भवन एवं निर्माण कार्य समिति
की आकस्मिक बैठक का कार्यवृत्त

MINUTES OF THE EMERGENT MEETING OF THE BUILDING & WORKS COMMITTEE

3RD MARCH 2010

भारतीय प्रौद्योगिकी संस्थान रूड़की
रूड़की – 247 667 (भारत)
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE - 247 667 (INDIA)

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE 247 667

MINUTES OF THE EMERGENT MEETING OF THE BUILDING & WORKS COMMITTEE HELD ON 3RD MARCH 2010

INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
ROORKEE – 247 667

Minutes of the Emergent Meeting of the Building & Works Committee held on 3rd March 2010 at 12.00 Noon in the Board Room of the Institute.

The following were present:

1. Prof. S.C. Saxena, Director -Chairman
2. Er. P.K. Jain, Chief Engineer, UPPWD (Retd.) - Member
3. Er. M.C. Gupta, Dy. General Manager, UPCL, Roorkee - Member
4. Prof. Akhilesh Gupta, Mechanical & Industrial Engineering Department, IIT Roorkee - Member
5. Er. Salek Chand, Institute Engineer - Member
6. Lt. Col. (Retd) A.K. Srivastava, Registrar - Member Secretary

The Chairman extended a hearty welcome to the members of the Building & Works Committee, especially Er. M.C. Gupta, Dy. General Manager, Uttarakhand Power Corporation Ltd., who was attending the meeting first time.

Due to pre-occupation, the under-mentioned members could not attend the meeting:

1. Prof. H.K. Verma, Dy. Director
2. Prof. V.K. Gupta, Chairman, Estate and Works
3. Prof. G. Ramasamy, Department of Civil Engineering
4. Prof. S. P. Gupta, Department of Electrical Engineering

Deliberations:

All the items on the Agenda were discussed and the deliberations/ recommendations are summarized as under:

Item No.1: To consider the estimate of Rs.8.43 lacs for fencing of the Boys' Hostel block at Saharanpur Campus.

The B&WC considered the preliminary estimate submitted by the U.P. Rajkiya Nirman Nigam Ltd. for fencing of the Boys' Hostel block at Saharanpur Campus. The B&WC recommended that the work be assigned to the UP Rajkiya Nirman Ltd. at the estimated cost of Rs.8.43 lacs **(Appendix 'A').**

Item No.2: To consider the preliminary estimate of Rs.9.94 lacs for construction of toilet block and connecting passage in Metallurgical & Materials and Chemical Engineering Workshop's Building.

The B&WC considered the preliminary estimate submitted by the U.P. Rajkiya Nirman Nigam Ltd. for construction of toilet block and connecting passage in the Metallurgical & Materials Engineering Department and the Chemical Engineering Workshop's Building. The B&WC recommended that the work be assigned to the UP Rajkiya Nirman Ltd. at the estimated cost of Rs.9.94 lacs **(Appendix 'B').**

Item No.3: To consider the estimate and detailed project report of Storm Water drainage system with ground water recharging and implementing Sewerage scheme alongwith STP and recycling of treated effluent for Saharanpur Campus and Roorkee Campus.

The B&WC considered the preliminary estimate and detailed project report of Storm Water drainage system with ground water recharging and implementing Sewerage scheme alongwith STP and recycling of treated effluent for the Saharanpur Campus and the Roorkee Campus as submitted by the NBCC Ltd.. The B&WC recommended that the work be assigned to the NBCC Ltd. at the estimated cost, given as under. The detailed engineering design be vetted by the Institute Committee before implementing the project.

Sl. No.	Particulars of work	Amount Rs. in lacs
1	Estimate for Storm Water drainage system with ground water recharging for IIT Roorkee **(Appendix 'C')**	961.57
2.	Estimate for Storm Water drainage system with ground water recharging for Saharanpur Campus **(Appendix 'D').**	276.09
3.	Estimate for implementing Sewerage scheme alongwith STP and recycling of treated effluent for Saharanpur Campus **(Appendix 'E').**	482.83
4.	Estimate for implementing Sewerage scheme alongwith STP and recycling of	2,323.00

	treated effluent for Roorkee Campus **(Appendix 'F').**	

The issue be placed before the Finance Committee and the Board of Governors for according administrative approval and expenditure sanction.

Item No.4: To consider the preliminary estimate of Rs.22.13 crores for the construction of Multi Activity Centre at IIT Roorkee.

The B&WC considered the preliminary estimate submitted by the NBCC Ltd. for construction of Multi Activity Centre at IIT Roorkee. The B&WC recommended that the work be assigned to the NBCC Ltd at the estimated cost of Rs.22.13 crores **(Appendix 'G').** The issue be placed before the Finance Committee and the Board of Governors for according administrative approval and expenditure sanction.

UNDER ANY OTHER ITEM

Item No.5: Naming of newly constructed multistoried faculty residences in Civil Lines

The newly constructed multistoried faculty residences be named as "CANAL VIEW APARTMENTS"

Item No.6: Progress report of the on-going/completed Major Works.

The B&WC took a note of the progress report in respect of the ongoing/completed major works as given at **Appendix 'H'.**

The meeting ended with a vote of thanks to the Chair.

U.P,R.N.N.Ltd I.I.T Campus Cautelay Bhawan I.I.T Roorkee

Name of work: - Construction of D.P.T Boys Hostel ~~Boundary Wall work~~ fencing at

D.P.T Campus Saharanpur (U.P)

Analysis of rate

(All the rates has been taken from U.A PW.D Schedule of rates)

Take a length of Boundary 9.00Running Meter

(1) Earth work in excavation in foundation trenches

etc complete

1x9.00x0.300x0.250 = 0.68 M^3

1x6x0.23x0.23x0.450 = 0.14

0.82M^3

0.82.00M^3 @ Rs 30.00 perM^3 = ***Rs 24.60***

(2) Laying P.C.C 1:5:10 in foundation with cement

4fine sand, 8 brick Ballast of 40mm size with

Including supply of all material T&P etc

Complete

Wall 1x9.00x0.400x0,100 = 0.36 M^3

Deduct 1x6x0.230x0.230x0.100 = 0.03

0.33M^3

0.33M^3 @ Rs1710.00 per M^3 = ***Rs 564.30***

Rs 588.90

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B/F Rs 588.90

(3) Brick work with mix 1:6 cement, 6 fine sand of F.M

1.25 in foundation up to Plinth with including supply

of all Materials lab our T&P etc complete

1x9.00x0.230x0.450 = 0.93M3

0.93M^3 @ Rs 1904.00 per M^3 = ***Rs 1,770.72***

(4)12mm thick 1:6 plaster with cement, 6 fine sand

of F.M 1.25 Including supply of all materials

Lab our T&P etc complete

Wall Top 1x9.00x0.230 = 2.07 M^2

Side 1x2x9.00x.400 = 7.20

9.27M^2

9.27 M^2@ Rs 79.00 Per Square Meter = ***Rs 732.33***

(5) Water proofing cement paint snowcem of approved

Quality and make two or more coat to give an even

Shade etc complete including supply of all materials

lab our T&P etc complete

Quantity same as per item no (4) 9.27 M^2

9.27 M^2 @ Rs 38.00 per Sqm = ***Rs 352.26***

(6) Laying PCC 1:2:4 cement, 2 Coarse Sand and Stone

20mm size with all materials lab our T&P etc Complete

Pillar 1x6x0.230x0.239x0.450 = 0.14M3

0.14M3@ Rs 2760.00 perM3 = ***Rs 386.40***

Rs 3,830.61

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B/F *Rs 3,830.61*

(7) Supply& Fixing MS Tee Iron 50x50x6 Vertical post and Horizontals M.S Angle 40x40x5 with mesh 6mm round bar @ 100mm C/C with M.S 20x3 with welding etc complete with all materials Lab our T&P etc complete For proper completion of work

(a) M.S Tee Iron Vertical Post 50x50x6 1x6x2.25 = 13.50M

1x6x0.15=0.90

14.40 Kg

14.40 M@ 4.5Kg Per Meter = 64.80Kg

(b) M.S Angle 40x40x5

Horizontal Top& Bottom 1x2x5x1.80 =18.00 M

18.00 M@ 3.00Kg per Meter = 54.00 Kg

© M.S flat 20x3 1x6x1.50 =9.00 M @ 0.47 Kg Per Meter = 4.23

Total (a,b,c) 123.03 Kg

Add 5 % Wastage 6.15 Kg

129.18 Kg

129.18Kg @ Rs 36.00 = Rs 4650.48

(d) 6mm Round Bar Horizontals 1x19x5x1.80 = 171.00 M

Vertical 1x16x5x1.50= 120.00

291.00M

Rs 3830.61

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B/F Rs 3,830.61

291.00 M@0.22 Kg per Meter = 64.02 Kg

Add 5 % Westage = 3 .20

67.22 Kg

67.22 kg@ Rs40.00 Per Kg = Rs 2688.80

Vat 12.50% = Rs 917.41

Add Transportations Charges L.S = Rs 100.00

Rs 8356.69

(e) Add Lab our Charges for fabrification of Boundary Wall

Fencing with all T&P etc complete

(64.02 Kg+ 129.18 Kg) = 193.20 Kg

193.20 Kg @ Rs 10.50 per Kg = Rs 2028.60

(f) Labour Charges for fixing of Boundary fencing

1x9.00x1.50= 13.50 M2

13.50 M^2 @ Rs 100.00 Per Square meter = Rs 1350.00

Rs 11,735.29

(8) Applying Enamel painting two or more coats two give an

Even shade etc complete of approved quality and make etc

Complete with all materials lab our T&P etc complete

1x9.00x1.50 = 13.50M^2

13.50M^2 @ Rs 47.00 Per Square Meter = Rs 634.00

Rs 16,199.90

Cost of Boundary wall for 1.00M = 16,199.90 / 9

= Rs 1799.99 per Running meter or 1800.00 Per Running Meter

A.R.E *Project Manager*

U.P.R.N.N.Ltd *U.P.R.N.N.Ltd*

U.P.R.N.N.Ltd I.I.T Campus Cautelay Bhawan I.I.T Roorkee

Name of work: - Construction of D.P.T Boys Hostel ~~Boundary Wall work~~ Fencing at

