



**MINUTES OF THE MEETING OF CABINET COMMITTEE ON INFRASTRUCTURE  
(CCI) HELD ON 26<sup>th</sup> DECEMBER, 2018 IN THE CONFERENCE HALL OF  
HON'BLE CHIEF MINISTER**

A meeting of the Cabinet Committee on Infrastructure (CCI) was held in the Conference Hall of the Hon'ble Chief Minister on 26<sup>th</sup> December, 2018 to discuss various issues as per agenda circulated vide No.PD(SPD)-63/CCI/2015-16 (Part) dated 24/12/2018.

2. The meeting was chaired by Hon'ble Chief Minister and attended by Hon'ble Deputy Chief Minister, Chief Secretary, Commissioner (FPI), Secretary to CM, Special Secretary (Planning) and officials of Planning Department.

3. Concerned departments gave power point presentations on the respective proposals/issues for appraisal of the CCI. The proposals/issues were discussed in detail and after threadbare discussion, the following decisions were taken:-

**I. Decisions on Policy related issues:-**

**Decision No-1:** It has been observed that a number of schemes relating to construction of boundary walls are being implemented and also being proposed to be implemented in the State under various schemes/programmes. It was noted that there was no standard design and specification for such walls around Govt. buildings (both residential and Non-residential), schools, health centres etc. It was also observed that there was no uniformity in preparing the estimates, design & specification of the boundary wall and hence the cost estimates submitted by various executing departments varied to a large extent. It was, therefore, decided to streamline construction of such boundary walls adopting a uniform and standard drawing, design & specification and costing throughout the State. It was finally resolved that henceforth, all departments / executing agencies shall follow the standard drawing and costing as per the Office Memorandum issued by the Finance, Planning & Investment department (**Annexure-I**).

**Decision No-2:** It has also been observed that various types of Govt. buildings are constructed in the State under various schemes/programmes by executing departments adopting different rates/estimates. Departments tend to prepare estimates of single/double/triple storied buildings on higher sides incorporating higher specifications which may be functionally not required. It was also noted that there is no standard design and specification for construction of Govt. buildings (both residential and Non-residential). This leads to artificial inflation and accordingly non-uniformity in the cost of the projects pertaining to construction of such buildings by various departments. It was, therefore, decided to streamline the preparation of estimates of various categories of buildings throughout the State by adopting a uniform design, specification and standard costing based on CPWD Plinth Area





Rate 2012. It was decided that henceforth, all departments / executing agencies shall follow the standard drawing and costing as per the Office Memorandum issued by the Finance, Planning & Investment Department (**Annexure-II**).

**Decision No-3:**

It has been observed that only about one third of the roads in the State are complete Cement Concrete/Bituminous roads. Formation cutting of roads is taken up every year by various executing departments under different schemes without any provision for proper drainage, culverts and black topping. Since formation cutting is not a permanent kind of structure, there is frequent damage to these roads during rainy seasons due to landslides/mudslides thereby causing huge loss to public exchequer. It was felt that there is an urgent need to check this trend and invest the scarce public resources in the road sector in a planned manner so as to ensure optimum utilisation of fund. The Proposal put forward by the PWD in this regard was approved in principle by the CCI. It was decided that henceforth, priority will be given to provide connectivity to the unconnected administrative centres and surfacing / resurfacing of major district roads and township roads. Accordingly it was decided that a two phased strategy shall be adopted for providing better road connectivity in the State which is as follows:

- 1) PWD will identify strategic roads required for connecting unconnected district headquarters, and sub divisional headquarters and also prepare a plan for re-surfacing of roads connecting such administrative centres in a phased manner depending upon the availability of funds.
- 2) PWD will identify strategic roads required for connecting unconnected EAC/CO headquarters, prepare a comprehensive plan for connecting such administrative centres and also prepare a re-surfacing plan of roads connecting such administrative centres in each district in a phased manner depending upon the availability of funds.

Detailed Action Plan in this regard will be submitted by the PWD within one month time and the same will be accordingly included in the Budget after due examination and prioritisation. Every year sufficient fund will be earmarked for connecting the unconnected administrative centres and accordingly resurfacing of such important roads will be carried out from the State Budget and other sources from Government of India.

**Decision No-4:**

It was brought to the notice that that there is an urgent need to connect the Itanagar-Jote Road to two-lane Highway in view of the huge economic potential of the area and also to provide better connectivity to important State Level institutes like the Film and Television Institute (FTI), National Institute of Technology





(NIT), Law College etc. which have been established in and around Jote. It was decided that the proposal will be submitted to the MoRTH, Government of India for consideration under CRF as "Road of Economic Importance".

**Decision No-5:**

It was brought to the notice of the CCI that as per the guidelines of PMGSY, 10% of allocation is to be provided by the State Govt. for routine maintenance of PMGSY roads. It was informed by the Rural Works Department that if the same is not provided by the State Govt there is a possibility of reduction in the allocation of fund under PMGSY by the Govt. of India. It was further apprised by Planning Department that although the Rural Works Department has been approaching the Finance, Planning & Investment Department for providing additional fund for routine and emergency maintenance of PMGSY roads but the same was not allocated since RWD was yet to submit the report of the Committee for Resource Mobilization and also the Norms for Maintenance of Rural Roads as envisaged in the Arunachal Pradesh Rural Roads Maintenance Policy- 2017 notified by the State Government vide Memo No.SRWD-43/PMGSY/2016-17 dated 31<sup>st</sup> December, 2017. However, considering the request of the department for allocation of fund for urgent repair and maintenance of the PMGSY roads in public interest, as per the aforesaid policy and norms prescribed by Ministry of Rural Development, Government of India, onetime allocation of Rs 18.97 Crore under SIDF during 2018-19 was approved by the CCI to meet the commitment under PMGSY. Further, maintenance of such PMGSY roads will be supervised by the concerned Deputy Commissioners and accordingly Geo-Tagged photographs and a certificate duly signed by the Chief Engineer, Superintendent Engineer & Executive Engineer and countersigned by Deputy Commissioner will be submitted to the planning department. It was decided that the Department should comply with the provisions of the Arunachal Pradesh Rural Roads Maintenance Policy - 2017 and accordingly submit requisite proposal for keeping necessary fund provision in the next Budget.

**Decision No-6:**

The CCI directed the RWD to conduct soil testing for the Miao-Vijaynagar road in consultation with the Chief Engineer (D&P), PWD and find a technical solution for construction of the stretch which falls under marshy land to facilitate early completion of the project. Further, the department was asked to submit the estimates pertaining to the damages caused by flood and slides during 2017 to the Planning Department for considering the proposal for funding by the Ministry of DoNER.

**Decision No-7:**

It was also decided that all works should be executed by the concerned implementing departments as per allocation of Business Rules. Accordingly, it was decided that the work pertaining to "C/o Gym and Officers Club in Banquet Hall"





approved under SIDF and earlier allotted to UD & Housing Department shall be implemented by PWD.

II. Decisions on project proposals:-

Sl. No	Department/Projects	Decisions/Remarks
1	2	3
I	PWD	
1	C/o residential buildings for the Chairperson and Members of State Human Rights Commission	The matter should be pursued constantly by the Home Department in consultation with SHRC and PWD being the executing department. Possibility of constructing Lokayukta Building in the same complex shall also be explored
2	C/o boundary wall for newly allotted plots at Dheerpur and Dwarka in New Delhi	The proposal is approved in principle for an amount of Rs.1.77 Crore. However, an amount of Rs.50 lakhs is allocated for starting the project during CFY.
3	C/o bridge over river Papum in between Langdung and Byate village at chainage 12.060 km	It was informed by the department that the project is under Arbitration. It was observed that due to laxity and negligence of the executing departments, the arbitration matters are not being contested and defended properly in the interest of the Government. It was decided that all the arbitration matters should be brought to the notice of the HCM/HDCM along with present status through the Chief Secretary by the concerned Principle Secretary/Commissioner/Secretary. Any decision on allocation of fund shall be made only after settlement of the case. Department should submit the estimated of the project to the Committee of Engineers constituted by the CCI for examination and verification of the cost escalation.
4	C/o Arunachal Bhawan at Shillong Arogya	The Health & Family Welfare Department should immediately hand over the ownership of land both at Shillong and Vellore where such facilities are coming up for the patients to the General Administration Department for construction of the aforesaid project and also for their maintenance in future. The project is approved in principle for an estimated cost of Rs. 26.00 Crore and the department shall get the estimates vetted by the CE (D&P), PWD. Allocation of Rs. 2.60 Crore during CFY under SIDF was approved.

*(Signature)*





6	Construction of District Secretariat Buildings at Khonsa, Namsai and Tezu	Allocation during CFY i.e. Rs 2.00 Crore for Tezu, Rs 4.00 Crore for Namsai and Rs. 7.50 Crore for Khonsa under SIDF was approved. Department was asked to expedite completion of the projects. Commissioner PWD and respective Deputy Commissioners should personally monitor & follow up the construction of these projects. Deputy Commissioners should also include the status of construction of these projects in their monthly confidential reports.
7	C/o Residential building for HCM at Niti Vihar, Itanagar	The proposal was approved in principle. An Allocation of Rs. 2.00 Crore under SIDF was approved to start the construction of the residential building during CFY.
8	Major renovation and re-furbishing of the first floor of Golden Jubilee Banquet Hall at Itanagar (Additional agenda item).	The project was approved in principle for an amount of Rs 1.50 Crore subject to vetting of estimate by the CE (D&P). Department should keep necessary provision in the estimates for providing latest acoustic facilities, LED screen, standard furniture etc. in consultation with Department of IPR and Power. Rs. 50 lakh was earmarked during the CFY.
9	C/o Boundary wall and gate around R.K. Mission School at Narottamnagar (Additional agenda item).	The project was approved for an amount of Rs 2.85 Crore. An Allocation of Rs. 30 lakhs under SIDF during CFY was approved, Department shall propose the provision of balance amount in next year's SADA.
<b>II PHE &amp; WS</b>		
1	Augmentation of Water Supply to Rajiv Gandhi University Campus Rono Hills (through lift), Doimukh.	The project was approved in principle. Cost of the project should be restricted within Rs. 20.00 Crore as per the Budget Announcement. Department should immediately start implementation of the project and complete the same in a time bound manner so as to mitigate the problem of drinking water in the RGU campus.
2	Water conservation measure in the catchment area of Longding drinking water source and to rectify the damages caused to the formation works.	The project was approved in principle. Allocation of Rs 2.00 Crore was approved under SIDF during CFY. The project shall be implemented under the supervision of the Deputy Commissioner, Longding.
<b>III UD &amp; Housing</b>		
1	Additional item of works for	It was decided that the DPR pertaining to

*(Signature)*





	"C/o MLA Apartment at Chimpu, Itanagar"	escalation of cost be vetted by the CE (D&P), PWD. No contingency charges should be included. It was further decided that the NDRF personnel temporarily camping in one of the blocks of MLA apartment (which is to be furnished) should be immediately shifted to alternative site as proposed by the Department of UD & Housing to facilitate completion of balance work expeditiously. Deputy Commissioner, ICC shall issue necessary orders in this regard and ensure shifting of NDRF personnel accordingly. Department should complete all pending works pertaining to the MLA Apartments by March, 2019. After detailed deliberation, it was decided that a uniform provision should be prescribed for furnishing the apartments. Keeping in view the scarcity of state's resources, it was decided unanimously that the upper limit of furnishing the Bungalow of Hon'ble Speaker shall be Rs. 20 lacs, Hon'ble Deputy Speaker shall be Rs. 15 lacs and Rs 10 lakh for each MLA.
2	Pending liabilities under CSS (JnNURM) (Sector roads)	An allocation of Rs 3.01 Crore was approved under SIDF during CFY after going through the recommendation of the Technical Committee.
3	Additional works at D.K. Convention Hall, Itanagar	The proposal needs to be vetted by the Committee of Chief Engineers constituted by the CCI. No contingency charges shall be permitted.
4	C/o Outdoor stadium at Ziro (additional items)	Proposal for additional allocation was not considered by the CCI. It was decided that the department will complete the parking area within the sanctioned amount.
5	Revised estimate of C/o Dorjee Khandu Memorial Badminton Academy at Itanagar including approach road and bridge	CCI noted that the project has been abnormally delayed by the UD and Sports Department. It was decided that the total cost of the project viz. C/o Dorjee Khandu Memorial Badminton Academy at Itanagar should be restricted within Rs. 35.61 crores as approved earlier and the DPR accordingly be framed in consultation with the Sports Department. It should be ensured that all state of the art facilities are incorporated in the DPR. Secretary UD and Secretary Sports and Youth Affairs to prepare a comprehensive DPR within 1 months time.





