintal	0.25			Rs. -
16	Providing & fixing of Cast iron double flanged sluice valves as per I.S.:14846-2000 fitted with cast iron cap including jointing & testing with cost of jointing material such as bolts, nuts, rubber insertions etc. all complete. (Steel Spindle)					
i	80 mm diameter (Pressure rating PN - 1.6)	Each	55			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
ii	100 mm diameter (Pressure rating PN - 1.6)	Each	50			Rs. -
iii	150 mm diameter (Pressure rating PN - 1.6)	Each	51			Rs. -
iv	200 mm diameter (Pressure rating PN - 1.6)	Each	53			Rs. -
v	300 mm diameter (Pressure rating PN - 1.6)	Each	20			Rs. -
vi	400 mm diameter (Pressure rating PN - 1.6)	Each	7			Rs. -
vii	500 mm diameter (Pressure rating PN - 1.6)	Each	1			Rs. -
17	Providing, lowering, laying, aligning, fixing in position at and jointing at all level/ depths HDPE pipe accessories/ fittings of PE-100 grade for potable water as per IS 8360 for fabricated (amended upto date) within pipe line in trenches complete including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer.					
a	Providing and laying Equal Tee Conforming to IS specifications.					
i	200 mm dia. (10Kg/sq.cm)	Each	77			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
ii	160 mm dia. (10Kg/sq.cm)	Each	57			Rs. -
iii	110 mm dia. (10 Kg/sq.cm)	Each	38			Rs. -
c	Providing and laying Reducer 10kg/sq.cm: Conforming to IS specifications.					
i	200 mm dia. (STEP-III)	Each	62			Rs. -
ii	160 mm dia. (STEP-III)	Each	57			Rs. -
iii	110 mm dia. (STEP-III)	Each	65			Rs. -
d	Providing and laying End Cap Conforming to IS specifications.					
i	110mm dia (10 Kg/sq.cm)	Each	265			Rs. -
ii	75mm dia (10 Kg/sq.cm)	Each	29			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
18	Providing & fixing cast iron double air valves, flanged without in-built isolating valve as per IS:14845-2000 including jointing & testing with cost of jointing material and rubber insertion all complete as per IS :13095-1991					
a	100 mm dia PN-1.6	Each	27			Rs. -
19	Filling with murum/ river sand for pipe bedding or over the pipe including supply as per instruction of EIC	Cum	1946.00			Rs. -
20	<b>Construction of RCC valve chamber</b> internal size 1.2m x 1.2m x 1.5	No	248			Rs. -
21	Providing flanged joints to double flanged C.I./ D.I. pipes, valves and specials including rubber insertion 3mm thick, suitable bolts and nuts and testing of joints complete:					
i	100 mm diameter pipe	Each	8			Rs. -
ii	150 mm diameter pipe	Each	2			Rs. -
iii	200 mm diameter pipe	Each	12			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
iv	300 mm diameter pipe	Each	9			Rs. -
v	400 mm diameter pipe	Each	2			Rs. -
vi	500 mm diameter pipe	Each	1			Rs. -
<b>Sub total of Water Supply work</b>						<b>Rs. -</b>