D.P.T Campus Saharanpur (U.P)

Abstract of Cost

S.No	*Particular of item*	*Quantity*	*Rate*	*Amount*
	(1)Construction of D.P.T Boys Hostel Block Boundary wall work with Excavation, P.C.C1:5:10, Brick work1:6, , Plaster1:6.Painting , with M.S Grill Fencing etc complete	*390.00M*	*Rs 1800.00*	*Rs 7,02000.00*
	(2) Less 5% Due to U.P.R.N.N.Ltd working	*(—)*		*Rs 35,100.00*
				Rs6, 66,900.00
	(3) Add 11.5 % U.P.R.N.N.Ltd Centage Charges	*(+)*		*Rs 76,693.50*
				Rs 7, 43,593.50
	(4) Add Cos of Boundary Wall Gate 03 No	*L.S*		*Rs75,000.00*
				Rs 8,18,593.50
	(5) Add 3 % Contingencies			*Rs 24,557.81*
				Rs 8,43,151.31

A.R.E

U.P.R.N.N.Ltd

Project Manager

U.P.R.N.N.Ltd

U.P.R.N.N.Ltd I.I.T Campus Cautelay Bhawan I.I.T Roorkee

Name of work: - Construction of D.P.T Boys Hostel ~~Boundary Wall work~~ Fencing at

D.P.T Campus Saharanpur (U.P)

Summery of cost

S.No	*Particular of item*	*Amount*
	(1)Construction of D.P.T Boys Hostel Block Boundary wall work With Including Excavation, P.C.C1:5:10, Brick work1:6, ,Plaster1:6. Painting, with M.S Grill, M.S gate, etc complete	*Rs 8,43,151.31*
		Say Rs 8.43 Lacs

A.E.E

U.P.R.N.N.Ltd

Project Manager

U.P.R.N.N.Ltd

Appendix 'B'
Item No. 3.3.10/2

U.P.R.N.N.Ltd Camp office Cautelay Hostel Block At I.I.T Roorkee

Name of Work :- Construction for Extension of Toilet Block& Connecting Passage Work In Chemical& Metallergy Engg Work Shop Building in campus of I.I.T Roorkee

Analysis of Rate

(A) First floor Plinth area (Per Square meter)		
(1) Plinth area rate as per U.A P.W.D vide Letter No 369/55 Bhawan -2008 dated 12-03-2008		Rs 5560.00
(2) Add Extra height for 0.30M beyond 2.90M height is 3.20M	1x160.00Per M2	Rs 160.00
(3) Add for Provision for R.C.C Framed structure @ 12 % on amount Rs 6180.00		Rs 667.20
(4) Add Internal water supply & sewage system of work @ 12 %		Rs 667.20
(5) Add External water supply & sewage system of work @ 5 %		Rs 278.00
(6) Add Internal Electrification work @ 12 %		Rs 667.20
(7) Add for Earthquake Provision		Rs 370.00
(8) Add for Power wiring 3%		Rs 166.80
(9) Add for provision for Ceiling Fan 4%		Rs 222.40
(10) Add for Contingencies 4%		Rs 350.35
		Rs 9,109.15 Per Square meter
(B) Second Floor Plinth area (Per Square meter)		
(1) Plinth area rate as per U.A P.W.D vide Letter No 369/55 Bhawan -2008 dated 12-03-2008		Rs 6180.00
(2) Add Extra height for 0.30M beyond 2.90M height is 3.20M	1x160.00Per M2	Rs 160.00
(3) Add for Provision for R.C.C Framed structure @ 12 % on amount Rs 6180.00		
(4) Add Internal water supply & sewage system of work @ 12 %		Rs 741.60
(5) Add External water supply & sewage system of work @ 5 %		Rs 309.00
(6) Add Internal Electrification work @ 12 %		Rs 741.60
(7) Add for Earthquake Provision		Rs 370.00
(8) Add for Power wiring 3%		Rs 185.40
(9) Add for provision for Ceiling Fan 4%		Rs 247.20
(10) Add for Contingencies 4 %		Rs 394.26
		Rs 10,063.46 Per Square meter

A.R.E
U.P.R.N.N.Ltd

Project Manager
U.P.R.N.N.Ltd

U.P.R.N.N.Ltd Muzaffarnagar Unit Muzaffarngar (U.P)

Name of work:- Construction for Extension of Toilet Block & Connecting Passage work in Metallurgy and Chemical Engineering workshop Building at I.I.T campus Roorkee Distt Haridwar (U.K)

Measurements

Plinth area Measurement

(a) ***First Floor Plinth area***

Chemical Engineering workshop

Ladies toilet 1x2.40x3.50 = ***8.40 M²***

(b) Second Floor Plinth Area

Quantity same as First Floor Plinth Area = 8.40 M²

Metallurgy & Materials engineering work Shop

Connecting passage 1x13.98x3.50 = 48.93

Ladies & Gents Toilet 1x8.10x3.50 = 28.35

85.68M²

A.R.E

U.P.R,N,N Ltd

U.P.R.N.N.Ltd Muzaffarnagar Unit Muzaffarnagar (U.P)

Name of work:- Construction for Extension of Toilet Block & Connecting Passage Work in Metallurgy and Chemical Engineering workshop Building at I.I.T campus Roorkee Distt Haridwar (U.K)

Abstract of Cost

S.No	Particular of Item	Plinth Area	Rate	Amount
(1)	Construction for Extension of Toilet Block & Connecting Passage Work in Chemical&Metallergy Engg Workshop Building			
	(a) First Floor Plinth Area	8.40M^2	Rs 9,109.15	Rs 76,516.86
	(b) Second Floor Plinth Area	85.68M^2	Rs 10,063.46	Rs 8,62,237.25
				Rs 9,38,754.11
(2)	Less 5 % Due to U.P.R.N.N.Ltd Working	(--)		Rs 46,937.71
				Rs 8,91,816.64
(3)	Add 11.5 % U.P.R.N.N.Ltd Cent age Charges	(+)		Rs1,02,558.89
				Rs 9,94,375.53
				Say Rs 9.94 Lacs

A.R.E
U.P.R.N.N.Ltd

Project Manager
U.P.R.N.N.Ltd

JUSTIFICATIONS FOR PROPOSED WORK

- The drainage system had been laid almost 60 years back and in view of tremendous increase in the population the existing system has become inadequate.
- Most of the areas of the Campus get flooded during rains causing inconvenience and endangering health of the Students and the Staff.
- The storm water drains are not available in most of the areas of the Campus and rain water flows under gravity to the nearby drains/ nallaha. The size of the drains is also small considering the increased catchment area. The size of drains is mostly 20 cm x30 cm.
- There is no ground water recharge provision in the existing drains and thus rain water gets drained out without any ground water recharge.
- The ponding of water at various lower areas of the campus endangers accidents to students and staff during their movement on bikes and cycles.

BENEFITS OF PROPOSED WORK

- Proper drainage will be available for all areas of the Campus thus avoiding ponding of rain water in lower areas.
- Recharge pits have been provided in the storm water drainage network thus ground water will get recharged.
- The recommendations of GRIHA in respect of Green Building Concept include rain water harvesting and thus execution of the proposed work will enable incorporation of this provision of GRIHA.
- The proposed work will stimulate hygienic and better living conditions of the in habitants.
- The proposed work will avoid inconvenience of the residents during rainy seasons.

DETAILS OF PROPOSED WORK

Name of Work : Storm Water Drainage including Ground water recharge for IIT Roorkee

Estimated Cost of work : Rs. 961.57 Lacs

- Brick masonry drains (upto 50 cm depth) : 9030 m
- R.C.C drains (beyond 50 cm depth) : 8800 m
- RCC culverts : 52 Nos.
- Ground water recharging wells : 20 Nos.

MAINTINANCE COST

The maintenance cost of the proposed drainage system may be considered @ 1.50% Rs. 14.40 P.A.