<b>IV Hydro Power</b>		
1	Renovation & modernization work of Sessa MHS (3x 500 kW)	The project was approved in principle subject to the condition that the DPR should be vetted by the competent authority of Alternate Hydro Energy Centre (AHEC), IIT, Roorkee. No contingency charges shall be allowed. Rs. 1.00 Crore under SIDF was allocated during CFY. Balance fund is to be kept by the department in next year's SADA.
2	Special repair of Khadiabey (2x 50 kW)	The justification/reasons submitted by the department for the special repair were not convincing and therefore were not accepted by the Committee. Department was advised to undertake techno-economic feasibility study of the project by Alternate Hydro Energy Centre (AHEC), IIT, Roorkee
3	Revision of project Implementation of Pagu MHS (2x1000 KW) at Choba	The justification/reasons submitted by the department for the special repair were not convincing and therefore were not accepted by the Committee. Department was advised to undertake techno-economic feasibility study of the project by Alternate Hydro Energy Centre (AHEC), IIT, Roorkee
4	Special repair & maintenance of damage in Unit - III of Nuranang SHP Phase-I (3X 1000 KW) at Tawang	After detailed deliberation, it was decided to allocate Rs. 1 Crores under SIDF during CFY for the repair and maintenance of the project.
5	Special repair of (2X 500 KW) Domkhong Hydro Power Project at Kalaktang	After detailed deliberation, it was decided to allocate Rs. 87 Lacs under SIDF during CFY for the repair and maintenance of the project.
<b>V Law &amp; Judicial</b>		
1	Infrastructure for Judiciary	CCI appreciated the fact that State requires funds for construction of requisite judicial infrastructure facilities in several districts in the state. Government of India has assured to provide Rs. 10 Crore for this purpose. It was also informed that the said amount of Rs. 10 Crores shall be released by Government of India only on submission of pending utilisation certificates. The executing departments were directed to submit the UCs urgently to Govt of India so that the allocated amount of Rs. 10 Crores is released expeditiously. It was also directed that since Hon'ble Supreme Court and Hon'ble High court were monitoring the construction of Court Buildings and other infrastructure facilities, the construction





		work shall be expedited by the executing agencies and the current status be submitted in this regard every month by the respective DCs and Commissioner (Law) in their monthly report. It was also decided to keep a provision of Rs. 5 Crores during this financial year for this purpose keeping in view the importance and urgency of providing requisite judicial infrastructure facilities in the state. Thus, in all a provision of Rs 15 Crores (Rs. 10 Crores from Government of India + Rs. 5 Crores from State's Budget) was approved by the Committee during CFY. In addition, it was decided that a provision of Rs. 1 Crores be kept for repair and maintenance of Judicial Infrastructure during CFY. It was also noted that uniformity in design, specification as prescribed by Hon'ble High Court and cost estimates be maintained in construction of all court buildings. It was also observed that the cost estimates were on the higher side and therefore it was decided that the cost estimates of all the Court Buildings be got vetted/verified by Chief Engineer (D&P), PWD.
<b>VII</b>	<b>Animal Husbandry &amp; D/Dev.</b>	
1	Establishment of State of Art Dairy Farm at Bomjir in Lower Dibang Valley	CCI was of the view that the project should be implemented in consultation with NDDB after ascertaining the economic feasibility and viability of the project. The department was directed to also specify all administrative arrangements necessary for successful and viable operation of state of the art Dairy Farm. Department was advised to re-work the entire proposal accordingly.
<b>VIII</b>	<b>Science &amp; Technology</b>	
1	Planet lab subscription for daily monitoring	The Department was directed to immediately submit the proposal for subscription of maps of 3.00 metre resolution to Planning Department for onward submission of the same to the North Eastern Council for funding.

4. All proposals received for consideration under SIDF during 2018-19 was placed before the CCI which in principle approved 1608 numbers of schemes which shall be notified by Planning Department separately after proper scrutiny.





5. It was reiterated that the following conditions should be followed and adhered to by all the executing Departments without fail:-

- i. This allocation is purely indicative in nature and this shall be utilized by the department only after verifying the actual requirement and observance of guidelines and all the financial rules, regulation, provisions prescribed in GFR, DFPR etc. & guidelines/ circulars/ OM's/directives issued by the CVC, MoF, MAH, GoI, Administrative Ministries of GoI & GoAP from time to time in this regard in letter & spirit without fail.
  - ii. The department shall complete the projects within the estimated cost approved by the CCI and no additional fund shall be allocated for this purpose in future.
  - iii. The concerned Commissioner/ Secretary shall monitor and review the progress of implementation of aforesaid schemes/ projects at regular intervals and shall ensure timely submission of progress report, utilization certificate, photographs and completion certificate etc. as applicable only after necessary review/ verification at their level.
  - iv. Violation of above instruction/guidelines will be the sole responsibility of the officers concerned.
6. The meeting then ended with vote of thanks from the Special Secretary (Planning).
7. This is issued with the approval of Hon'ble Chief Minister.

Sd/-  
(Satya Gopal) IAS  
Chief Secretary

Memo No. PD (SPD) -63/2015-16(Part)

Dated, the 11<sup>th</sup> January, 2019.

Copy to:

1. The Secretary to Hon'ble Chief Minister, Govt. of Arunachal Pradesh, Itanagar.
2. PPS to Hon'ble Chief Minister, Govt. of Arunachal Pradesh, Itanagar.
3. PS to Hon'ble Deputy Chief Minister, Govt. of Arunachal Pradesh, Itanagar.
4. US to Chief Secretary, Govt. of Arunachal Pradesh, Itanagar.
5. All Commissioners / Secretaries, Govt. of Arunachal Pradesh, Itanagar.
6. The Joint Secretary (Cabinet), Govt. of Arunachal Pradesh, Itanagar.
7. All Chief Engineers and Directors, Govt. of Arunachal Pradesh, Itanagar.
8. All Deputy Commissioners, Govt. of Arunachal Pradesh, Itanagar.
9. PA to Secretary (Planning), Govt. of Arunachal Pradesh, Itanagar.

  
(Himanshu Gupta), IAS  
Special Secretary  
(Planning & Investment)





GOVERNMENT OF ARUNACHAL PRADESH  
FINANCE, PLANNING & INVESTMENT DEPARTMENT  
BLOCK No. 1, 4<sup>TH</sup> FLOOR:  
CIVIL SECRETARIAT:: ITANAGAR


**OFFICE MEMORANDUM**

No. PD(SPD)-63/CCI/2015-16

Dated, Itanagar the 15<sup>th</sup> January 2019

It has been observed that there is no uniformity and standardisation of construction of boundary walls by various departments. Hence, in order to ensure uniformity and standardisation of construction of boundary wall of both residential and non-residential buildings implemented by various departments of State Government, Cabinet Committee on Infrastructure has approved the following:

1. The drawings and the cost of boundary wall per metre run which has been prepared at par APSR-2018(Buildings) shall be used uniformly in the state. For estimation purpose, this rate shall be used for two years, i.e, until 2020. The boundary wall of CC/brick wall with decorative grill on the top of wall shall be adopted for **important non-residential** buildings as attached in the **Annexure-A & A1**.
2. The boundary wall of CC/brick wall with CC coping at the top of wall shall be adopted for normal non-residential building and residential building of Type-V and above as attached in **Annexure-B & B1**.
3. The boundary wall with CC/brick wall up to a height of 0.60m with chain link fencing above shall be adopted for residential building of Type-I to Type-IV and PHCs, CHCs and schools upto secondary level as attached in **Annexure-C & C1**.

 The cost of boundary wall constructed in various locations involving higher carriage of materials shall be analysed based on the APSR-2018 (Buildings) adopting the same drawing. Furthermore, this rate shall not be adopted directly for payment to contractor since payment for work done shall be based on the rate in tender agreement. The cost of the wall shall be updated with the release of updated APSR (Buildings) by Public Works Department of Arunachal Pradesh.





The estimation for boundary wall to be constructed outside the State shall be done using the same drawings with schedule of rates prevailing in that particular State/Union Territories.

While according Administrative approval and Expenditure Sanction, it shall be the duty of Concerned Secretary/Commissioner that the aforesaid guidelines are followed in letter and spirit.

(Kaling Tayeng), IAS  
Development Commissioner (FP&I)  
Govt. of AP., Itanagar

Memo No. PD(SPD)-63/CCI/2015-16

Dated, Itanagar the 15<sup>th</sup> January 2019

Copy to:

1. The Commissioner to Hon'ble Governor, Arunachal Pradesh, Itanagar.
2. The Secretary to HCM, Arunachal Pradesh, Itanagar.
3. PS to HDCM, Arunachal Pradesh, Itanagar.
4. PS to Cabinet Ministers, Government of Arunachal Pradesh
5. Under Secretary to Chief Secretary, Govt. of A.P, Itanagar.
6. All Commissioners/Secretaries/Special Secretaries, Arunachal Pradesh
7. All Chief Engineers/Directors/Superintend Engineers/Executive Engineers of all Zones, Arunachal Pradesh
8. Secretary Finance for information and necessary action please

(Himanshu Gupta), IAS  
Special Secretary (Planning & Investment)  
Govt of A.P, Itanagar



**ABSTRACT OF COST-ORIGINAL ESTIMATE**

**ANNEXURE : A**

State :- A.P.

Division:-

Branch:- B&R

Sub-Division :-

**Name of Work :- C/o Boundary wall with Grill for Important Non-Residential Buildings.**

Sl. No.	Sub-Head and Items of work	Qty	Rate	Unit	Amount	Remarks
1	2	3	4	5	6	7
1	Earth work in excavation in foundation and trenches in soils containing 50% or more of shingle or small size boulders upto 30 cm size, lift upto 1.50 m and stacking the excavated soil not more than 3 m clear from the edge of the excavation and returning the stacked soil in 15 cm layers when required, into plinth, sides of foundation etc consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated soil as directed within a lead of 50m.	19.09	281.30	Cum	5368.61	SH: EW, I-4
2	Providing and laying in foundations and plinth cement concrete 1 : 4 : 8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size) excluding the cost of centring and shuttering.	2.05	4754.90	Cum	9733.28	SH: CC, I-2
3	Providing and laying in foundations and plinth cement concrete 1 : 3 : 6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) excluding the cost of centring and shuttering. A) Foundation and plinth.	1.86	5323.20	Cum	9917.12	SH: CC, I-4
4	Reinforced concrete work in foundations, footings, bases of columns etc. and mass concrete excluding cost of centring, shuttering and reinforcement in : a) M20 (1 cement : 1.5 coarse sand : 3 stone aggregate 20 mm nominal size)	1.17	7801.90	Cum	9128.22	SH: RCC, I-1
5	Reinforcement cement concrete work in columns, pillars, piers, abutments, post and struts etc upto floor two level including finishing and plastering the exposed surface with cement mortar 1 : 3 (1 cement : 3 fine sand) of thickness not exceeding 6 mm to give a smooth and even surface but excluding cost of centring, shuttering and reinforcement. a) M20 (1 cement : 1.5 coarse sand : 3 stone aggregate 20 mm nominal size)	2.17	9013.10	Cum	19524.67	SH: RCC, I-7
6	Reinforced cement concrete work in lintels, beams and bressumers up to floor two level including finishing and plastering the exposed surface with cement mortar 1:3 (1cement:3finesand) of thickness not exceeding 6mm to give a smooth and even surface but excluding cost of centering, shuttering and reinforcement. a) M20 (1 cement : 1.5 coarse sand : 3 stone aggregate 20 mm nominal size).	2.54	8915.10	Cum	22626.52	SH: RCC, I-6
7	Centring and shuttering including strutting, propping etc and removal of form work for					
	a) Foundation, footings, bases of columns etc. and mass concrete	11.96	348.10	Sqm	4163.28	SH: RCC, I-12
	b) Lintels, beams, girders, bressumers and cantilevers etc.	20.25	458.60	Sqm	9286.65	SH: RCC, I-12