Bill of Quantity						
Infrastructure Development for sector-5,7,15,16 & 22(phase-I), in Naya Raipur						
Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
<b>D</b>	<b>Sewerage work</b>					
1	Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including dewatering, disposal of excavated stuff with all lead , (at least 5m away from the excavated area), including dressing and leveling of pits, grading of disposal stuff as per instruction of EIC.					
	In all types of soils.					
i	upto 1.5 m deep	Cum	79722.00			Rs. -
ii	>1.5m and upto3.0m deep	Cum	8926.00			Rs. -
iii	>3.0m and upto 4.5m deep	Cum	600.00			Rs. -
2	Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including dewatering, disposal of excavated stuff with all lead , (at least 5m away from the excavated area), including dressing and leveling of pits, grading of disposal stuff as per instruction of EIC.					
	In ordinary rocks.					
i	upto 1.5 m deep	Cum	4652.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
ii	>1.5m and upto 3.0m deep	Cum	282.00			Rs. -
iii	>3.0m and upto4.5m deep	Cum	29.00			Rs. -
3	Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including disposal of excavated stuff with all lead , (at least 5m away from the excavated area), including dressing and leveling of pits, grading of disposal stuff as per instruction of EIC.					
	In hard rocks where blasting in prohibited.					
i	upto 1.5 m deep	Cum	1652.00			Rs. -
ii	>1.5m and upto 3.0m deep	Cum	282.00			Rs. -
iii	>3.0m and upto4.5m deep	Cum	14.00			Rs. -
4	Extra for every additional lead upto 50m or part here of over item 2.1 to 2.5.	Cum	3890.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
5	Filling available excavated earth in trenches, plinth sides of foundation in layers not exceeding 20cm. in depth including consolidation of each layer by ramming watering, lead upto 50m and lift up to 1.5m in all kinds of soils	cum	48843.00			Rs. -
6	Providing, laying, Jointing & field testing of DWC HDPE Pipes (with external annular corrugation and smooth internal walls) duly tested Conforming to IS 16098 (PART-II): 2013 having stiffness class of SN 8 with ring stiffness not less than 8.00KN/SQM. and impact resistance TIR valve not more than 10% including necessary jointing materials for non-pressure underground sewerage, drainage & cross drainage application. Inclusive of all taxes related to central, state and municipal, inclusive of excise duty, inspection charges, transportation charges, transit insurance, loading/unloading and stacking at site/store etc. and as per Technical Specifications and as per direction of Engineer.This is also inclusive of Jointing material i.e Pipe with online/offline coupler and elastomeric sealing ring. All the joints shall be confirmed water tight as per standards.					
	Internal dia /Outer dia					
a	170 mm / 200 mm	Meter	1740.00			Rs. -
b	250 mm / 295 mm	Meter	9940.00			Rs. -
c	300 mm / 345 mm	Meter	12800.00			Rs. -
d	400 mm / 480 mm	Meter	1024.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
7	Providing and laying mechanically mixed cement concrete with crushed stone aggregate excluding centering and shuttering (with 40mm nominal size graded stone aggregate)					
a	M-10 Grade	Cum	23.00			Rs. -
8	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including concrete laying, cost of centering, shuttering, finishing and including Admixtures in recommended proportions as per IS9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. M-20 grade design mix reinforced cement concrete by using 405 kg. of cement per cum of concrete. All work upto plinth level excluding the cost of reinforcement.					
a	M-20	Cum	221.00			Rs. -
9	Providing and fixing formwork i/c centering shuttering, strutting, staging, propping, bracing etc. complete and i/c removal of formwork.					
a	Foundation /footing /column base/ plinth beam of any shape and size up to plinth level	Sqm	24			Rs. -
10	Providing and placing in position reinforcement for R.C.C. work including straightening, cutting, bending, binding etc. complete as per drawings including cost of binding wire in foundation and plinth all complete:					

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
a	Thermo-Mechanically Treated bars FE -500	kg	13269			Rs. -
11	Filling with murum/ river sand for pipe bedding or over the pipe including supply as per instruction of EIC.	Cum	12882			Rs. -
<b>B</b>	<b>Construction of prefabricated HDPE manhole:</b>					
	Supplying , Installation testing and commissioning of prefabricated HDPE manhole: Providing, lowering, laying, aligning, fixing in position at all level/ depths High Density Poly Ethylene (HDPE) manhole conforming to EN 13598-2:2009, man entry type of 1000mm diameter for depth specified below, shall be of single wall construction OR modular construction conforming to EN 681-1 with triple safety seal (three side lip/element) made of 100% virgin PE material without recycling or foam content, including connecting the according to EN 681-1 and the manholes shall be safeguarded against uplift pressure with solid horizontal reinforcement ribs of appropriate thickness and with at regular intervals all along the outside of the manhole.( Make : VECTUS INDUSTRIES LTD / equivalent)					