STORM WATER DRAINAGE SCHEME, IIT ROORKEE

ABSTRACT OF COST

Sl. No.	Description	Total (RS. In Lacs)
1	R.C.C Drains	547.33
2	Brick Masonry Drains	170.05
3	R.C.C Slab	30.4
4	Ground Water Charging System	53.1
5	Culverts	47.81
	Sub Total	**848.69**
6	Contigencies @ 3%	25.46
	Total	**874.15**
7	Agency charges of NBCC @ 10%	87.42
	Total Cost of Work	**961.57**

Rajesh Arora
AGM (Engg.)
National Buildings Const. Corp. Ltd.
IIT Works
56/1, Ravindra Lok, IIT Campus
Roorkee (Uttarakhand)-247667

JUSTIFICATIONS FOR PROPOSED WORK

- There exist no storm water drainage network in the Campus
- As there is no storm water drainage network a fresh network is required to be laid to drain out the storm water from the Campus after due rain water harvesting as recommended by the GRIHA.

BENEFITS OF PROPOSED WORK

- Proper drainage will be available for all areas of the Campus thus avoiding ponding of rain water in lower areas.
- Recharge pits have been provided in the storm water drainage network thus ground water will get recharged.
- The recommendations of GRIHA in respect of Green Building Concept include rain water harvesting and thus execution of the proposed work will enable incorporation of this provision of GRIHA.
- The proposed work will stimulate hygienic and better living conditions of the in habitants.
- The proposed work will avoid inconvenience of the residents during rainy seasons.

DETAILS OF PROPOSED WORK

Name of Work : Storm Water Drainage including Ground water recharge for DPT Saharanpur, IIT Roorkee

Estimated Cost of work : Rs. 276.09 Lacs

- Brick masonry drains (upto 50 cm depth) : 3090 m
- R.C.C drains (beyond 50 cm depth) : 1690 m
- RCC culverts : 02 Nos.
- Ground water recharging wells : 04 Nos.

MAINTINANCE COST

The maintenance cost of the proposed drainage system may be considered @ 1.50% i.e. Rs. 4.10 P.A.

STORM WATER DRAINAGE SCHEME,DPT CAMPUS SAHARANPUR

ABSTRACT OF COST

SL.NO.	DESCRIPTION OF WORK		TOTAL (RS. IN LACKS)
1.	RCC Drains		150.97
2.	Brick Masonry Drains		62.96
3.	RCC Slab		18.11
4.	Culvets		1.02
	Ground Water Charging Syestem		10.62
		Sub Total	**243.68**
6.	Contigencies @ 3 %		7.31
		Total	**250.99**
7.	Agency Charges of NBCC@10%		25.1
		Total Cost Of Work	**276.09**

JUSTIFICATIONS OF PROPOSED NEW WORK

Name of Work : Sewerage System including STP for DPT, Saharanpur Campus, IIT Roorkee

Estimated Cost : Rs. 4.82 Crores

- There exists no sewerage network in the Campus.
- Primary treatment of sewerage for individual pockets/ building is being done in individual septic tanks.
- The treatment efficiency of septic tanks remains only 25% to 30% which is much less than the requirements laid down for disposal of sewerage in open drains.
- The effluent from the Septic tanks is disposal off to the soak pits wherein the effluent is absorbed in the ground strata
- Thus currently the untreated effluent is polluting the ground strata.

BENEFITS OF PROPOSED FRESH WORK

- The proposed fresh Sewerage system will benefit in many ways that:
  - Proposed system is a holistic system comprising house connections, branch sewer lines, trunk sewer line and sewerage treatment plant (STP)
  - It will provide a totally underground sewerage system thus giving very hygenical living atmosphere in the entire campus.
  - The proposed STP is based on SBR (Sequential Batch Reactor Treatment Process) which is fully automated requiring minimum land and man power.
  - The quality of effluent is very good, it is odourless
  - The effluent will be recycled and will be used in horticulture and gardening.
  - The dried sludge will be used as manure for horticulture.

In view of the fore-goings, as above, laying of fresh sewerage disposal system including sewerage treatment Plant is well justified.

PROJECT DETAILS

The proposed sewerage scheme including STP mainly comprise following components:

(i)	Laying house connections in 250 mm dia. RCC NP-3 pipes	:	1492m
(ii)	Laying Trunk sewer line in 300 mm dia. RCC NP – 3 pipes	:	765 m
(iii)	Brick masonry man-holes of various sizes	:	92 Nos.
(iv)	Constructing sewer connection chambers in brick work	:	32 Nos.
(v)	Sewage Pumping Station	:	1 No. comprising 5.0 HP Pumps (4 Nos.)
(vi)	Rising main 150 mm dia.	:	50 m
(vii)	Sewage Treatment Plant	:	0.83 MLD based on SBR Technology
(viii)	Allied civil works, building work, internal roads, area lighting etc.		
(ix)	Pipe line for recycling of treated effluent for Horticulture	:	1924 m

ANNUAL MAINTAINANCE COST

Annual Maintenance Cost of 0.83 MLD
@ Rs 5.52 Lacs per annum per MLD = Rs. 4.60 Lacs P.A

D.P.T. SAHARANPUR SEWERAGE SCHEME

GENERAL ABSTRACT OF COST

S. No.	Description	Amount (Rs. In Lacs)		
		Civil Work.	E&M work	Total
1	Laying of Sewer & Appurtenant Works	129.66	-	129.66
2	Sewer Connecting Appartment to Branch Sewer	28.62		28.62
3	Main Sewage Pumping Station	20.26		20.26
4	Valve Chamber	1.37		1.37
5	Rising Main	1.28		1.28
6	S.T.P. based on SBR technology capacity 0.80	48.53	99.60	148.13
7	Treated Outlet Chamber/ underground RCC tank	10.97		10.97
8	Effuent Channel/ Pipe line	1.70		1.70
9	Boundry Wall	6.78		6.78
10	Estimate of Pumping Plants, DG Sets & Power Connection	-	47.06	47.06
11	Estimate of Electricfication work of STP campus	-	2.61	2.61
12	Estimate for Recycling/ Reuse of Treated Effluent for horticulture	16.95	10.77	27.72
	Total	**266.12**	**160.04**	**426.16**
13	Add 3% contingencies	9.67	3.29	12.78
14	**Sub Total**	**275.79**	**163.33**	**438.94**
15	Agency charges of NBCC @ 10%	33.21	11.29	43.89
	G. Total (Rs. In Lacs)	**309.00**	**174.62**	**482.83**

Rajesh Arora
AGM (Engg.)
National Buildings Const. Corp. Ltd.
IIT Works
86/1, Ravindra Lok, IIT Campus
Roorkee (Uttarakhand)-247667

JUSTIFICATIONS OF PROPOSED WORK

Name of Work : Sewerage System including STP for IIT Roorkee

Estimated Cost : Rs.2323.00 Lacs

- The existing Sewage system at IIT Roorkee was laid about 60 years ago and thus has outlived its normal life cycle.
- The existing sewerage system does not comprise any Sewage Treatment Plant (STP).
- Primary treatment of sewerage for individual pockets/ buildings is being done in individual septic tanks.
- The sewerage after receiving primary treatment in septic tanks is flown into main open drain (nallaha) through under ground Hume pipes.
- The treatment efficiency of septic tanks remains only 25% to 30% which is much less than the requirements laid down for disposal of sewerage in open drains.
- The Manholes constructed for the disposal of the sewerage from septic tanks to the main open drain are in depilating condition.
- At many locations the pipes carrying the sewerage have broken and sewage is stagnated in open areas causing foul odour, un-hygenical and unhealthy living conditions.
- The sewerage stagnated at various locations is causing breeding of mosquitoes endangering spread of dreaded diseases.
- The open drains carrying the semi-treated sewerage from the septic tanks are endangering spread of epidemics in residential areas and causing foul odour & breeding mosquitoes.
- The population of the Campus has almost tripped since the sewerage system was laid.
- The population of the Campus is now getting doubled to approx. 15500 after fresh increase in intake of students and is likely to be doubled in the next 30 years i.e. 31,000 approx by the year 2041.

BENEFITS OF PROPOSED WORK

The proposed fresh Sewerage system will benefit in many ways that:

- Proposed system is a holistic system comprising house connections, branch sewer lines, trunk sewer line and sewerage treatment plant (STP)
- It will provide a totally underground sewerage system thus giving very hygenical living atmosphere in the entire campus.
- The proposed STP is based on SBR (Sequential Batch Reactor Treatment Process) which is fully automated requiring minimum land and man power.
- The quality of effluent is very good, it is odourless
- The effluent will be recycled and will be used in horticulture and gardening.
- The dried sludge will be used as manure for horticulture.

In view of the fore-goings, as above, laying of fresh sewerage disposal system including sewerage treatment Plant is well justified.