Sl. No.	Sub-Head and Items of work	Qty	Rate	Unit	Amount	Remarks
1	2	3	4	5	6	7
	c) Column, pillars, posts and struts etc.	37.67	584.60	Sqm	22024.22	SH: RCC, I-12
8	Reinforcement of RCC work including bending, binding and placing in position complete. b) Tor/TMT steel.	553.45	88.60	Kg	49035.52	SH: RCC, I-19
9	Half brick masonry (with best available local bricks) in cement mortar 1:4 (1 cement : 4 fine sand) in foundations and plinth.	37.80	988.00	Cum	37346.40	SH: BW, I-12
10	Extra for half brick work with best available local bricks in superstructure above plinth level up to floor two level.	37.80	39.10	Cum	1477.98	SH: BW, I-13
11	Providing and fixing MS grills of required pattern in wooden frames of windows etc with MS flat, square or round bars with round headed bolts and nuts or by screws. a) Plain grill	274.31	135.20	Kg	37087.33	SH: WW, I-22
12	12 mm cement plaster 1 : 4 (1 cement : 4 fine sand).	75.60	167.50	Sqm	12663.00	SH: Fin, I-2
13	Colour washing such as green, blue or buff on new work (two or more coats) including a base coat of white washing with lime to give an even shade	108.00	21.70	Sqm	2343.60	SH: Fin, I-42
	<b>Sub-Total (A)</b>				<b>₹ 251,726.41</b>	
	<b>CARRIAGE OF MATERIAL</b>					
14	Loading and Unloading of Stone Boulder/ Stone aggregates / Sand / Kanker Moorum/ Lime / Shingle/Surki / Earth/ Excavated Rock and Kerb Stones by Manual Means for hill roads	26.72	214.00	Cum	₹ 5,718.20	SH: Carr, I-1.6
15	Loading and Unloading of Cement/ Steel / Structural Steel/RC Pipe/ Wooden Logs / Bricks / Bitumen and Timber etc. by Manual Means and Stacking for hill roads.	7.00	264.00	MT	₹ 1,847.30	SH: Carr, I-1.6
16	Cost of Haulage excluding Loading and Unloading on hill roads. Haulage of materials by tipper excluding cost of loading, unloading and stacking					
a)	Surfaced Road					
	Cement/Steel [From Guwahaty to Itanagar 410 km] [Rate = 410 x 10.5 = Rs. 4305.00]	7.00	4305.00	MT/Km	₹ 30,123.53	SH: Carr, I-1.8
	Bricks [From Bishwanath Chariali to Itanagar 105 km] [Rate = 105 x 10.5 = Rs. 1102.50]	7.27	1102.50	MT/km	₹ 8,014.33	SH: Carr, I-1.8
	Sand/Agg [25 km] [Rate = 25 x 10.5 = Rs. 262.50]	26.72	262.50	MT/km	₹ 7,014.15	SH: Carr, I-1.8
b)	Unsurfaced Graveled Road					
	Sand / Agg [5 km] [Rate = 5 x 12.60 = Rs. 63.00]	26.72	63.00	MT/km	₹ 1,683.40	SH: Carr, I-1.8

Sl. No.	Sub-Head and Items of work	Qty	Rate	Unit	Amount	Remarks
1	2	3	4	5	6	7
c)	Katcha Track and Track in River Bed  Nallah Bed and Choe Bed. [2km] [Rate = 2 x 25.40 = Rs. 50.80]	26.72	50.80	MT/km	₹ 1,357.41	SH: Carr, I-1.8
	Sub-Total (B)				₹ 55,758.31	

Cost for 30.00 m = [A+B] = ₹ 307,484.72

Cost per Mtr = ₹ 10,250.00



### Details of Measurement

Name of Work :- **C/o Boundary wall with Grill for Important Non-Residential Buildings.**

[Calculation for Wall length of 30.00 Mtrs]

Item No.	Description of Item	No.	Length	Breadth	Height	Quantity
1	2	3	4	5	6	7
1	Earth work in excavation in foundation and trenches					
	Columns	13	1.00	1.00	1.25	16.25 Cum
	Walls	12	1.50	0.45	0.35	2.84 Cum
	<b>Total</b>					<b>19.09 Cum</b>
2	Providing and laying PCC 1:4:8 in foundation					
	Columns	13	0.80	0.80	0.10	0.83 Cum
	Walls	12	2.25	0.45	0.10	1.22 Cum
	<b>Total</b>					<b>2.05 Cum</b>
3	Providing and laying PCC 1:3:6 in foundation					
	Below plinth beam	12	2.25	0.23	0.30	1.86 Cum
	<b>Total</b>					<b>1.86 Cum</b>
4	RCC Work in Foundation footings.	13	0.60	0.60	0.25	1.17 Cum
	<b>Total</b>					<b>1.17 Cum</b>
5	RCC Work in Columns	13	0.23	0.23	3.15	2.17 Cum
	<b>Total</b>					<b>2.17 Cum</b>
6	RCC work in Beams	12	2.25	0.23	0.30	1.86 Cum
	Coping	12	2.25	0.25	0.10	0.68 Cum
	<b>Total</b>					<b>2.54 Cum</b>
7	Centering and shuttering					
a)	Foundation, footings,	13	3.20		0.10	4.16 Sqm
		13	2.40		0.25	7.80 Sqm
	<b>Total</b>					<b>11.96 Sqm</b>
b)	Beams	12	2.25		0.20	5.40 Sqm
		12	2.25		0.55	14.85 Sqm
	<b>Total</b>					<b>20.25 Sqm</b>
c)	Column	13	3.15		0.92	37.67 Sqm
	<b>Total</b>					<b>37.67 Sqm</b>
8	Reinforcement for RCC					
	Column Footing 10mm dia bars 5 Nos both ways	130	0.60	@	0.62 kg/m	48.36 Kg
	Col Main bars 12mm dia 4 Nos	52	3.55	@	0.89 kg/m	164.29 Kg
	Stirrups 8 mm dia @ 150mm C/C	208	0.85	@	0.39 kg/m	68.95 Kg
	Beam reinforcement 12mm dia 4 Nos	4	30.60	@	0.89 kg/m	108.94 Kg
	Stirrups 8 mm dia @ 150mm C/C	180	0.85	@	0.39 kg/m	59.67 Kg
	Coping bar 10mm dia 2 Nos	2	30.60	@	0.62 kg/m	37.94 Kg
	Stirrups 8 mm dia @ 150mm C/C	208	0.48	@	0.39 kg/m	38.94 Kg

						527.09 Kg
	Add 5% for Wastage and overlapping					26.35 Kg
					<b>Total =</b>	<b>553.45 Kg</b>
9	Half Brick work in cement mortar 1:4	12	2.25	1.40		37.80 Sqm
10	Extra for Brick work in Super structure					37.80 Sqm
11	MS Grill					
	MS Flat 40 x 5 mm	12	2.35	@	1.60 kg/m	45.12 Kg
	MS square bar 12 mm with arrow tips	240	0.5	@	1.13 kg/m	135.60 Kg
	Horizontal tie bar 12 mm	24	2.35	@	1.13 kg/m	63.73 Kg
	Hold Fast Angle iron 40x40x6mm	24	0.2	@	3.50 kg/m	16.80 Kg
						261.25 Kg
	Add 5% for Wastage				<b>Total =</b>	13.06 Kg
	<b>Total</b>					<b>274.31 Kg</b>
12	12mm Cement Plaster 1:4 CM	24	2.25		1.40	75.60 Sqm
13	Colour washing	2	30.00		1.80	108.00 Sqm

#### CARRIAGE OF MATERIAL

14	Loading and Unloading of Stone Boulder I Stone aggregates / Sand I Kankerl Moorum/ Lime / Shingle ISurkii EarthI Excavated Rock and Kerb Stones by Manual Means forhillroads					26.72
15	Loading and Unloading of Cement /Steel / Structural Steel / RC Pipe / Wooden Logs / Bricks / Bitumen and Timber etc. by Manual Means and Stacking for hill roads.					7.00
16	Cost of Haulage Excluding Loading and Unloading on hill roads. Haulage of materials by tipper excluding cost of loading, unloading and stacking					
a)	Surfaced Road					
	Cement/Steel					7.00
	Bricks					7.27
	Sand/Agg					26.72
b)	Unsurfaced Graveled Road					
	Sand / Agg					26.72
c)	Katcha Track and Track in River Bedl Nallah Bed and Choe Bed.					26.72



**TC STATEMENT**

Name of work : C/o Boundary wall with Grill for Important Non-Residential Buildings.

Sl. No.	Item of Works	Qty of Work done	Unit	Cement		Sand		Aggregate		Bricks	
				Coef.	Qty	Coef.	Qty	Coef.	Qty	Coef.	Qty
1	PCC 1:4:8	2.05	Cum	0.17	0.35	0.47	0.96	0.89	1.82		
2	PCC 1:3:6	1.86	Cum	0.22	0.41	0.47	0.88	0.89	1.66		
3	RCC in Foundation (M20)	1.17	Cum	0.4	0.47	0.43	0.50	0.85	0.99		
4	RCC in Column (M20)	2.17	Cum	0.4	0.87	0.43	0.93	0.85	1.84		
5	RCC in Beams (M20)	2.54	Cum	0.42	1.07	0.47	1.19	0.85	2.16		
6	Half brick masonry in 1:4 CM	37.80	Cum	0.078	2.95	0.267	1.01			50	1890
7	12mm Cement Plaster in 1:5 CM	75.60	Sqm	0.0446	0.34	0.154	1.16				
8	Reinforcement for RCC	553.45	Kg								
					6.44 MT		6.64 Cum		8.47 Cum		1890 Nos

**Carriage of Materials:**

Cement	6.44 MT
Steel	0.55 MT
	<b>7.00 MT</b>
Sand	10.62 MT
Aggregate	16.10 MT
	<b>26.72 MT</b>
Bricks	7.27 MT
	<b>15.11 Cum</b>

2mm Sq. bar with  
narrow head

SHEET TITLE:  
Elevation & Typical  
Section of Boundary

Designed by: Drawn by :  
P.K.Choudhury  
Dt.: 30/10/18

OFFICE OF THE CHIEF ENGINEER  
SID & P, PWD, AP, ITANAGAR  
ARUNACHAL PRADESH.



Boundary Wall with Coping for Normal Non-Residential and Residential (Type-x and above type) buildings

2500	Pr	REVISION RECORDED
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ABSTRACT OF COST-ORIGINAL ESTIMATE

Division:-

Sub-Division :-

State :- A.P.

Branch:- B&amp;R

Name of Work :- C/o Boundary wall with Coping for Normal Non- Residential and Residential (Type-V and above Type) Buildings.

Sl. No.	Sub-Head and Items of work	Qty	Rate	Unit	Amount	Remarks
1	2	3	4	5	6	7
1	Earth work in excavation in foundation and trenches in soils containing 50% or more of shingle or small size boulders upto 30 cm size, lift upto 1.50 m and stacking the excavated soil not more than 3 m clear from the edge of the excavation and returning the stacked soil in 15 cm layers when required, into plinth, sides of foundation etc consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated soil as directed within a lead of 50m.	17.14	281.30	Cum	4820.08	SH: EW, I-4
2	Providing and laying in foundations and plinth cement concrete 1 : 5 : 10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) excluding the cost of centring and shuttering.	2.05	4296.20	Cum	8794.32	SH: CC, I-1
3	Providing and laying in foundations and plinth cement concrete 1 : 3 : 6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) excluding the cost of centring and shuttering. A) Foundation and plinth.	1.86	5323.20	Cum	9917.12	SH: CC, I-4
4	Reinforced concrete work in foundations, footings, bases of columns etc. and mass concrete excluding cost of centring, shuttering and reinforcement in : a) M20 (1 cement : 1.5 coarse sand : 3 stone aggregate 20 mm nominal size)	1.17	7801.90	Cum	9128.22	SH: RCC, I-1
5	Reinforcement cement concrete work in columns, pillars, piers, abutments, post and struts etc upto floor two level including finishing and plastering the exposed surface with cement mortar 1 : 3 (1 cement : 3 fine sand) of thickness not exceeding 6 mm to give a smooth and even surface but excluding cost of centring, shuttering and reinforcement. a) M20 (1 cement : 1.5 coarse sand : 3 stone aggregate 20 mm nominal size)	1.17	9013.10	Cum	10545.33	SH: RCC, I-7
6	Reinforced cement concrete work in lintels, beams and bressumers up to floor two level including finishing and plastering the exposed surface with cement mortar 1:3 (1cement:3finesand) of thickness not exceeding 6mm to give a smooth and even surface but excluding cost of centering, shuttering and reinforcement. a) M20 (1 cement : 1.5 coarse sand : 3 stone aggregate 20 mm nominal size).	2.54	8915.10	Cum	22626.52	SH: RCC, I-5
7	Centring and shuttering including strutting, propping etc and removal of form work for					
	a) Foundation, footings, bases of columns etc. and mass concrete	11.96	348.10	Sqm	4163.28	SH: RCC, I-12
	b) Lintels, beams, girders, bressumers and cantilevers etc.	29.70	458.60	Sqm	13620.42	SH: RCC, I-12
	c) Column, pillars, posts and struts etc.	30.50	584.60	Sqm	17829.13	SH: RCC, I-12