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
12	The item is inclusive of Excavation, Dewatering, Layerwise backfilling and compaction of granular material , Provision of corrosion resistant steps at a vertical distance of 25cm .Providing and fixing of FRP Manhole frame and cover with locking arrangement fitting to 600mm dia manhole openings and load should be carry 20tone approved brand and as per IS:1726:1991etc. Providing and fixing of Precast RCC M35 grade load distribution ring 1050mm OD & 635mmID and designed to handle heavy load as approved by Engineer placed around the neck of the manhole of 150mm thickness including reinforcement. Providing RCC M20 grade concrete thick 200mm slab (Dia 1500mm outer dia and inner dia 635mm ) around the manhole below the Precast RCC distribution Ring. Providing and laying Manhole bottom PCC (1:3:6) of 200mm thick and 1.5m dia. All the inlet, outlet connections to the manhole shall be complete with all accessories/ fittings, material, labour, jointing materials , testing and commissioning as per detailed drawing, as per Technical specifications and all complete as directed by Engineer in charge.					
a	Manhole of depth up to 1.5m as per drawing and direction of Engineer.	Nos.	71.00			Rs. -
b	For depth above 1.5m and up to 1.8m as per drawing and direction of Engineer.	Nos.	100.00			Rs. -
c	For depth above 1.8m and up to 2.1m as per drawing and direction of Engineer.	Nos.	110.00			Rs. -
d	For depth above 2.1m and up to 2.4m as per drawing and direction of Engineer.	Nos.	100.00			Rs. -
e	For depth above 2.4m and up to 2.7m as per drawing and direction of Engineer.	Nos.	130.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
f	For depth above 2.7m and up to 3.0m as per drawing and direction of Engineer.	Nos.	185.00			Rs. -
g	For depth above 3m and up to 3.6m as per drawing and direction of Engineer.	Nos.	105.00			Rs. -
h	For depth above 3.6m and up to 4.2m as per drawing and direction of Engineer.	Nos.	5.00			Rs. -
i	For depth above 4.2m and up to 4.8m as per drawing and direction of Engineer.	Nos.	5.00			Rs. -
j	For depth above 4.8m and up to 5.4m as per drawing and direction of Engineer.	Nos.	5.00			Rs. -
k	For depth above 5.4m and up to 6m as per drawing and direction of Engineer.	Nos.	5.00			Rs. -

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
13	Providing and constructing brick masonry chamber for underground pipe and and bends with FLY Ash bricks crushing strength not less than 35kg/cm <sup>2</sup> in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) R.C.C. top slab with 1:2:4 mix (1 cement :2 coarse sand : 4 graded stone aggregate 20 mm nominal size) foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design :					
a	Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets :	Each	85			Rs. -
14	Providing sand cast iron drop connection externally for 60 cm drop from branch sewer line to main sewer manhole including inspection and cleaning eye with chain and lid, sand cast iron drop pipe and bend encased all-round with cement concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) with all centring and shuttering required, cutting holes in walls and making good with brick work in cement mortar 1:4 (1 cement : 4 coarse sand) plastered with cement mortar 1:3 (1 cement : 3 coarse sand) on inside of the manhole wall lead caulked joints between sand cast iron pipes and fittings, stiff cement mortar 1:1 (1 cement : 1 fine sand) joints between sand cast iron tee and S.W. pipe, making required channels complete as per standard design and specifications :					
a	150 mm dia. sand cast iron drop connection	each	29			Rs. -
15	Extra for depths beyond 60 cm of sand cast iron drop connection complete :					

Sl. No.	Description of Items	Unit	Quantity	Rate in INR	Rate in words (in INR)	Amount in INR
a	For 150 mm dia. sand cast iron drop connection	meter	70			Rs. -
	<b>Sub Total of Sewerage Work</b>					Rs. -