ANNUAL MAINTAINANCE COST

Annual Maintenance Cost of 5.0 MLD
@ Rs 5.52 Lacs per annum per MLD = Rs. 27.60 Lacs P.A

PROJECT DETAILS

The proposed sewerage scheme including STP mainly comprise following components:

(i)	Laying house connections in 250 mm dia RCC NP-3 pipes	:	8110 m
(ii)	Laying branch sewer lines in 300 mm dia. RCC NP – 3 pipes	:	13984 m
(iii)	Laying Trunk sewer line in 350 mm – 600 mm dia. RCC NP – 3 pipes	:	2245 m
(iv)	Brick masonry ma holes of various sizes	:	495 Nos.
(v)	Sewer connection chambers in brick work	:	404 Nos.
(vi)	Sewage Pumping Station	:	1 No. comprising 17.50 HP Pumps (4)
(vii)	Rising main 150 mm dia.	:	50 m
(viii)	Sewage Treatment Plant	:	5.0 MLD based on SBR Technology
(ix)	Allied civil works, building work, internal roads, area lighting etc.		
(x)	Pipe line for recycling of treated effluent for Horticulture	:	5295 m

IIT ROORKEE SEWERAGE SCHEME

GENERAL ABSTRACT OF COST

S. No.	Description	Amount (Rs. In Lacs)		
		Civil Work	E&M work	Total
1	Laying of Sewer & Appurtenant Works	905.41	-	905.41
2	Sewer Connecting Appartment to Branch Sewer	207.18		207.18
3	Main Sewage Pumping Station	35.28		35.28
4	Valve Chamber	1.37		1.37
5	Rising Main	1.28		1.28
6	S.T.P. based on SBR technology capacity 0.80	73.32	600.00	673.32
7	Treated Outlet Chamber/ underground RCC tank	20.94		20.94
8	Effuent Channel/ Pipe line	0.84		0.84
9	Boundry Wall	10.97		10.97
10	Pumping Plants, DG Sets & Power Connection	-	85.90	85.90
11	Electricfication work of STP campus	-	3.78	3.78
12	Recycling/ Reuse of Treated Effluent for horticulture	69.35	35.54	104.90
	Total	**1,325.94**	**725.22**	**2,051.16**
13	Add 3% Contingencies	39.78	21.76	61.53
14	**Sub Total**	**1,365.72**	**746.98**	**2,112.69**
15	Agency charges of NBCC @ 10%	136.57	74.70	211.27
	G. Total (Rs. In Lacs)	**1,502.29**	**821.67**	**2,323.96**

Rajesh Arora
AGM (Engg.)
National Buildings Const. Corp. Ltd.
IIT Works
56/1, Ravindra Lok, IIT Campus
Roorkee (Uttarakhand)-247667

JUSTIFICATIONS OF PROPOSED NEW WORK

Name of Work: Construction of Multi-activity Centre for IIT Roorkee

Estimated Cost: Rs. 22.13 crore

- Currently there is no multi-activity centre in IIT Roorkee
- The students have to go outside the Campus for entertainment activities and eating
- There is no good eatery in Roorkee offering hygienic and good quality food for students
- The students do not have sufficient opportunity and space for rehearsing dance, theater etc.
- The need of such a multi-activity centre has been being felt for a long by the students as well staff members.
- This centre will offer single point facilities for various activities for Students as well the Staff members
- It will also help in ensuring better security of Students and the Campus as the movement of students from Campus to outside and vice versa can be better regulated in presence of in-house facilities for the Students.

BENEFITS OF PROPOSED WORK

- It will provide opportunities and sufficient space for students to rehearse dancing, theater, playing etc.
- It will provide food stalls offering good quality hygienical food at reasonable price to students and staff.
- It will provide shops for all essential commodities within the Campus.
- It will provide Banks & Post Office with in the Campus
- It will provide Restaurant for small gatherings and parties with in the Campus
- It will provide workshop areas for social & cultural activities
- Thus it will save time and health of students and the staff members

In view of the benefits stated above, the implementation of the proposed work is well justified.

PROJECT DETAILS

The proposed project basically comprise following components:

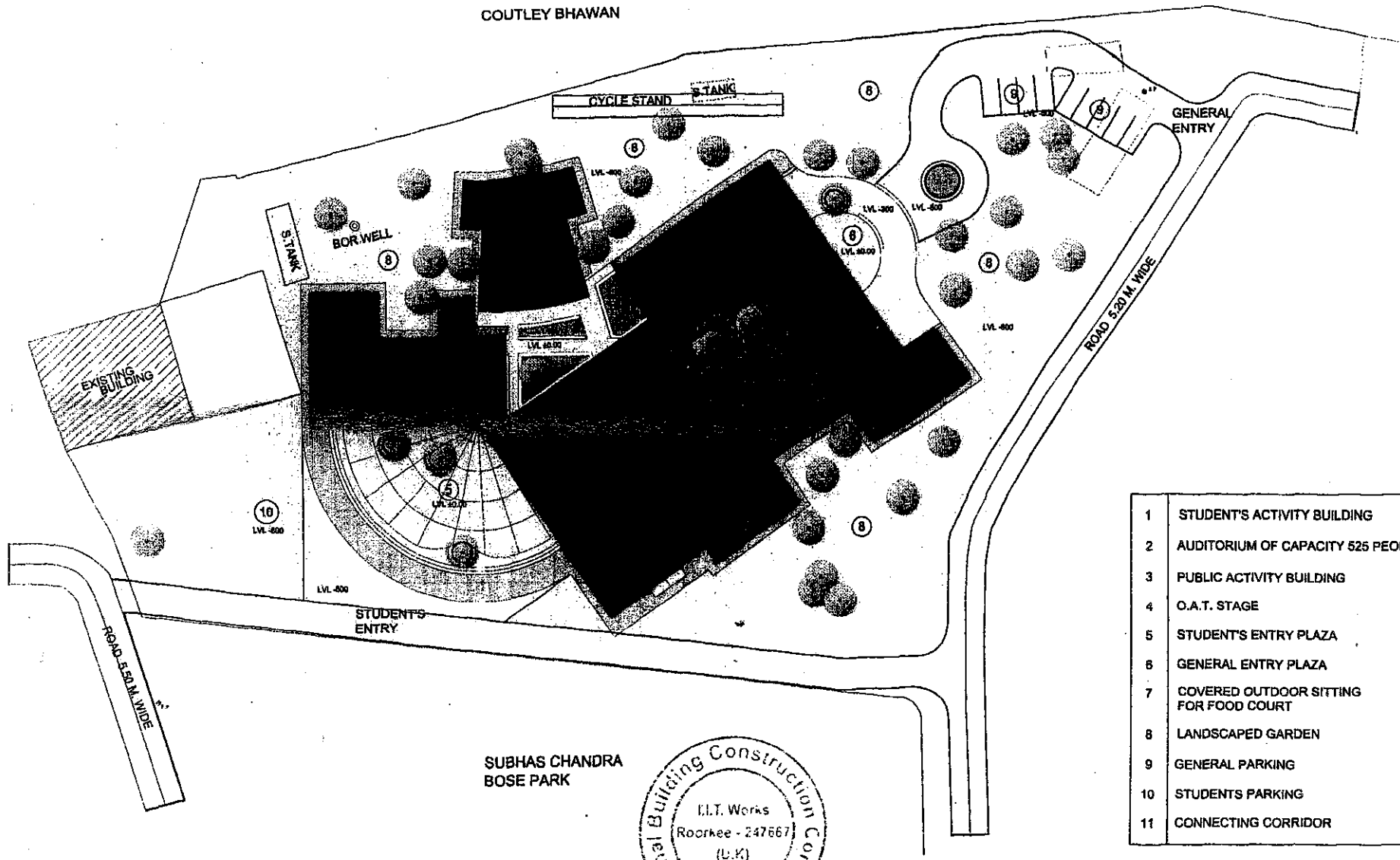
1. Indoor auditorium of 400 capacity
2. Outdoor open Air Theater of – capacity
3. Multipurpose hall
4. Workshop activity centre
5. ATMs – 4 Nos.
6. Food stalls – 5 Nos.
7. Essential commodity shops – 10 Nos.
8. Reading room
9. Sculpture room
10. Restaurant
11. Dance halls – 3 Nos.
12. Post office – 1
13. Extension counters for Banks – 3 Nos.
14. Room for Music section – 1 Nos.
15. Space for Bank
16. Bowling alley – 1 Nos.

The proposed site has lot of trees and the proposed facilities have been so planned that no tree will be required to be felled.

MAINTAINANCE COST

The maintenance cost of the

Proposed Works @ 1% of Rs. 2213.66 Lacs : Rs. 22.14 Lacs P.A



1	STUDENT'S ACTIVITY BUILDING
2	AUDITORIUM OF CAPACITY 525 PEOPLE
3	PUBLIC ACTIVITY BUILDING
4	O.A.T. STAGE
5	STUDENT'S ENTRY PLAZA
6	GENERAL ENTRY PLAZA
7	COVERED OUTDOOR SITTING FOR FOOD COURT
8	LANDSCAPED GARDEN
9	GENERAL PARKING
10	STUDENTS PARKING
11	CONNECTING CORRIDOR

Natural Building Construction Corp. Ltd.
I.I.T. Works
Roorkee - 247667
(U.K)