Sl. No.	Sub-Head and Items of work	Qty	Rate	Unit	Amount	Remarks
1	2	3	4	5	6	7
8	Reinforcement of RCC work including bending, binding and placing in position complete. b) Tor/TMT steel	541.30	88.60	Kg	47959.16	SH: RCC, I-19
9	Half brick masonry (with best available local bricks) in cement mortar 1:4 (1 cement : 4 fine sand) in foundations and plinth.	37.80	988.00	Cum	37346.40	SH: BW, I-12
10	Extra for half brick work with best available local bricks in superstructure above plinth level up to floor two level.	37.80	39.10	Cum	1477.98	SH: BW, I-13
11	12 mm cement plaster 1 : 4 (1 cement : 4 fine sand).	75.60	156.10	Sqm	11801.16	SH: Fin, I-2
12	Colour washing such as green, blue or buff on new work (two or more coats) including a base coat of white washing with lime to give an even shade	108.00	21.70	Sqm	2343.60	SH: Fin, I-42
	<b>Sub-Total (A)</b>				<b>₹ 202,372.72</b>	
	<b>CARRIAGE OF MATERIAL</b>					
13	Loading and Unloading of Stone Boulder/ Stone aggregates / Sand / Kanker Moorum/ Lime / Shingle/Surki / Earth/ Excavated Rock and Kerb Stones by Manual Means for hill roads	25.88	214.00	Cum	₹ 5,538.86	SH: Carr, I-1.6
14	Loading and Unloading of Cement/ Steel / Structural Steel/RC Pipe/ Wooden Logs / Bricks / Bitumen and Timber etc. by Manual Means and Stacking for hill roads.	9.81	264.00	MT	₹ 2,589.29	SH: Carr, I-1.6
15	Cost of Haulage Excluding Loading and Unloading on hill roads. Haulage of materials by tipper excluding cost of loading, unloading and stacking					
a)	Surfaced Road					
	Cement/Steel [From Guwahaty to Itanagar 410 km] [Rate = 410 x 10.5 = Rs. 4305.00]	9.81	4305.00	MT/Km	₹ 42,223.08	SH: Carr, I-1.8
	Bricks [From Bishwanath Chariali to Itanagar 105 km] [Rate = 105 x 10.5 = Rs. 1102.50]	7.27	1102.50	MT/km	₹ 8,014.33	SH: Carr, I-1.8
	Sand / Agg [25 km] [Rate = 25 x 10.5 = Rs. 262.50]	25.88	262.50	MT/km	₹ 6,794.17	SH: Carr, I-1.8
b)	Unsurfaced Graveled Road					
	Sand / Agg [5 km] [Rate = 5 x 12.60 = Rs. 63.00]	25.88	63.00	MT/km	₹ 1,630.60	SH: Carr, I-1.8
c)	Katcha Track and Track in River Bed/ Nallah Bed and Choe Bed. [2km] [Rate = 2 x 25.40 = Rs. 50.80]	25.88	50.80	MT/km	₹ 1,314.83	SH: Carr, I-1.8
	<b>Sub-Total (B)</b>				<b>₹ 68,105.16</b>	

Cost for 30.00 m = [A+B] = ₹ 270,477.88

Cost per Mtr = ₹ 9,020.00



Name of Work :- C/o Boundary wall with Coping for Normal Non- Residential and Residential (Type-V and above Type) Buildings.

[Calculation for Wall length of 30.00 Mtrs]

Item No.	Description of Item	No.	Length	Breadth	Height	Quantity
1	2	3	4	5	6	7
1	Earth work in excavation in foundation and trenches					
	Columns	13	1.00	1.00	1.10	14.30 Cum
	Walls	12	1.50	0.45	0.35	2.84 Cum
	<b>Total</b>					<b>17.14 Cum</b>
2	Providing and laying PCC 1:4:8 in foundation					
	Columns	13	0.80	0.80	0.10	0.83 Cum
	Walls	12	2.25	0.45	0.10	1.22 Cum
	<b>Total</b>					<b>2.05 Cum</b>
3	Providing and laying PCC 1:3:6 in foundation					
	Below plinth beam	12	2.25	0.23	0.30	1.86 Cum
	<b>Total</b>					<b>1.86 Cum</b>
4	RCC Work in Foundation footings.	13	0.60	0.60	0.25	1.17 Cum
	<b>Total</b>					<b>1.17 Cum</b>
5	RCC Work in Columns	13	0.23	0.23	2.55	1.75 Cum
	<b>Total</b>					<b>1.75 Cum</b>
6	RCC work in Beams	12	2.25	0.23	0.30	1.86 Cum
	Coping	12	2.25	0.25	0.10	0.68 Cum
	<b>Total</b>					<b>2.54 Cum</b>
7	Centering and shuttering					
a)	Foundation, footings,	13	3.20		0.10	4.16 Sqm
		13	2.40		0.25	7.80 Sqm
	<b>Total</b>					<b>11.96 Sqm</b>
b)	Beams	24	2.25		0.55	29.70 Sqm
	<b>Total</b>					<b>29.70 Sqm</b>
c)	Column	13	2.55		0.92	30.50 Sqm
	<b>Total</b>					<b>30.50 Sqm</b>
8	Reinforcement for RCC					
	Column Footing 10mm dia bars 5 Nos both ways	130	0.60	@	0.62 kg/m	48.36 Kg
	Col Main bars 12mm dia 4 Nos	52	3.30	@	0.89 kg/m	152.72 Kg
	Stirrups 8 mm dia @ 150mm C/C	208	0.85	@	0.39 kg/m	68.95 Kg
	Beam reinforcement 12mm dia 4 Nos	4	30.60	@	0.89 kg/m	108.94 Kg
	Stirrups 8 mm dia @ 150mm C/C	180	0.85	@	0.39 kg/m	59.67 Kg
	Coping bar 10mm dia 2 Nos	2	30.60	@	0.62 kg/m	37.94 Kg
	Stirrups 8 mm dia @ 150mm C/C	208	0.48	@	0.39 kg/m	38.94 Kg

						515.52 Kg
	Add 5% for Wastage and overlapping					25.78 Kg
					<b>Total =</b>	<b>541.30 Kg</b>
9	Half Brick work in cement mortar 1:4	12	2.25	1.40		37.80 Sqm
10	Extra for Brick work in Super structure					37.80 Sqm
11	12mm Cement Plaster 1:4 CM	24	2.25		1.40	75.60 Sqm
12	Colour washing	2	30.00		1.80	108.00 Kg

#### CARRIAGE OF MATERIAL

13	Loading and Unloading of Stone Boulder I Stone aggregates / Sand I Kankerl Moorum/ Lime / Shingle ISurkii EarthI Excavated Rock and Kerb Stones by Manual Means forhillroads					25.88
14	Loading and Unloading of Cement I Steel I Structural Steel I RC Pipe I Wooden Logs / Bricks / Bitumen and Timber etc. by Manual Means and Stacking for hil loads.					9.81
15	Cost of Haulage Excluding Loading and Unloading on hill roads. Haulage of materials by tipper excluding cost of loading, unloading and stacking					
a)	Surfaced Road					
	Cement/Steel					9.81
	Bricks					7.269230769
	Sand/Agg					25.88
b)	Unsurfaced Graveled Road					
	Sand / Agg					25.88
c)	Katcha Track and Track in River Bedl Nallah Bed and Choe Bed.					25.88



# TC STATEMENT

Name of work : C/o Boundary wall with Coping for Normal Non- Residential and Residential (Type-V and above Type) Buildings.

Item No.	Item of Works	Qty of Work done	Unit	Cement		Sand		Aggregate		Bricks	
				Coef.	Qty	Coef.	Qty	Coef.	Qty	Coef.	Qty
1	PCC 1:5:10	2.05	Cum	0.13	0.27	0.47	0.96	0.89	1.82		
2	PCC 1:3:6	1.86	Cum	0.22	0.41	0.47	0.88	0.89	1.66		
3	RCC in Foundation (M20)	1.17	Cum	0.4	0.47	0.43	0.50	0.85	0.99		
4	RCC in Column (M20)	1.75	Cum	0.42	0.74	0.47	0.82	0.85	1.49		
5	RCC in Beams (M20)	2.54	Cum	0.42	1.07	0.47	1.19	0.85	2.16		
6	Half brick masonry in 1:4 CM	37.80	Cum	0.078	2.95	0.267	1.01			50	1890
7	12mm Cement Plaster in 1:4 CM	75.60	Sqm	0.0446	3.37	0.154	1.16				
8	Reinforcement for RCC	541.30	Kg								
					9.27 MT		6.53 Cum		8.12 Cum		1890 Nos

## Carriage of Materials:

Cement	9.27 MT
Steel	0.54 MT
	<u>9.81 MT</u>
Sand	10.45 MT
Aggregate	15.43 MT
	<u>25.88 MT</u>
Bricks	7.27 MT

Sand	6.53 Cum
Aggregate	8.12 Cum
	<u>14.65 Cum</u>

SHEET NO.



**ABSTRACT OF COST-ORIGINAL ESTIMATE**

**ANNEXURE : C**

State :- A.P.

Division:-

Branch:- B&R

Sub-Division :-

**Name of Work :- Providing and fixing Chain Link fencing for Residential Buildings (Type-I to Type-IV buildings).**

Sl. No.	Sub-Head and Items of work	Qty	Rate	Unit	Amount	Remarks
1	2	3	4	5	6	7
1	Earth work in excavation in foundation and trenches in soils containing 50% or more of shingle or small size boulders upto 30 cm size, lift upto 1.50 m and stacking the excavated soil not more than 3 m clear from the edge of the excavation and returning the stacked soil in 15 cm layers when required, into plinth, sides of foundation etc consolidating each deposited layer by ramming and watering and then disposing of all surplus excavated soil as directed within a lead of 50m.	3.95	281.30	Cum	1110.47	SH: EW, I-4
2	Providing and laying in foundations and plinth cement concrete 1 : 4 : 8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size) excluding the cost of centring and shuttering.	1.07	4754.90	Cum	5103.20	SH: CC, I-2
3	Providing and laying in foundations and plinth cement concrete 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) excluding the cost of centring and shuttering. A) Foundation and plinth.	0.93	6810.20	Cum	6322.56	SH: CC, I-7
4	Providing and laying in foundations and plinth cement concrete 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) excluding the cost of centring and shuttering. a) Beams	1.62	6884.90	Cum	11153.54	SH: RCC, I-7
5	Centring and shuttering including strutting, propping etc and removal of form work for					
	a) Lintels, beams, girders, bressumers and cantilevers etc.	21.60	458.60	Sqm	9905.76	SH: RCC, I-12
	b) Column, pillars, posts and struts etc.	16.15	584.60	Sqm	9438.95	SH: RCC, I-12
6	Reinforcement of RCC work including bending, binding and placing in position complete. b) Tor/TMT steel	251.18	88.60	Kg	22254.96	SH: RCC, I-19
7	Half brick masonry (with best available local bricks) in cement mortar 1:4 (1 cement : 4 fine sand) in foundations and plinth .	12.15	988.00	Sqm	12004.20	SH: BW, I-12
8	Steel work in single section inclnding cutting, hoasting, fixing in position and applying a priming coat of red lead paint.	1.33	10083.70	Qtl	13378.85	SH: SW, I-1
9	Providing and fixing G.I.chain link fencing of 10 SWG GI wire 75 x 75 mesh diagonal netting and weighing 2.10 Kg/Sqm complete as per the direction of Engineer-in-charge.					
	a) G.I.chain link fencing of 8/10 SWG GI wire 75 x 75 mesh diagonal netting	56.70	350.00	Kg	19845.00	SH: MR