MULTI ACTIVITY CENTER AT IIT ROORKEE

IMPLEMENTING AGENCY-

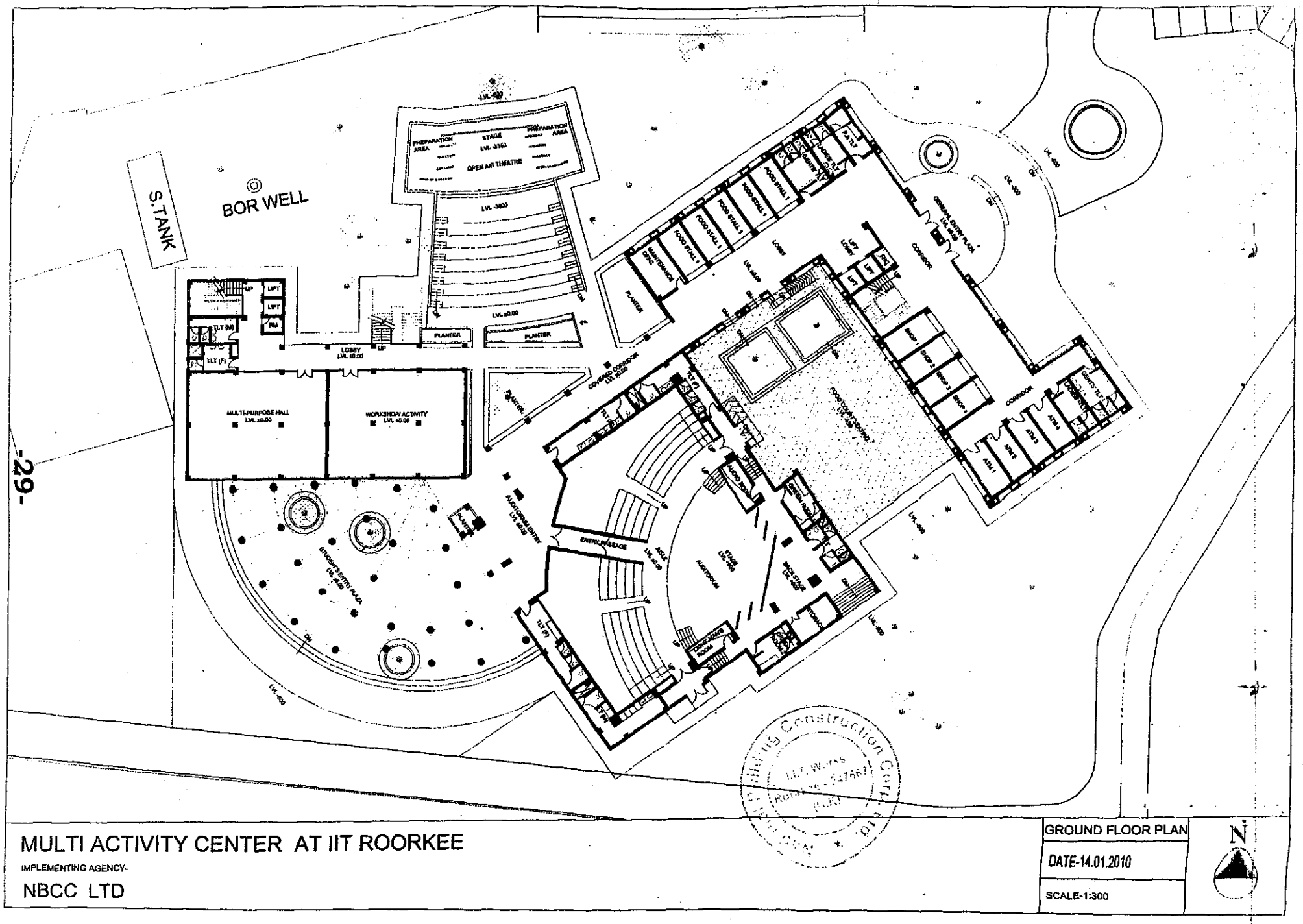
NBCC LTD

SITE PLAN

DATE-14.01.2010

SCALE-1:500

N



MULTI ACTIVITY CENTER AT IIT ROORKEE

IMPLEMENTING AGENCY-

NBCC LTD

GROUND FLOOR PLAN

DATE-14.01.2010

SCALE-1:300

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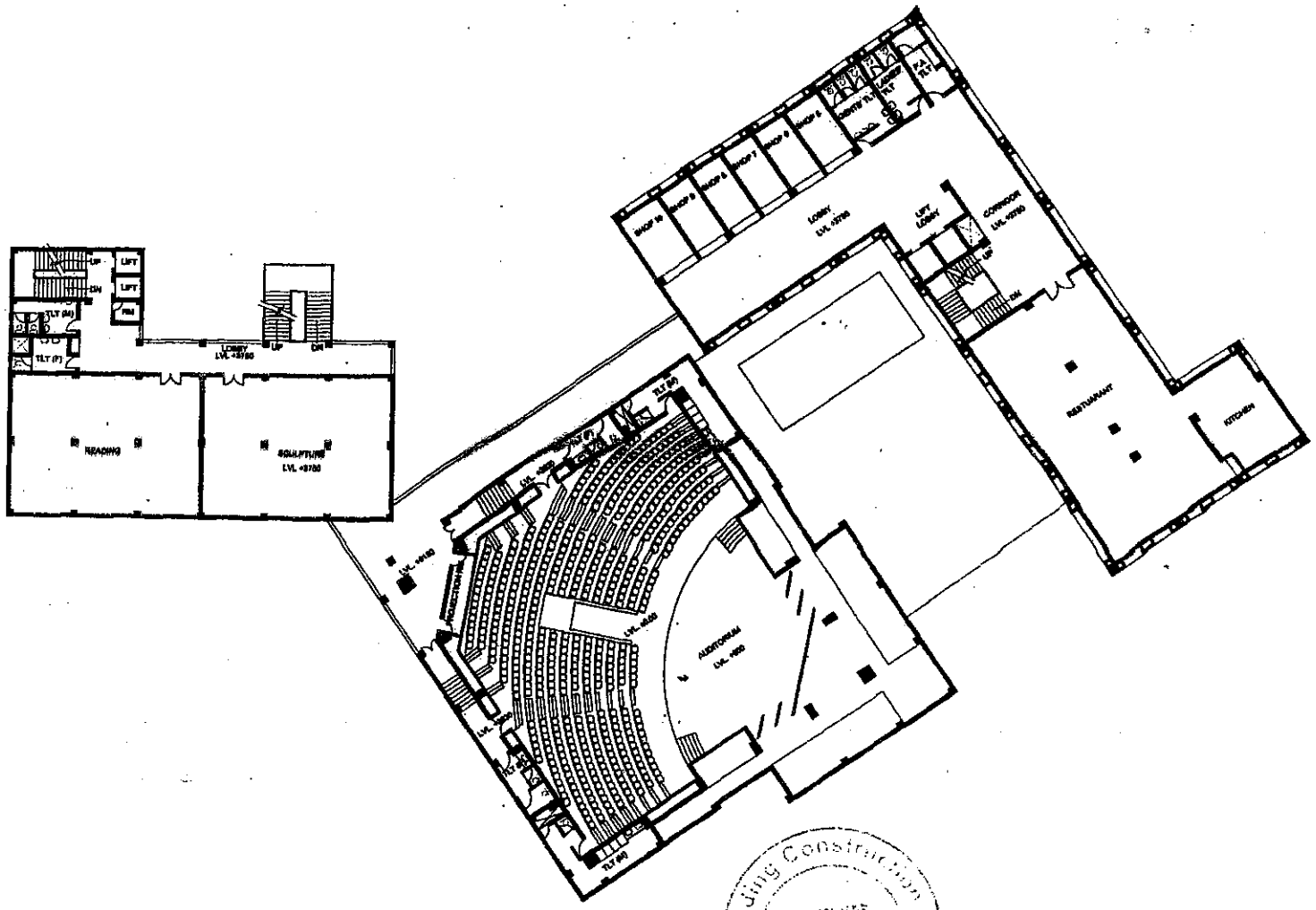

MULTI ACTIVITY CENTER AT IIT ROORKEE

IMPLEMENTING AGENCY-

NBCC LTD

FIRST FLOOR PLAN	
DATE-14.01.2010	
SCALE-1:300	

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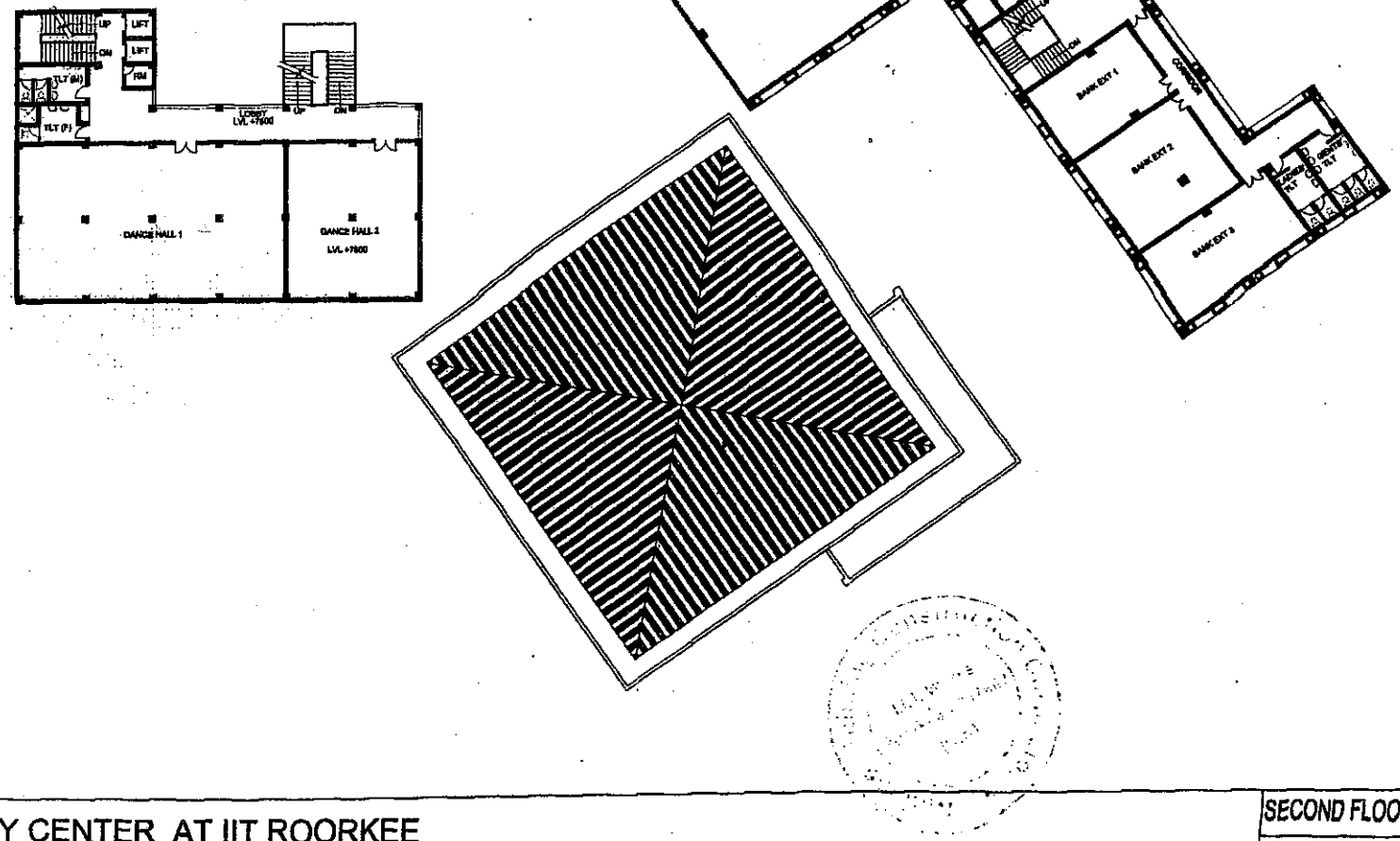

MULTI ACTIVITY CENTER AT IIT ROORKEE

IMPLEMENTING AGENCY-

NBCC LTD

SECOND FLOOR PLAN

DATE-14.01.2010

SCALE-1:300

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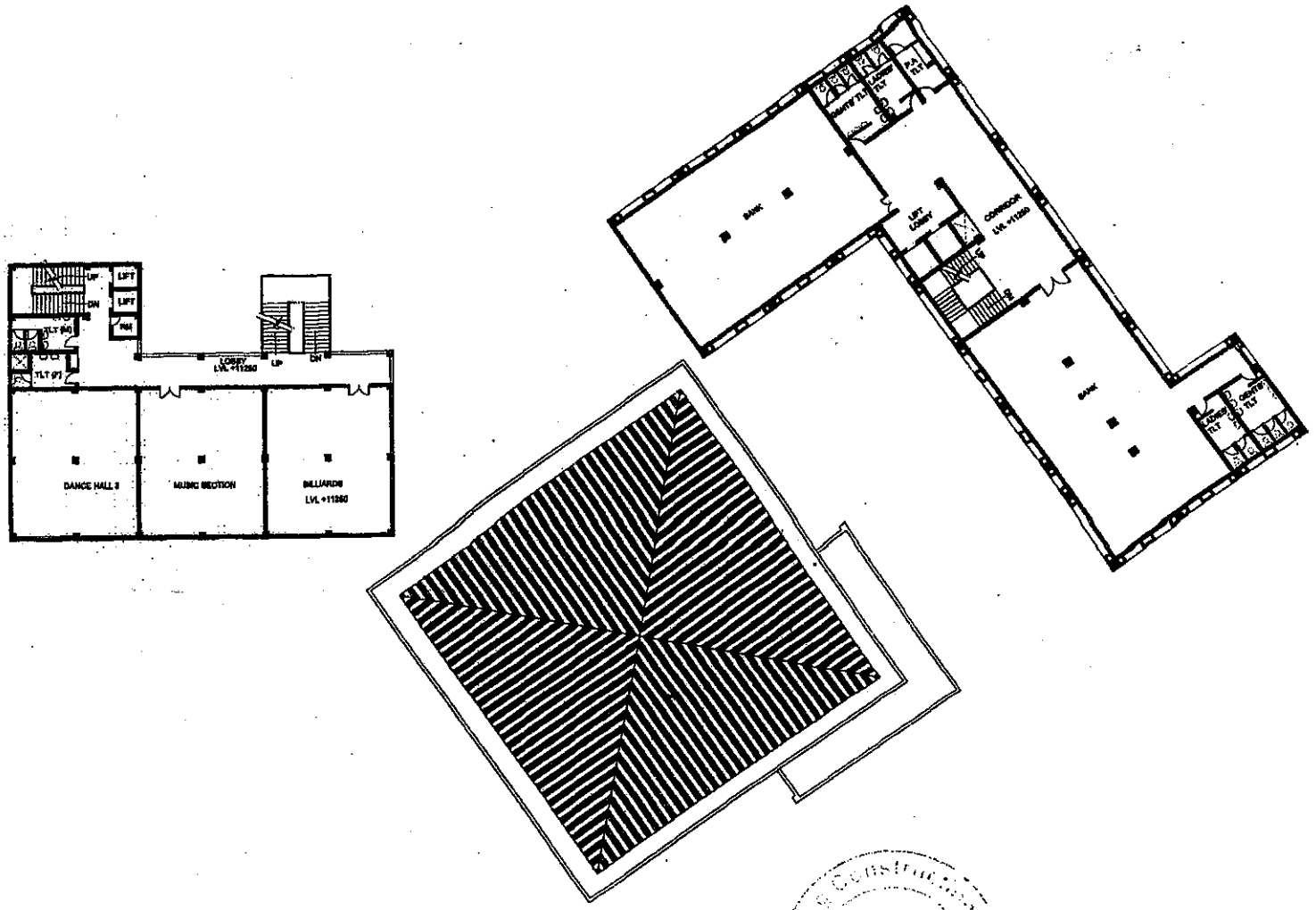