Sl. No.	Sub-Head and Items of work	Qty	Rate	Unit	Amount	Remarks
1	2	3	4	5	6	7
	b) G.I.staples 10 cm long (10 SWG)	65.00	5.00	Each	325.00	SH: MR
10	12 mm cement plaster 1 : 4 (1 cement : 4 fine sand).	24.30	156.10	Sqm	3793.23	SH: Fin, I-2
11	Applying priming coat with ready mixes primer of approved brand and manufacture on steel work.	3.51	33.50	Sqm	117.59	SH: Fin, I-65
12	Painting (two or more coats) with aluminium paint of approved brand and manufacture on new work to give an even shape.	3.51	81.30	Sqm	285.36	SH: Fin, I-82
	<b>Sub-Total (A)</b>				<b>₹ 115,038.66</b>	
	<b>CARRIAGE OF MATERIAL</b>					
13	Loading and Unloading of Stone Boulder/ Stone aggregates / Sand / Kanker Moorum/ Lime / Shingle/Surki / Earth/ Excavated Rock and Kerb Stones by Manual Means for hill roads	7.57429	214.00	Cum	₹ 1,620.90	SH: Carr, I-1.6
14	Loading and Unloading of Cement/ Steel / Structural Steel/RC Pipe/ Wooden Logs / Bricks / Bitumen and Timber etc. by Manual Means and Stacking for hill roads.	3.145517	264.00	MT	₹ 830.42	SH: Carr, I-1.6
15	Cost of Haulage Excluding Loading and Unloading on hill roads. Haulage of materials by tipper excluding cost of loading, unloading and stacking					
a)	Surfaced Road					
	Cement/Steel [From Guwahaty to Itanagar 410 km] [Rate = 410 x 10.5 = Rs. 4305.00]	3.15	4305.00	MT/Km	₹ 13,541.45	SH: Carr, I-1.8
	Bricks [From Bishwanath Chariali to Itanagar 105 km] [Rate = 105 x 10.5 = Rs. 1102.50]	2.338462	1102.50	MT/km	₹ 2,578.15	SH: Carr, I-1.8
	Sand/ Agg [25 km] [Rate = 25 x 10.5 = Rs. 262.50]	7.57	262.50	MT/km	₹ 1,988.25	SH: Carr, I-1.8
b)	Unsurfaced Graveled Road					
	Sand / Agg [5 km] [Rate = 5 x 12.60 = Rs. 63.00]	7.57	63.00	MT/km	₹ 477.18	SH: Carr, I-1.8
c)	Katcha Track and Track in River Bed/ Nallah Bed and Choe Bed. [2km] [Rate = 2 x 25.40 = Rs. 50.80]	7.57	50.80	MT/km	₹ 384.77	SH: Carr, I-1.8
	<b>Sub-Total (B)</b>				<b>₹ 21,421.13</b>	
	<b>Grand Total [A+B]</b>				<b>₹ 136,459.79</b>	

Cost per Mtr = ₹ 4,550.00



### Details of Measurement

Name of Work :- **Providing and fixing Chain Link fencing for Residential Buildings (Type-I to Type-IV buildings)**

[Calculation for Wall length of 30.00 Mtrs]

Item No.	Description of Item	No.	Length	Breadth	Height	Quantity
1	2	3	4	5	6	7
1	Earth work in excavation in foundation and trenches					
	For CC post.	13	0.45	0.45	0.85	2.24 Cum
	For beams	12	1.90	0.30	0.25	1.71 Cum
	<b>Total</b>					<b>3.95 Cum</b>
2	Providing and laying PCC 1:4:8 in foundation					
	For CC post.	13	0.45	0.45	0.10	0.26 Cum
	For beams	12	2.25	0.30	0.10	0.81 Cum
	<b>Total</b>					<b>1.07 Cum</b>
3	Providing and laying PCC 1:2:4 in foundation					
	Post	13	0.23	0.23	1.35	0.93 Cum
	<b>Total</b>					<b>0.93 Cum</b>
4	Providing and laying in foundations and plinth cement concrete 1 : 2 : 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) excluding the cost of centring and shuttering.	12	2.25	0.20	0.30	1.62 Cum
	<b>Total</b>					<b>1.62 Cum</b>
5	Centering and shuttering					
a)	Beams	24	2.25		0.10	5.40 Sqm
		24	2.25		0.30	16.20 Sqm
	<b>Total</b>					<b>21.60 Sqm</b>
b)	Column	13	0.92		1.35	16.15 Sqm
	<b>Total</b>					<b>16.15 Sqm</b>
6	Reinforcement for RCC					
	Beam reinforcement 12mm dia 4 Nos	4	30.50	@	0.89 kg/m	108.58 Kg
	Column reinforcement 10mm dia 4 Nos	52	1.40	@	0.62 kg/m	45.14 Kg
	Stirrups Col 8 mm dia @ 200mm C/C	65	0.95	@	0.39 kg/m	24.08 Kg
	Stirrups beams 8 mm dia @ 150mm C/C	150	1.05	@	0.39 kg/m	61.43 Kg
						239.22 Kg
	Add 5% for Wastage and overlapping					11.96 Kg
					<b>Total =</b>	<b>251.18 Kg</b>
7	Half Brick work in cement mortar 1:4	12	2.25	0.45		12.15 Sqm
8	Steel work in single section inclding cutting					
	Angle iron 60x60x6mm	13	1.80	@	5.40 kg/m	126.36 Kg
						126.36 Kg

	Add 5% for Wastage				<b>Total =</b>	6.32 Kg
	<b>Total</b>					<b>132.68 Kg</b>
						<b>1.3268 Qd</b>
9	Providing and fixing G.I.chain link fencing of 10 SWG					
	a) G.I.chain link fencing of 10 SWG	30.00	0.90	@	2.10 kg/m	56.70 Kg
	b) G.I.staples 10 cm long (10 SWG)	13	5			65 Nos
10	12mm Cement Plaster 1:4 CM	24	2.25		0.45	24.30 Sqm
11	Applying priming coat with ready mixed primer	13	0.15		1.80	3.51 Kg
12	Painting with aluminium paint on steel work	13	0.15		1.80	3.51 Kg
13	Colour washing	2	30.00		0.45	27.00 Sqm

#### CARRIAGE OF MATERIAL

14	Loading and Unloading of Stone Boulder I Stone aggregates / Sand I Kankerl Moorum/ Lime / Shingle I Surkii Earth I Excavated Rock and Kerb Stones by Manual Means for hill roads					7.57
14	Loading and Unloading of Cement I Steel I Structural Steel I RC Pipe I Wooden Logs / Bricks / Bitumen and Timber etc. by Manual Means and Stacking for hill roads.					3.15
15	Cost of Haulage Excluding Loading and Unloading on hill roads. Haulage of materials by tipper excluding cost of loading, unloading and stacking					
a)	Surfaced Road					
	Cement/Steel					3.15
	Bricks					2.34
	Sand/Agg					7.57
b)	Unsurfaced Graveled Road					
	Sand / Agg					7.57
c)	Katcha Track and Track in River Bed I Nallah Bed and Choe Bed.					7.57



# TC STATEMENT

Name of work : Providing and fixing Chain Link fencing for Residential Buildings (Type-I to Type-IV buildings).

Item No.	Item of Works	Qty of Work done	Unit	Cement		Sand		Aggregate		Bricks	
				Coef.	Qty	Coef.	Qty	Coef.	Qty	Coef.	Qty
1	PCC 1:4:8	1.07	Cum	0.17	0.18	0.47	0.50	0.89	0.96		
2	RCC in Beams (M20)	1.62	Cum	0.42	0.68	0.47	0.76	0.85	1.38		
3	Half brick masonry in 1:4 CM	12.15	Sqm	0.078	0.95	0.267	0.32			50	608
4	12mm Cement Plaster in 1:5 CM	24.30	Sqm	0.0446	1.08	0.154	0.37				
5	Reinforcement for RCC	251.18	Kg								
					2.89 MT		1.96 Cum		2.33 Cum		608 Nos

## Carriage of Materials:

Cement	2.89 MT
Steel	0.25 MT
	<u>3.15 MT</u>
Sand	3.14 MT
Aggregate	4.43 MT
	<u>7.57 MT</u>
Bricks	2.34 MT

### ELEVATION OF CHAIN LINK FENCING

**Chain Link Fencing**  
(10 Gauge GI Wire,  
100 mm diamond netting)

**Angle Iron Post**  
ISA 60x60x6

**Half Brick Wall (1:4)**  
450 mm Height

**RCC Beam (1:2:4) (200x300)**

**Half Brick Wall (1:4)**  
450 mm Height

**RCC Beam (1:2:4) (200x300 mm)**

**CC Post (1:4:8)**  
(450 x 450 x 100) mm

**CC Post (1:2:4) 230x230 mm**  
Upto 600 mm above G.L.

**CC Post (1:4:8)**  
(450 x 450 x 100) mm

**Chain Link Fencing**  
(10 Gauge GI Wire,  
100 mm diamond netting)

**Angle Iron Post**  
ISA 60x60x6

**Half Brick Wall (1:4)**  
450 mm Height

**RCC Beam (1:2:4) 200x300 mm**  
C.C 1:4:8 (100mm Thick)

**CC Post (1:2:4) 230x230 mm**  
Upto 600 mm above G.L.

**CC Post (1:4:8) 230x230 mm**  
Upto 150 mm above G.L.

### PLAN OF CHAIN LINK FENCING

**Chain Link Fencing**  
(10 Gauge GI Wire,  
100 mm diamond netting)

**Angle Iron Post**  
ISA 60x60x6

**Half Brick Wall (1:4)**  
450 mm Height

**RCC Beam (1:2:4) (200x300)**

**Half Brick Wall (1:4)**  
450 mm Height

**RCC Beam (1:2:4) (200x300 mm)**

**CC Post (1:4:8)**  
(450 x 450 x 100) mm

**CC Post (1:2:4) 230x230 mm**  
Upto 600 mm above G.L.

**CC Post (1:4:8)**  
(450 x 450 x 100) mm

**Chain Link Fencing**  
(10 Gauge GI Wire,  
100 mm diamond netting)

**Angle Iron Post**  
ISA 60x60x6

**Half Brick Wall (1:4)**  
450 mm Height

**RCC Beam (1:2:4) 200x300 mm**  
C.C 1:4:8 (100mm Thick)

**CC Post (1:2:4) 230x230 mm**  
Upto 600 mm above G.L.

**CC Post (1:4:8) 230x230 mm**  
Upto 150 mm above G.L.

DATE	NOS.	PRINTS ISSUED TO	DATE	REVISION RECORDED	Project :-	 <p>Chain Link Fencing for Residential Buildings (Type-I to Type-IV buildings).</p>	<p>OFFICE OF THE CHIEF ENGINEER SID &amp; P, PWD, AP, ITANAGAR ARUNACHAL PRADESH.</p>	<p>Designed by: P.K.Choudhary Dt: 30/10/18</p> <p>APPROVED</p>	<p>SHEET TITLE : Elevation &amp; Typical Section of Chain Link Fencing.</p>	<p>SHEET NO.</p>





GOVERNMENT OF ARUNACHAL PRADESH  
FINANCE, PLANNING & INVESTMENT DEPARTMENT  
BLOCK No. 1, 4<sup>TH</sup> FLOOR:  
CIVIL SECRETARIAT: ITANAGAR

OFFICE MEMORANDUM

No. PD(SPD)-63/CCI/2015-16

Dated, Itanagar the 15<sup>th</sup> January 2019

It has been observed that in many cases, estimates are prepared on higher rate with higher specification but are implemented on lower specification at site. Further, there is no uniformity and standardisation of construction of Govt. buildings by various departments.

Hence, in order to ensure uniformity and standardisation of construction of both residential and non-residential buildings implemented by various departments of State Government, Cabinet Committee on Infrastructure, Govt. of A.P. has approved the following:

1. All works departments should follow CPWD Plinth Area Rate 2012 with cost index approved by the concerned Chief Engineer of PWD for their respective jurisdiction within the State for estimation of cost of both residential and non-residential buildings as attached in the **Annexure-1**. PWD Department shall notify the zone wise cost index every year for the entire state by 1<sup>st</sup> April which shall be followed by all line departments in letter and spirit. The cost index shall be prepared by adopting the format of calculation of cost index developed by CPWD attached in the **Annexure - 4**. It was also enjoined that in the calculation of cost index, actual cost of material at the location shall be assessed and such assessment must invariably take into account **the reduction in cost of carriage resulting from improved road communication to the place under consideration.**
2. The rate of RCC Framed Structure with specification in **Annexure-II** shall be adopted for important non-residential as well as for residential buildings of Type V and above or for the specific building with prior approval of Government of Arunachal Pradesh.

*(Signature)*



3. The rate of RCC Framed Structure with **specification in Annexure-V** shall be adopted for normal multiple storied residential and non-residential buildings.
4. The rate of **Load Bearing Construction with specification in Annexure-V** shall be adopted for construction of single storied/double storied non-residential buildings as well as for residential buildings of Type-I to Type-IV and PHCs, CHCs and school buildings upto secondary level (both classrooms and hostels) with CGI sheet / slab roofing.

The Cabinet Committee on Infrastructure Govt. of A.P. has also observed that henceforth the specification in **Annexure - II** or **Annexure - V** shall form a part of tender document in the process of implementation of building projects as applicable for uniform adherence to specification as sanctioned by Government of A.P.