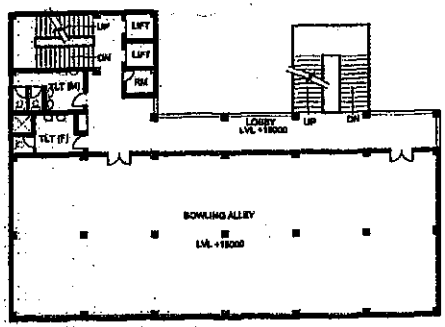
MULTI ACTIVITY CENTER AT IIT ROORKEE

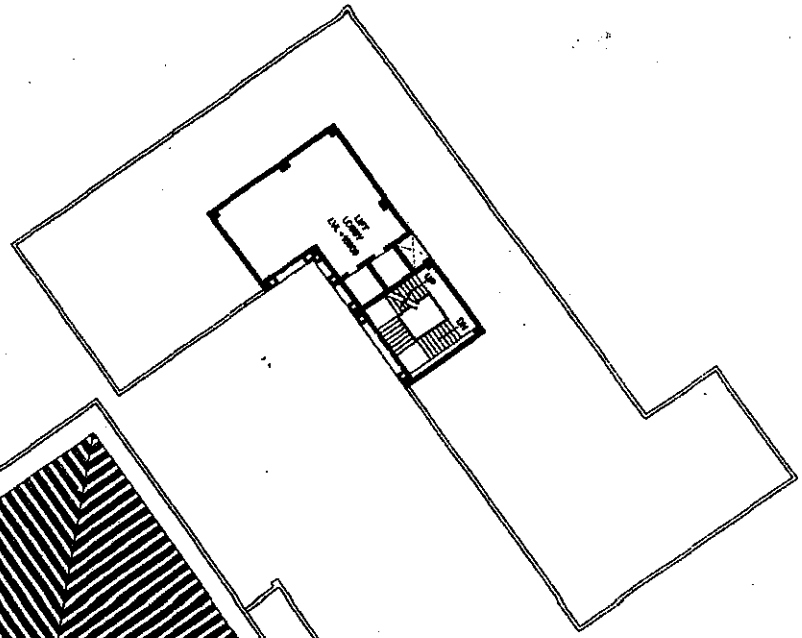
IMPLEMENTING AGENCY-

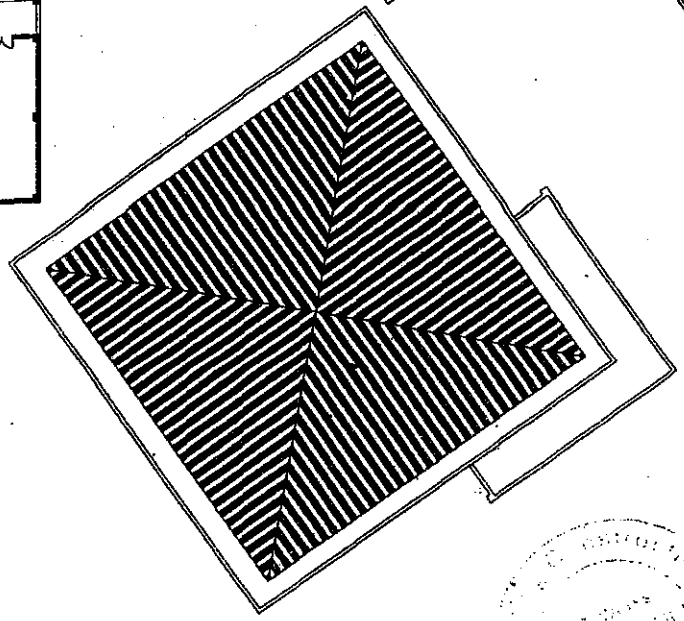
NBCC LTD

THIRD FLOOR PLAN	
DATE-14.01.2010	
SCALE-1:300	

N







MULTI ACTIVITY CENTER AT IIT ROORKEE

IMPLEMENTING AGENCY-

NBCC LTD

FOURTH FLOOR PLAN

DATE-14.01.2010

SCALE-1:300

N

MULTI ACTIVITY CENTRE AT IIT ROORKEE

ABSTRACT OF COSTS

S. No.	NAME OF SUB HEAD	AMOUNT	REFERENCE
I	AUDITORIUM	39,809,182.99	Annexure-1
II	STUDENT ACTIVITY	68,696,388.92	Annexure-2
III	PUBLIC AMENITY BUILDING	71,831,193.41	Annexure-3
IV	AMPHITHEATRE	2,792,275.20	Annexure-4
V	SERVICE BLOCK	1,190,663.53	Annexure-5
VI	DEVELOPMENT COST	11,060,763.35	Annexure-6
	TOTAL	195,380,467.41	
	ADD CONTINGENCIES @3%	*5,861,414.02*	*3%*
	TOTAL	*201,241,881.43*	
	ADD AGENCY CHARGES @10%	*20,124,188.14*	*10%*
	GRAND TOTAL	*221,366,069.57*	Say 22.13 Crores

National Building Construction Corp. Ltd. I.I.T. Works Roorkee - 247667 (U.K)

ANNEX-1

ESTIMATE FOR MULTI ACTIVITY CENTRE, IIT ROORKEE

S. No.	Item	Area in Sqm.	Rate (in Rs.)	Amount (in Rs.)	Reference
1.0	*CIVIL WORKS*				
1.1	*R.C.C.FRAMED STRUCTURE*				
1.1.1	Area (Height 3.35M)				
(ii)	Ground Floor	943.25			
	Total	943.25	13,200.00	12,450,900.00	PAR 2007/1.1.1
A	*Total*			***12,450,900.00***	
1.2	*EXTRA FOR:*				
1.2.1	Every 0.3 mt.additional height of floor above normal height floor of 3.35 mt./ 2.90 mts(4M over 3.35 M 4.0./0.3x150 = 2000) in Auditorium	545.75	2,000.00	1,091,500.00	PAR 2007/1.2.3
1.2.3	Resisting Earthquake forces	943.25	630.00	594,247.50	PAR 2007/1.2.8
1.2.4	R.C.C. Raft foundations (ground floor only)	943.25	3,560.00	3,357,970.00	PAR 2007/1.2.10
1.2.5	Larger modules over 35sq.m(80%)	754.60	990.00	747,054.00	PAR 2007/1.2.12
B	*Total*			***5,790,771.50***	
	TOTAL COST OF CIVIL WORKS AS PER PAR (A+B)			***18,241,671.50***	
1.3	*FIRE FIGHTING*				
1.3.1	With sprinkler system	943.25	450.00	***424,462.50***	PAR 2007/1.4.1
1.4	*FIRE ALARM SYSTEM*				
1.4.1	Automatic Fire Alarm System	943.25	300.00	***282,975.00***	PAR 2007/1.5.2
C	*Total*			***707,437.50***	
3.0	*SERVICES*				
3.1	*PLUMBING*				
3.1.1	Internal Water Supply and Sanitary Installations	4%of A	4%	498,036.00	PAR 2007/3.1
3.2.2	Internal Electrical Installation	12.5%of (A)	12.50%	1,556,362.50	PAR 2007/3.3
	Extra for				
3.2.4	Power Wiring and Plugs	4%of (A)	4%	498,036.00	PAR 2007/3.6.1
D	*Total*			***2,552,434.50***	
	TOTAL COST OF FIRE FIGHTING & PLUMBING WORKS AS PER PAR (C+D+F))			***3,259,872.00***	
I	TOTAL COST AS PER PAR			21,501,543.50	
Ia	ADD ESCALATION OVER CPWD PAR 2007	13.00%		2,795,200.66	
II	ACOUSTICAL TREATMENT	LS		1,828,525.00	ANNEXURE -A
III	SOUND RE-INFORCEMENT & VIDEO	LS		4,500,500.00	ANNEXURE -A
IV	STAGE LIGHTING SYSTEM	LS		1,152,100.00	ANNEXURE -A
V	STAGE FURNISHING SYSTEM	LS		1,396,450.00	ANNEXURE -A
	BUILDING COST OF AUDITORIUM		Rs	33,174,319.16	
	ADD FOR GREEN BUILDING PROVISIONS	20%		6,634,863.83	
	BUILDING COST OF AUDITORIUM		Rs	39,809,182.99	

ANNEX-II P 1/2

ESTIMATE FOR MULTI ACTIVITY CENTRE BASED ON CPWD P.A.R 2007					
STUDENT ACTIVITY CENTRE					
Sl. No.	Item	Area in Sqm.	Rate (In Rs.)	Amount (in Rs.)	Reference
1.0	*CIVIL WORKS*				
1.1	*R.C.C.FRAMED STRUCTURE*				
1.1.1	Area (Height 3.35M)				
(i)	**Ground Floor**	456.75			
(ii)	**First Floor**	456.75			
(iii)	**Second Floor**	456.75			
(iii)	**Third Floor**	456.75			
(iv)	**Fourth Floor**	456.75			
	Total	2,283.75	13,200.00	30,145,500.00	PAR 2007/1.1.1
A	*Total*			***30,145,500.00***	
1.2	*EXTRA FOR:*				
1.2.1	Every 0.3 mt.additional height of floor above normal height floor of 3.35 mt./ 2.90 mts(0.85 M over 3.35 M 0.85/0.3x150 = 425.00) in Ground Floor double height foyer	1,827.00	425.00	776,475.00	PAR 2007/1.2.3
1.2.2	Resisting Earthquake forces	2,283.75	630.00	1,438,762.50	PAR 2007/1.2.8
1.2.3	R.C.C. Raft foundations (ground floor only)	456.75	3,560.00	1,626,030.00	PAR 2007/1.2.9
1.2.9	Larger modules over 35sq.m(80%)	1,827.00	990.00	1,808,730.00	PAR 2007/1.2.12
B	*Total*			***5,649,997.50***	
	TOTAL COST OF CIVIL WORKS AS PER PAR (A+B)			***35,795,497.50***	
1.3	*FIRE FIGHTING*				
1.3.1	With sprinkler system	2,283.75	450.00	***1,027,687.50***	PAR 2007/1.4.1
1.4	*FIRE ALARM SYSTEM*				
1.4.1	Automatic Fire Alarm System	2,283.75	300.00	***685,125.00***	PAR 2007/1.5.2
C	*Total*			***1,712,812.50***	

Contd. P.2

ANNEX-II P2/2

3.0	***SERVICES***				
3.1	***PLUMBING***				
3.1.1	Internal Water Supply and Sanitary Installations	4%of A	4%	1,205,820.00	PAR 2007/3.1
3.2	***ELECTRICAL***				
3.2.1	External Service Connection	5% of (A)	5%	1,507,275.00	PAR 2007/3.2
3.2.2	Internal Electrical Installation	12.5%of (A)	12.50%	3,768,187.50	PAR 2007/3.3
	Extra for				
3.2.3	Power Wiring and Plugs	4%of (A)	4%	1,205,820.00	PAR 2007/3.6.1
3.2.4	*Lightening conductor* 5 to 8 storeyed Building	0.33% of (A)	0.33%	99,480.15	PAR 2007/3.6.3.2
3.2.5	Telephone Conduits	0.5% of (A)	0.50%	150,727.50	PAR 2007/3.6.4
D	***Total***			***7,937,310.15***	
4.0	***LIFTS***				
i)	13 passengers, 1M/sec - 2Nos.	2	1800000.00	3,600,000.00	PAR 2007/4.1.1
E	***Total***			***3,600,000.00***	
5.0	***WATER TANKS***				
5.1	Over Head tank without independent staging (capacity in Ltr)	20000	9.00	180,000.00	PAR 2007/5.1
5.2	Underground Sump (capacity in Ltr)	12000	9.00	108,000.00	PAR 2007/5.5
F	***Total***			***288,000.00***	
	TOTAL COST OF FIRE FIGHTING & PLUMBING WORKS AS PER PAR (C+D+F))			***9,938,122.65***	
I	TOTAL COST AS PER PAR			**49,333,620.15**	
Ia	ADD ESCALATION OVER CPWD PAR 2007	**13.00%**		**6,413,370.62**	
II	AIR-CONDITIONING INCLUDING ROOF INSULATION (20T)	20	75000.00	**1,500,000.00**	
	BUILDING COST OF STUDENT ACTIVITY CENTRE		**Rs**	**57,246,990.77**	
	ADD FOR GREEN BUILDING PROVISIONS	20%		**11,449,398.15**	
	TOTAL COST			**68,696,388.92**	