While according Administrative Approval and Expenditure Sanction, it shall be the duty of Concerned Secretary/Commissioner that the aforesaid guidelines are followed in letter and spirit.

(KalingTayeng), IAS  
Development Commissioner (FP&I)  
Govt. of AP., Itanagar

Memo No. PD(SPD)-63/CCI/2015-16

Dated, Itanagar the 15<sup>th</sup> January 2019

Copy to:

1. The Commissioner to Hon'ble Governor, Arunachal Pradesh, Itanagar.
2. The Secretary to HCM, Arunachal Pradesh, Itanagar.
3. PS to HDCM, Aruanachal Pradesh, Itanagar.
4. PS to Cabinet Ministers, Government of Arunachal Pradesh
5. Under Secretary to Chief Secretary, Govt. of A.P, Itanagar.
6. All Commissioners/Secretaries/Special Secretaries, Arunachal Pradesh
7. All Chief Engineers/Directors/Superintend Engineers/Executive Engineers of all Zones, Arunachal Pradesh
8. Secretary Finance for information and necessary action please

(Himanshu Gupta), IAS  
Special Secretary(Planning & Investment)  
Govt of A.P, Itanagar



# **PLINTH AREA RATES AS ON 01.10.2012**

## **ANNEXURE - 1**

S. No.	Description	Office/College/Hospital	Schools	Hostels	Residential
1	2	3	4	5	6
1.0(A)	<b>RCC FRAMED STRUCTURE</b> (Specifications as per Annexure -II)	Rates in Rs. per sq. metre			
1.1(A)	RCC framed structure upto six storeys				
1.1.1(A)	Floor ht. 3.35 mtr.	23500	17000		
1.1.2(A)	Floor ht. 2.90 mtr.			16500	16000
1.0(B)	<b>RCC FRAMED STRUCTURE</b> (Normal Buildings) (Specifications as per Annexure -V)				
1.1(B)	RCC framed structure upto six storeys				
1.1.1(B)	Floor ht. 3.35 mtr.	19000	15200		
1.1.2(B)	Floor ht. 2.90 mtr.			15000	14500
1.2	<b>EXTRAS FOR</b>				
1.2.1	Every additional storey over six storeys upto nine storeys	560	560	560	560
1.2.2	Every additional storey over nine storeys upto twelve storeys	580	580	580	580
1.2.3	Every 0.3 mt. additional height of floor above normal floor height of 3.35 mt./ 2.90 mts.	270	270	270	270
1.2.4	Every 0.3 mt. higher plinth over normal plinth height of 0.6 mt. (on G.F. area only)	270	270	270	270
1.2.5	Every 0.30 mt. deeper foundations over normal depth of 1.20 metre (on G.F. area only)	270	270	270	270
1.2.6	Making stronger foundations to take load of one additional floor at a later date (on area of additional floor only)	2270	2270	2270	2270
1.2.7	Strip foundations in poor soil having bearing capacity less than 10 tonnes/ sqmt. (on G.F. area only)	520	520	520	520
1.2.8	Resisting Earthquake forces	1140	1140	1140	1140
1.2.9	R.C.C. Raft foundations (ground floor only)	6450	6450	6450	6450

1.2.10	Pile foundation up to a depth of 15 mts (on ground floor area only.)	11750	11750	11750	11750
1.2.11	Stronger structural members to take heavy load above 500 Kgs./sqm. upto 1000 Kgs./Sqm.	1500	1500	1500	1500
1.2.12	Larger modules over 35 sqm.	1500	1500	1500	1500
1.3	<b>BASEMENT FLOOR</b>				
1.3.1	Floor ht. 3.35 mtrs with normal water proofing.	19000	-	-	-
1.3.2	<b>EXTRA FOR BASEMENT WITH</b>				
1.3.2.1	Every 0.3 mt. addl. Height (above 3.35 mt. )	2320	-	-	-
1.3.2.2	Reduction for every 0.5 m. less height of basement than normal height 3.35 mt.	(- 1280)	-	-	-
1.4	<b>FIREFIGHTING</b>				
1.4.1	With wet riser system	500	500	500	500
1.4.2	With sprinkler system	750	750	750	750*
1.5	<b>FIRE ALARM SYSTEM</b>				
1.5.1	Manual Fire Alarm System	-	-	-	300
1.5.2	Automatic Fire Alarm System	500	500	500	500*
1.6	<b>Operation Theatre (OPD) (Extra provision)</b>	2150	-	-	-
1.7	<b>Pressurized mechanical ventilation system in the basements (with supply of Exhaust blowers)</b>	650	650	650	650
1.8	<b>STILT PORTION</b>				
1.8.1	<b>Stilt Portion of Multistorey RCC structure (up to ht of 3.35m) Applicable area only</b>	9850	9850	9850	9850
1.8.2	<b>Every 0.30 mt additional height (above 3.35m)</b>	450	450	450	450

Note :- Rates marked as\*under items 1.4.2 & 1.5.2 for residential building are NBC 2005 applicable for apartment houses more than 45m height.



Sl. No.	Description	Non -Residential			Residential		
		Office/College /Hospitals	Schools	Hostel	Type-I, II, III & servant Qtrs.	Type -IV Qtrs.	Type -V, VI and above
1	2	3	4	5	6	7	8
2.0	<b>LOAD BEARING CONSTRUCTION</b>						
2.1	<b>Floor height 3.35 mt.</b>						
2.1.1	Single storeyed	15000	14000	-	-	-	-
2.1.2	Doubled storeyed	14300	12200	-	-	-	-
2.1.3	Three storeyed	15000	14000	-	-	-	-
2.1.4	Four storeyed	16000	14000	-	-	-	-
2.2	<b>Floor height 2.90 mt.</b>						
2.2.1	Single storeyed	-	-	13300	11600	12800	14000
2.2.2	Double storeyed	-	-	11700	11300	12400	13100
2.2.3	Three storeyed	-	-	13300	11600	12800	13400
2.2.4	Four storeyed	-	-	14000	12200	13500	14300
2.3	<b>Scooter &amp; Cycles sheds</b>	-	-	-	10500	10500	10500
2.4	<b>Garrages</b>	-	-	-	10000	10000	10000
2.5	<b>Extra for</b>						
2.5.1	Every 0.3 mt. additional height above normal height 3.35 mt./2.90 mt.	270	270	270	270	270	270
2.5.2	Every 0.3 mt. higher plinth over normal plinth height of 0.60 mt. (on ground floor area only )	270	270	270	270	270	270
2.5.3	Every 0.3 mt. deeper foundations over normal depth of 1.20 mt. (on G.F. area only)	270	270	270	270	270	270
2.5.4	Making stronger foundations to take load of one additional floor at a later date (on area of additional floor only )	780	780	780	780	780	780
2.5.5	Foundations on poor soils having bearing capacity less than 10 T/sqmt.	520	520	520	520	520	520
2.5.6	Foundation on poor soils requiring under reamed pile 6 mt. long	5600	5600	5600	5600	5600	5600
2.5.7	R.C.C. Raft foundation (G.F. area only)	6450	6450	6450	6450	6450	6450
2.5.8	Pile foundation up to a depth of 15 mtr. (G. F. area only)	11750	11750	11750	11750	11750	11750
2.6	<b>Extra for resisting Earth-quake Forces</b>						
2.6.1	In Zone V	1050	1050	1050	1050	1050	1050

Sl. No.	Description	Non -Residential			Residential		
		Office/College /Hospitals	Schools	Hostel	Type-I, II, III & servant Qtrs.	Type -IV Qtrs.	Type -V, VI and above
1	2	3	4	5	6	7	8
2.6.2	Buildings of two storeyes or more in Zone III & IV	520	520	520	520	520	520
2.6.3	Resisting earthquake forces in Zone II and single storey buildings in Zone III & IV						
2.7	Stronger structural members to take heavy loads above 500 Kg /sqm. Up to 1000 Kg/sqmt.	1500	1500	1500	1500	1500	1500
2.8	Larger modules over 35 sqmt.	1800	1800	1800	1800	1800	1800
2.9	Fire-fighting						
2.9.1	With wet riser system	500	500	500	500	500	500
2.9.2	With sprinkler system	750	750	750	750	750	750
2.10	Fire Alarm System						
2.10.1	a) Manual Fire Alarm system	-	-	-	270	270	270
2.10.2	b) Automatic Fire Alarm system	500	500	500	-	-	-
2.11	O.P.D. Operation Theatre etc.	2150	-	-	-	-	-

Note : Rates for items are applicable on entire plinth area except for items 1.2.4, 1.2.5, 1.2.6, 1.2.7, 1.2.9, 1.2.10, 1.5, 1.6, 1.7, 1.8, 2.5.2, 2.5.3, 2.5.4, 2.5.5, 2.5.6, 2.5.7, 2.5.8, 2.8, 2.9, 2.10, and 2.11.



S. No.	Description	Office & College	Hospitals	Schools	Hostels	Type of Quarters				
						I	II	III	IV	V,VI & above
1	2	3	4	5	6	7	8	9	10	11
3.0	<b>SERVICES.</b>									
3.1	Internal water supply & sanitary installations	4%	10%	5%	15% with attached toilets, 10% with common toilets.	12%	12%	12%	12%	12%
						% age means % age of building cost of normal Building (1.0B)				
3.2	External service connections	5%	5%	5%	5%	5%	5%	5%	5%	5%
3.3	Internal electric installations	12 ½%	12 ½%	12 ½%	12 ½%	12 ½%	12 ½%	12 ½%	12 ½%	12 ½%
						Note : The above does not include service connection charges & electrification				
3.4	Internal electric installations for laboratories of schools	-	-	15% of building cost of normal building (1.0B)	-	-	-	-	-	-
3.5	Internal electric installations for terminal building and other allied structures in airports	15% of building cost	-	-	-	-	-	-	-	-
3.6	Extra for :									
3.6.1	Power wiring and plugs	4%	4%	-	-	-	-	-	-	-
3.6.2	Central Call bell system	1%	-	-	-	-	-	-	-	-
3.6.3	Lightening conductors									
3.6.3.1	Upto 4 storeyed building	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
3.6.3.2	5 to 8 storeys buildings	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%
3.6.3.3	Beyond 8 storeyed buildings	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
3.6.4	Telephone conduits	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
3.6.5	Centralized Intercom system	-	-	-	-	1%	1%	1%	1%	1%
3.6.6	Computer conduiting	0.5%	0.5%	0.5%	0.5%					
3.6.7	Quality assurance	1%	1%	1%	1%	1%	1%	1%	1%	1%

Note :- Quality control charge of 1% should be taken in estimate only when client department request for TPI.

Sl. No.	Type of lift	Capacity/ Persons	Weight	Speed in M/Sec.	Travel	Doors	Control	Price (Rs. In lacs)	Addl. Price for each additional floor (Rs. )
1	2	3	4	5	6	7	8	9	10
4.0	<b>LIFTS</b>								
4.1	<b>Passenger lifts</b>								
4.1.1	Passenger lift	8	544 Kg.	1.0	G+4	Power operated	ACV VVF	18.00	1,25,000.00
4.1.2	Passenger lift	8	544 Kg.	1.5	G+5	Power operated	ACV VVF	24.00	1,25,000.00
4.1.3	Passenger lift	13	884 Kg.	1.0	G+4	Power operated	ACV VVF	22.00	1,25,000.00
4.1.4	Passenger lift	13	884 Kg.	1.5	G+5	Power operated	ACV VVF	28.00	1,25,000.00
4.1.5	Passenger lift	16	1088 Kg.	1.0	G+4	Power operated	ACV VVF	28.00	1,50,000.00
4.1.6	Passenger lift	16	1088 Kg.	1.5	G+5	Power operated	ACV VVF	34.00	1,50,000.00
4.1.7	Passenger lift	16	1088 Kg.	2.5	G+12	Power operated	ACV VVF	70.00	1,50,000.00
4.1.8	Passenger lift (Bed lift)	20	1360 Kg.	0.75	G+4	Power operated	ACV VVF	24.00	1,50,000.00
4.1.9	Passenger lift	20	1360 Kg.	1.5	G+5	Power operated	ACV VVF	32.00	1,50,000.00
4.1.10	Passenger lift	20	1360 Kg.	2.5	G+12	Power operated	ACV VVF	75.00	1,50,000.00
4.2	<b>Goods lifts (2 speed )</b>								
4.2.1		1 Ton	-	0.5	G+4			26.00	85,000.00
4.2.2		2 Ton	-	0.5	G+4			33.00	85,000.00
4.2.3		3 Ton	-	0.25	G+4			41.00	1,00,000.00

- Note:- 1. ACVVVF= AC variable voltage variable frequency.  
2. Provision for lift may also be taken for the buildings having floor less than G+ 4.

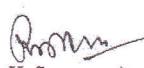
Sl. No.	Description	Rates in Rupees
5	<b>WATER TANK (RCC ONLY)</b>	
5.1	Overhead tank without independent staging	15 / Litre.
5.2	Overhead tank upto staging height 20 metres	25/ Litre.
5.3	Overhead tank with staging height between 20 metres and upto 30 metres	30/ Litre.
5.4	Overhead tank with staging height between 30 metres and 40 metres	35/ Litre.
5.5	Underground sump	15 / Litre





Sl. No.	Description	Rates in Rupees
6	<b>DEVELOPMENT OF SITE</b>	
6.1	Levelling	95/ sqm.
6.2	Internal roads & paths	145/ sqm
6.3	Sewer	110/ sqm.
6.4	Filter Water Supply	
6.4.1	Distribution lines 100 mm dia and below	80/ sqm.
6.4.2	Peripheral grid 150 mm to 300 mm dia pipes	60/ sqm.
6.4.3	Unfiltered water supply distribution lines	45/ sqm.
6.5	Storm water drains	85/ sqm.
6.6	Horticulture Operations	80/ sqm.
6.7	Street lighting	
6.7.1	With fluorescent lamps	95/ sqm.
6.7.2	With HPMV Lamps	130/ sqm.
6.7.3	With HPSV Lamps	165/ sqm.
6.7.4	Exit sign board i/c electric signage.	85/ sqm.

Note :-

- (1) The rates are per sqm. and are to be applied on the entire areas of the plinth/ plot to be developed.
- (2) These rates will apply to normal conditions and normal layout plans. If any extras are required due to nature of layout involving filling, cutting or bringing services, from large distances, then additional provision should be made.
- (3) Cost of bulk services water supply, sewage disposal e.g.
  - (a) Tube wells, pumps, open wells, treatment plant, extension of lines from source of local bodies, head works at water source etc.
  - (b) Sewage pumps, sewage treatment plants, septic tanks, extension of cut-fall sewer up to point of disposal etc. are not included in these rates. Extra provision depending upon site conditions may be made for these.
- (4) Cost of HT sub - station equipments, LT distribution system, DG sets, pumps, air-conditioning and other specialized works like aesthetic external lighting with metal halide lamp & facade lighting, addressable fire alarm system, rising mains, UPS, aviation obstruction lights, external service connections, storage water cooler, IBMS, CCTV, access control system for security, solar water heating system, solar lighting etc. are not included in above rates and the same are to be taken as per actual based on functional / utility of the proposed building.
- (5) 1.0 (A) shall be adopted for GPO and GPRA.  
1.0 (B) may be adopted for other buildings.
- (6) The green measures considered for Civil & Electrical works
  - (a) Over deck insulation and Application of high SRI reflective paint on the roof.
  - (b) Masonry work in super structure with Autoclave Aerated Concrete (AAC) blocks/ fly ash bricks.
  - (c) Window with reflective glass coating / High performance double glazed unit.
  - (d) Paints with low VOC options.
  - (e) Rain water harvesting.
  - (f) Replacement of conventional pillar cock with pillar cock having infrared sensor and foam flow technology (in offices and Hospitals).
  - (g) AC plant with VVVF drives and ECBC complaint chillers, high efficiency motors, plant optimizers etc. (cost of plant not included.)
  - (h) Automated lighting controls with day light sensors and PIRs etc.

  
(R.K. Saraswat)  
Executive Engineer (TAS)-I  
CPWD, Nirman Bhawan,  
New Delhi

  
(Mathura Prasad)  
Superintending Engineer (TAS)  
CPWD, Nirman Bhawan,

  
(V.K. Rokde)  
Chief Engineer (CSQ)  
CPWD, Nirman Bhawan  
New Delhi

## SPECIFICATIONS FOR RESIDENTIAL BUILDINGS

Item no.	Item	Type I, II, III & Servant Qtrs.	Type-IV	Type-V/VI	Hostel
1.1	Foundation	Bearing capacity 10 tonnes per sq. metre.	Applicable to all		
1.2		Type -spread foundation in RCC isolated /combined, continuous wall footing with lean concrete.			
1.3		Depth upto 1.2 metres below ground level			
2.1	Super structure	RCC framed construction with filler walls in brick work or load bearing construction if brick/stone masonry with intermediate columns where found necessary.			
2.2		Internal partition- half brick masonry in cement mortar 1:4			

S No.	Item	Type I, II, III & Servant Qtrs.	Type IV	Type V and VI
3.1 3.1.1	Frames Window	Pressed steel frames made out of corrosion resistant coated sheet of 1.6 mm thick with double rebate	Pressed steel frames made out of corrosion resistant coated sheet of 1.6 mm thick with double rebate/scratch proof aluminium sheets/poly-propylene windows	Same as Type IV
3.1.2		T-Iron /Pressed steel/Pre-cast R.C.C. frames.	Pressed steel frames made out of corrosion resistant coated sheet of 1.6 mm thick with single rebate/factory manufactured precast RCC frames.	Same as Type IV
3.2 3.2.1	Shutters Window	M.S. tubular box section corrosion resistant coated shutters. Wire mesh shutters may also be provided at the discretion of Zonal Chief Engineer.	M.S. tubular box section corrosion resistant coated shutters. Wire mesh shutters may also be provided at the discretion of Zonal Chief Engineer /Scratch proof aluminium window. Shutters to match with frame.	Same as Type IV
3.2.2		Double door, one with iron grill with wire mesh mosquito proof and other 35 mm thick panelled shutter with hard wood style and rail with panelling of pre-laminated particle board, one side decorative other side balancing.	Same as Type I to III.	Same as Type I to III except that panelling will be of both side decorative, pre-laminated particle board.
3.2.3		Solid PVC shutters 28 mm thick	Same as Type I to III	Same as Type I to III
3.2.4		Partly panelled and partly wire mesh with stainless steel wire mesh. The panelling with pre-laminated particle board, one side decorative-35 mm thick panelled shutter with hard wood style and rails.	Same as Type I to III	Partly panelled and partly wire mesh with stainless steel wire mesh. The panelling with pre-laminated particle board, both sides decorative-35 mm thick panelled shutter with hard wood style and rails.



S No.	Item	Type I, II, III & Servant Qrs.	Type IV	Type V and VI
3.2.5	Other doors	35 mm thick panelled shutters with hard wood style and rail with panelling of pre-laminated board, one side decorative.	Same as Type I to III	35 mm thick panelled shutters with hard wood style and rail with panelling of pre-laminated board, both sides decorative.
3.3	Fittings	Powder coated M.S. fittings/stainless steel fittings	Powder coated aluminium/stainless steel fittings	Same as type IV
3.4	Peep hole and security chain for external door only.	Yes	Yes	Yes

- Note : 1. In item no. 3 of Wood work, if any other option of local material is available, the same can also be used by the respective Chief Engineers.  
 2. External sliding door bolt and handles will be in powder coated M.S. or stainless steel.  
 3. Koba treatment on roofing in all type of quarters.

S No.	Item	Type I, II, III & Servant Qrs.	Type IV	Type V and VI
4 4.1	<b>Flooring</b> Bedrooms/ living rooms	Grey/Beige color ceramic floor tiles (size 12" × 12" Matt finish) of approved design	Same as Type I to III	Grey/Beige color rectified ceramic floor tiles (size 16" × 16" Matt finish) of approved design.
4.2	Kitchen, internal circulation area	Ceramic floor tiles (size 12" × 12" Matt finish) of approved design.	Same as Type I to III	Rectified ceramic floor tiles (size 16" × 16" Matt finish) of approved design.
4.3	Common circulation area, staircase	(i) Kota stone flooring and matching skirting. In staircase, single piece pre-polished kota stone slab with pre-finished nosing be used. (ii) Dado of ceramic tile light grey/ dull green shade 12" × 12" size upto 120 cm ht. above skirting i/c green marble nosing.	Same as type I to III	Same as type IV
4.4	Kitchen work top	Green marble pre-polished with pre-moulded nosing	Same as type I to III	Granite with pre-polished and premoulded nosing
4.5	Toilets	Ceramic floor tiles (Size 12" × 12") Matt finish/anti skid of approved design.	Same as type I to III	Rectified ceramic floor tiles (size 16" × 16") Matt finish/ anti skid of approved design
4.6	Skirting/Dado in toilets	Ceramic white glazed tiles (min. size 8" × 12") upto door lintel level.	Same as type I to III	Ceramic white glazed tiles (min. size 8" × 12") upto ceiling ht. with decorative band of tiles.
5.0 5.1	<b>Finishing</b> External	Acrylic smooth exterior finish or washed stone grit plaster or exposed brick work	Premium Acrylic smooth exterior finish with additive of silicone or washed mosaic plaster in ordinary cement or exposed brick work	Premium Acrylic smooth exterior finish with additives of silicone or washed mosaic plaster in ordinary cement or exposed brick work.
5.2	Internal	All walls and ceilings to be treated with the 2 mm thick POP followed with a coat of acrylic/ oil bound distemper except ceiling which will be done with white wash. Synthetic enamel paint on all wood work and steel work.	Same as type I to III	All walls and ceilings to be treated with the 2 mm thick POP followed by plastic emulsion paint except ceiling which will be done with white wash. Synthetic enamel paint on all wood work and steel work.

## SPECIFICATIONS FOR BUILDINGS

### NON- RESIDENTIAL

S.No.	Description	Item no.	Office	Hospitals	Schools
1	2	3	4	5	6
1	FOUNDATIONS	1.1	Bearing capacity 10 tonnes/square metre.		
		1.2	Type – Spread foundations isolated/ combined		
		1.3	Depth.- Upto 1.2 metres below ground level		
2.	SUPER STRUCTURES	2.1	RCC framed construction with filler walls in brick work or load bearing construction in brick/stone masonry with intermediate columns where found necessary.		
		2.2	Internal partition in brick masonry		
		2.3	RCC chajjas, fins, jalis etc.		
3.	DOORS & WINDOWS	3.1	Frames of 2nd class Indian teakwood or equivalent or T-iron frame, pressed steel frame as per CPWD Specifications		
		3.2	Door shutters; Panelled type in 2nd class teak wood or flush door with commercial ply as per CPWD Specifications		
		3.3	Window shutters 2nd class Indian teak wood	Window shutters 2nd class Indian teak wood. Fly proof shutters for all doors & windows and iron grills for windows in ground floor shall be provided for which provision for extra rate will be made or steel windows.	Window shutters 2nd class Indian Teak wood or Steel windows.
		3.4	Fittings	Anodized aluminium or equivalent	
4.	FLOORING	4.1	Main entrance hall terrazzo tiles, kota stone and the like. Lavatory blocks and corridors & some officers room.  Mosaic limited upto 25% of total area.	Main entrance hall terrazzo tiles, kota stone & the like. Lavatory blocks corridors and other rooms except stores, weather-maker rooms etc. mosaic flooring with dado upto 7'0" height.  In corridors & upto sill level in other rooms, the flooring & dado to be limited to 50% in ordinary cement and 50% in white cement.	Main entrance hall, staircase, lavatory blocks in-situ mosaic
		4.2	Rest of the area ordinary cement concrete	Rest of the area ordinary cement concrete	Rest of the area ordinary cement concrete
5.	ROOFING	5.1	Filling for drainage lime concrete	Filling for drainage lime concrete	Filling of drainage lime concrete finished with brick tiles
		5.2	Water-proofing treatment 4 course treatment finished with brick tiles	Water-proofing treatment 4 course treatment finished with brick tiles.	Water-proofing treatment 4 course treatment finished with brick tiles.
6.	FINISHING	6.1	External water proofing cement paint	External water proofing cement paint	External water proofing cement paint
		6.2	Internal Officers rooms & important rooms such as Committee Rooms dry distemper to be limited upto 25% of the total area. Rest either colour or white wash. Main entrance hall plastic emulsion paint or the like. (Low V.O.C)	Internal dry distemper in doctors room, operation theatre other important rooms, such as committee room, X-ray room etc. Limited upto 25% of total area. Rest either colour or white wash. Main entrance hall, OPD Plastic emulsion paint or the like. (Low V.O.C)	Internal – entrance hall, principals room, Committee room etc. dry distemper. Rest of the area white or colour wash. (Low V.O.C)
		6.3	Door & windows- painting	Doors & windows painting	Doors & windows painting



## SPECIFICATIONS FOR RESIDENTIAL BUILDINGS

Item no.	Item	Type I, II, III & Servant Qtrs.	Type-IV	Type-V/VI	Hostel
1.1	Foundation	Bearing capacity 10 tonnes per sq. metre.	Applicable to all		
1.2		Type -spread foundation in RCC isolated /combined, continuous wall footing with lean concrete.			
1.3		Depth upto 1.2 metres below ground level			
2.1	Super structure	RCC framed construction with filler walls in brick work or load bearing construction in brick/stone masonry with intermediate columns where found necessary.			
2.2		Internal partition- half brick masonry in cement mortar 1:4			

S No.	Item	Type I, II, III & Servant Qtrs.	Type IV	Type V and VI
3.1	Frames	Pressed steel frames made out of corrosion resistant coated sheet of 1.6 mm thick with double rebate	Pressed steel frames made out of corrosion resistant coated sheet of 1.6 mm thick with double rebate/scratch proof aluminium sheets/poly-propylene windows	Same as Type IV
3.1.1	Window			
3.1.2	Door	T-Iron /Pressed steel/Pre-cast R.C.C. frames.	Pressed steel frames made out of corrosion resistant coated sheet of 1.6 mm thick with single rebate/factory manufactured precast RCC frames.	Same as Type IV
3.2	Shutters	M.S. tubular box section corrosion resistant coated shutters. Wire mesh shutters may also be provided at the discretion of Zonal Chief Engineer.	M.S. tubular box section corrosion resistant coated shutters. Wire mesh shutters may also be provided at the discretion of Zonal Chief Engineer /Scratch proof aluminium window. Shutters to match with frame.	Same as Type IV
3.2.1	Window			
3.2.2	Main Door	Double door, one with iron grill with wire mesh mosquito proof and other 35 mm thick panelled shutter with hard wood style and rail with panelling of pre-laminated particle board, one side decorative other side balancing.	Same as Type I to III.	Same as Type I to III except that panelling will be of both side decorative, pre-laminated particle board.
3.2.3	W.C / Bath room	Solid PVC shutters 28 mm thick	Same as Type I to III	Same as Type I to III
3.2.4	Kitchen door	Partly panelled and partly wire mesh with stainless steel wire mesh. The panelling with pre-laminated particle board, one side decorative-35 mm thick panelled shutter with hard wood style and rails.	Same as Type I to III	Partly panelled and partly wire mesh with stainless steel wire mesh. The panelling with pre-laminated particle board, both sides decorative-35 mm thick panelled shutter with hard wood style and rails.

# SCALE OF AMENITIES FOR GENERAL POOL ACCOMMODATION

Item No.	Item	Type I	Type II	Type III	Type IV	Type V/VI
1 (i)	<b>Kitchen</b> Shelves in tiers not more than 400mm wide along one wall 1 " thick	Yes	Yes	Yes	Covered cup boards above sill level with pre-laminated decoarative board.	Same as Type IV
(ii)	<b>Kitchen sink</b>	Stainless steel sink without drain board size 610 X 510 mm with bowl depth 200 mm.	Same as Type -I	Same as Type -I	Stainless steel sink with drain board size 510 X 1040 mm with bowl depth 200 mm	Stainless steel sink of size 510 x 1040 mm with bowl depth of 250 mm with draining board/ vitreous china sink with draining board of size 600 x 450 x 250 mm
(iii)	Dado Ceramic glazed tiles for 60cm. above work top and around sunken floor	Yes	Yes	Yes	Yes	Ceramic glazed tiles upto 60 cm above cooking platform all around
(iv)	Built in cupboard with open shelves below cooking platform shutters of pre-laminated particle board 18mm thick below window sill level of cooking platform along one wall	Yes	Yes	Yes	Yes with 2 drawers	Yes with 2 drawers
(v)	Cooking platform standing	Yes	Yes	Yes	Yes	Yes
2(i)	<b>Wardrobes</b> Built in cupboard with R.C.C./pre-laminated particle board/Kota stone shelves and shutter upto ceiling height	One in each Bed Room 7'-00" height	One in each Bed Room, 7'-00" height	One in each Bed Room 7'-00" height	One in each Bed Room upto ceiling height	One in each Bed Room upto ceiling height
(ii)	Magic eye in front door	One	One	One	One	One
(iii)	Window sill lining 18mm thick projected with Kota stone/marble	Kota Stone	Kota Stone	Kota Stone	Kota Stone	Marble
(iv)	Curtain rods with brackets	All rooms	All rooms	All rooms	Drapery rods	Drapery rods
(v)	Set of Pegs	In bath and bed rooms	In bath and bed rooms	In bath, bed rooms and wardrobes	In bath, bed rooms and wardrobes	In bath, bed rooms and wardrobes



S No.	Item	Type I, II, III & Servant Qrs.	Type IV	Type V and VI
3.2.5	Other doors	35 mm thick panelled shutters with hard wood style and rail with panelling of pre laminated board, one side decorative.	Same as Type I to III	35 mm thick panelled shutters with hard wood style and rail with panelling of pre laminated board, both sides decorative.
3.3	Fittings	Powder coated M.S. fittings/ stainless steel fittings	Power coated aluminium/ stainless steel fittings	Same as type IV
3.4	Peep hole and security chain for external door only.	Yes	Yes	Yes

- Note: 1. In item no. 3 of Wood work, if any other option of local material is available, the same can also be used by the respective Chief Engineers.  
 2. External sliding door bolt and handles will be in powder coated M.S. or stainless steel.  
 3. Over deck insulation with PUF Slab/Koba treatment on roofing in all type of quarters.

S No.	Item	Type I, II, III & Servant Qrs.	Type IV	Type V and VI
4	<b>Flooring</b>			
4.1	In rooms, kitchen, internal circulation area	Mosaic flooring and skirting with ordinary cement except in common circulation area and staircase	Same as Type I to III	Mosaic/ Terrazzo tile flooring with white cement. In kitchen, ceramic tiles/marbles flooring
4.2	Common circulation area, staircase	Kota stone flooring and matching skirting. In staircase, single piece Kota stone shall be used	Same as Type I to III	Same as Type IV
4.3	Kitchen work top	Kota stone	Udaipur green marble/Granite stone	Granite stone
4.4	Toilets	Mosaic	Ceramic Tiles	Ceramic Tiles
4.5	Skirting/Dado	Ceramic glazed tiles in Indian Type WC upto 90 cm. height and bath room upto door jamb height.	Same as Type I to III	Ceramic glazed tiles upto ceiling height with a decorative band of tiles.
5.0	<b>Finishing</b>			
5.1	<b>External</b>	Acrylic smooth exterior finish or washed stone grit plaster or exposed brick work	Premium Acrylic smooth exterior finish with additive of silicone or washed mosaic plaster in ordinary cement or exposed brick work	Premium Acrylic smooth exterior finish with additives of silicone or washed mosaic plaster in ordinary cement or exposed brick work.
5.2	<b>Internal</b>	All walls and ceilings to be treated with the 2 mm thick POP followed with a coat of acrylic/ oil bound distemper except kitchen, bath & WC and all ceiling, which will be done with white wash. Synthetic enamel paint on all wood work and steel work.	All walls & ceiling to be treated with 2 mm thick POP followed with a coat of acrylic / oil bound distemper except kitchen, bath & WC and all ceilings, which will be done with white wash. Synthetic enamel paint on all wood work and steel work.	All walls & ceiling to be treated with 2mm thick POP plaster and cornices followed with a coat of plastic emulsion paint except kitchen, bath and WC and all ceilings, which will be done with white wash. Synthetic enamel paint on all wood work and steel work.

## SCALES OF SANITARY FITTINGS FOR GENERAL POOL RESIDENTIAL QUARTERS

Item No.	Item	Type I	Type II	Type III	Type IV	Type V/VI
1.	Indian W.C. Pan with flushing cistern	One WC Pan Orissa pattern with low level PVC Flushing Cistern	One Same as Type I	One same as Type I	One same as Type I	One + One for servant quarter
2.	European type W.C. with low level flushing cistern	-	-	-	One with low level PVC flushing cistern	One (syphonic type) with matching low level cistern
2(a)	Water Jet with low level European W.C.	-	-	-	One	One
3.	Wash basin with one tap each	One	One	One	Two mixer type for hot & cold water	Three mixer type for hot & cold water
4.	Tap (kitchen bath & W.C.) C.P. Brass/ PTMT bib cock	4 PTMT	4 PTMT	4 C.P. brass	5 C.P. brass	12 (1 PTMT + 11 CP brass )
5	Shower C.P. Brass / PTMT	One PTMT	One PTMT	One PTMT	Two C.P.brass	Three C.P. brass
6.	Towel rail C.P. Brass/ PTMT	One PTMT	One PTMT	One PTMT	Two C.P. brass	Two C.P. brass
7.	Mirror / Bevelled edge/ P.V.C. frame with PTMT glass shelf	One	One	One	Two	Three
8.	Soap rack (Nitch in W.C./ Bath)	One	One	One	Two	Three
9.	Liquid soap container	-	-	-	Two	Three
10.	Storage tank	500 ltr.	500 ltr.	500 ltr.	750 litre	1000 litre + 500 litre for servant quarter
11.	Nitch with Kota stone sill in bath room	One	One	One	Two	3 + 1 for servant quarter

Note : Waste coupling in wash basins and grating over the floor trap shall be only of PTMT.



# **SPECIFICATIONS FOR ELECTRICAL INSTALLATION IN RESIDENTIAL QUARTERS**

Item No.	Description	Type I	Type II	Type III	Type IV	Type V (excluding servant quarter & Garage)	Type VI (excluding servant quarter & garage)	Servant Qtrs & Garage
1.	Power Points (15 amperes, 6 pins	2	3	4	5	6	7	1
2.	MCB connected socket outlet for A.C. unit /Geyser complete with wiring	1	1	1	2	4	5	-
3.	Ceiling Fans	2	3	4	5	6	7	1
4.	Exhaust Fans	1	1	1	1	1	1	-
5.	Call bells	1	1	1	1	2	3	-
6.	Light/Fans/Call bell/5A Plug Points	17	20	23	27	38	44	5
7.	F.I. Fittings excluding Tube and Starter	2	3	4	5	7	8	1
	Type of Wiring	Recessed Conduit wiring			Concealed conduit wiring			
8.	EDB MCB Type							1
	A. Single Phase	1	1	1	-	-	-	1
	B. 3 Phase	-	-	-	1	1	1	-
9.	Cable TV Point	1	1	1	1	2	2	-
10.	Telephone Point	-	-	-	1	2	2	-

### PROFORMA FOR CALCULATION OF COST INDEX

S.No.	Description		Unit	Rate as on 1.10. 2012 in Rs.	Weightage	Rate at the time of revision of cost Index	Cost Index
1.	BRICKS		1000 Nos.	3867.00	8.00		
2.	CEMENT(OPC)		QTL.	587.00	14.50		
3.	STEEL a) 8 & 10 MM(TOR STEEL) b) 12 & 16 MM (TOR STEEL)	50% 50 %	QTL.	4669.00	19.50		
4.	AGGREGATE 20 MM SIZE		CUM.	1350.00	6.50		
5.	SAND(COARSE SAND)		CUM.	1293.00	3.00		
6.	FLOORING ITEMS (a) MOSAIC TILES (b) CERAMIC TILES (c) KOTA STONE (d) GRANITE STONE	40% 40% 10% 10%	SQM.	467.00	3.00		
7.	PAINTS (a) SYNTHETIC ENAMEL PAINT (b) O.B.D. (c) PLASTIC EMULSION PAINT	33.33% 33.33% 33.33%	LITRE	151.00	3.00		
8.	PLY AND COMM. WOOD (i) 12 MM THICK PARTICLE BOARD (ii) STEEL WINDOW STANDARD Z SECTION (iii) ALUMINIUM WINDOW	33.33% 33.33% 33.33%	SQM.	1476.00	5.00		
9.	PIPES (i) 15 MM GI. PIPE (ii) 100MM SCI PIPES (iii) 20 MM Black Conduit	33.33% 33.33% 33.33%	MTR.	300.00	2.50		
10.	LAMPS & FANS (i) CEILING FANS 48" (ii) 1.20 M FLUORSCENT TUBE WITH FITTINGS	50 % 50 %	EACH	1024.00	3.50		
11.	ELECT MACHINERY FITTING MOTORS 7.5 HP (PUMP SET) 1500 RPM (KIRLOSKAR)		EACH	30380.00	2.50		
12.	WIRES & CABLES COPPER WIRES (a) 1.5 SQMM (b) 4.0 SQMM	70% 30%	100 MTR.	1790.00	4.00		
13.	LABOUR (i) SKILLED (ii) UNSKILLED	50 % 50 %	EACH	309.38	25.00		