Annex - III

ESTIMATE FOR MULTI ACTIVITY CENTRE BASED ON CPWD P.A.R 2007					
PUBLIC AMENITY BUILDING					
Sl. No.	Item	Area in Sqm.	Rate (in Rs.)	Amount (in Rs.)	Reference
1.0	***CIVIL WORKS***				
1.1	***R.C.C. FRAMED STRUCTURE***				
1.1.1	Area (Height 3.35M)				
(i)	**Ground Floor**	709.55			
(ii)	**First Floor**	709.55			
(III)	**Second Floor**	709.55			
(III)	**Third Floor**	438.45			
	Total	2,567.10	13,200.00	33,885,720.00	PAR 2007/1.1.1
A	*Total*			***33,885,720.00***	
1.2	***EXTRA FOR:***				
1.2.1	Every 0.3 mt.additional height of floor above normal height floor of 3.35 mt./ 2.90 mts(0.15 M over 3.35 M 0.15/0.3x150 =75) in Ground Floor backstage	2,567.10	75.00	192,532.50	PAR 2007/1.2.3
1.2.2	Resisting Earthquake forces	2,567.10	630.00	1,617,273.00	PAR 2007/1.2.8
1.2.3	R.C.C. Raft foundations (ground floor only)	709.55	3,560.00	2,525,998.00	PAR 2007/1.2.9
1.2.4	Larger modules over 35sq.m(80%)	2,053.68	990.00	2,033,143.20	PAR 2007/1.2.12
B	*Total*			***6,368,946.70***	
	TOTAL COST OF CIVIL WORKS AS PER PAR (A+B)			***40,254,666.70***	
1.3	***FIRE FIGHTING***				
1.3.1	With wet riser system	2,567.10	300.00	***770,130.00***	PAR 2007/1.4.1
1.4	***FIRE ALARM SYSTEM***				
1.4.1	Automatic Fire Alarm System	2,567.10	300.00	***770,130.00***	PAR 2007/1.5.2
C	*Total*			***1,540,260.00***	
3.0	***SERVICES***				
3.1	***PLUMBING***				
3.1.1	Internal Water Supply and Sanitary Installations	4%of A	4%	1,355,428.80	PAR 2007/3.1
3.2	***ELECTRICAL***				
3.2.2	Internal Electrical Installation	12.5%of (A)	12.50%	4,235,715.00	PAR 2007/3.3
3.2.3	**Extra for** Power Wiring and Plugs	4%of (A)	4%	1,355,428.80	PAR 2007/3.6.1
3.2.4	*Lightening conductor* Upto 4 storeyed buildings	0.5% of (A)	0.50%	169,428.60	PAR 2007/3.6.3.
3.2.5	Telephone Conduits	0.5% of (A)	0.50%	169,428.60	PAR 2007/3.6.4

Contd P-2

Annex - III P 2/2

D	*Total*			*7,285,429.80*	
4.0	*LIFTS*				
i)	13 passengers, 1M/sec - 2Nos.	2	1800000.00	3,600,000.00	PAR 2007/4.1.1
E	*Total*			*3,600,000.00*	
5.0	*WATER TANKS*				
5.1	Over Head tank without independent staging (capacity in Ltr)	17500	9.00	157,500.00	PAR 2007/5.1
5.2	Underground Sump (capacity in Ltr)	15000	9.00	135,000.00	PAR 2007/5.5
F	*Total*			*292,500.00*	
	TOTAL COST OF FIRE FIGHTING & PLUMBING WORKS AS PER PAR (C+D+F))			***9,118,189.80***	
I	TOTAL COST AS PER PAR			**52,972,856.50**	
Ia	ADD ESCALATION OVER CPWD PAR 2007	**13.00%**		**6,886,471.35**	
	BUILDING COST OF PUBLIC AMENITY BUILDING		**Rs**	**59,859,327.85**	
	ADD FOR GREEN BUILDING PROVISIONS	20%		**11,971,865.57**	
	TOTAL COST			**71,831,193.41**	

Annex-4

ESTIMATE FOR MULTI-ACTIVITY CENTRE BASED ON CPWD P.A.R 2007					
AMPHITHEATRE					
Sl. No.	**Item**	**Area in Sqm.**	**Rate (in Rs.)**	**Amount (in Rs.)**	**Reference**
1.0	***CIVIL WORKS***				
1.1	***R.C.C.FRAMED STRUCTURE***				
1.1.1	Area (Height 3.35M)				
(i)	**Ground Floor**	312.00			
		312.00	6,600.00	2,059,200.00	PAR 2007/1.1.1 (Considered 50% of the PAR cost)
	Total				
A	***Total***			***2,059,200.00***	
	TOTAL COST OF CIVIL WORKS AS PER PAR (A)			***2,059,200.00***	
I	TOTAL COST AS PER PAR			**2,059,200.00**	
Ia	ADD ESCALATION OVER CPWD PAR 2007	**13.00%**		**267,696.00**	
	BUILDING COST OF AMPHITHEATRE		**Rs**	**2,326,896.00**	
	ADD FOR GREEN BUILDING PROVISIONS	20%		**465,379.20**	
	TOTAL COST			**2,792,275.20**	

Annex-5

ESTIMATE FOR MULTI-ACTIVITY CENTRE BASED ON CPWD P.A.R 2007

SERVICE BLOCK

Sl. No.	Item	Area in Sqm.	Rate (in Rs.)	Amount (in Rs.)	Reference
1.0	*CIVIL WORKS*				
1.1	*R.C.C.FRAMED STRUCTURE*				
1.1.1	Area (Height 3.35M)				
(i)	Ground Floor	105.55		696,630.00	PAR 2007/1.1.1 (Considered 50% of the PAR cost)
	Total	105.55	6,600.00		
A	*Total*			***696,630.00***	
1.2	*EXTRA FOR:*				
1.2.2	Resisting Earthquake forces	105.55	630.00	66,496.50	PAR 2007/1.2.8
B	*Total*			***66,496.50***	
	TOTAL COST OF CIVIL WORKS AS PER PAR (A+B)			***763,126.50***	
3.0	*SERVICES*				
3.1	*PLUMBING*				
3.1.1	Internal Water Supply and Sanitary Installations	4%of A	4%	27,865.20	PAR 2007/3.1
3.2	*ELECTRICAL*				
3.2.2	Internal Electrical Installation	12.5%of (A)	12.50%	87,078.75	PAR 2007/3.3
C				***114,943.95***	
	TOTAL COST OF FIRE FIGHTING & PLUMBING WORKS AS PER PAR (C+D)			***114,943.95***	
I	TOTAL COST AS PER PAR			**878,070.45**	
Ia	ADD ESCALATION OVER CPWD PAR 2007	**13.00%**		**114,149.16**	
	BUILDING COST OF SERVICE BLOCK		**Rs**	**992,219.61**	
	ADD FOR GREEN BUILDING PROVISIONS	20%		**198,443.92**	
	TOTAL COST			**1,190,663.53**	

ANNEXURE ■ 6

COST FOR DEVELOPMENT & MISCELLANEOUS WORKS

Sr. No.	ITEM	QTY.	RATE Rs.	AMOUNT Rs.	REFERENCE
A					
1	COST OF SITE DEV. AS PER CPWD PAR	10,200.00		5,371,116.00	
3	TUBEWELL (1 NO)	1.00	523,312.00	523,312.00	Annexure - 1
4	SEPTIC TANK	1.00		373,699.00	Annexure - 2
5	DG Set(250 KVA)	1.00	1,880,000.00	1,880,000.00	Annexure - 3
6	PUMPS & EQUIPMENTS			130,983.00	Annexure - 4
7	BOUNDARY WALL (475M)	475.00	4,725.65	2,244,682.35	Annexure - 5
8	GATE	2.00	25,882.00	51,764.00	Annexure - 6
9	RAINWATER HARVESTING (1 NOS)	1.00	485,207.00	485,207.00	Annexure - 7
	TOTAL			**11,060,763.35**	
*	ESCALATED BY 13%				

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Construction of Biotechnology Deptt./Other Centers -NBCC

Date of Start : 15.1.09
Date of Completion: 30.6.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1	Foundation upto Plinth level	Completed	-
2	R.C.C. frame work and Brick work G.F.	Completed	-
3.	R.C.C. frame work and Brick work Ist.F	Completed	-
4.	R.C.C. frame work and Brick work II.F	Completed	-
5.	R.C.C. frame work and Brick work III.F	Completed	-
6.	R.C.C. frame work and Brick work IV.F	Completed	-
7.	R.C.C. frame work and Brick work V.F	Completed	-
8.	Plastering	65%	80%
9.	Flooring	75%	80%
10.	Sanitary/Water Supply	30%	50%
11.	Electrification	60%	75%
12.	Finishing Work		10%

Appendix 'H'
Item No. 3.3.2010/6

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Construction of Rajeev Bhawan (650 Seats) NBCC

Date of Start : 15.11.08
Date of Completion: 30.6.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1	Foundation upto Plinth level	Completed	-
2	R.C.C. frame work and Brick work G.F.	Completed	-
3.	R.C.C. frame work and Brick work Ist.F	Completed	-
4.	R.C.C. frame work and Brick work II.F	Completed	-
5.	R.C.C. frame work and Brick work III.F	Completed	-
6.	R.C.C. frame work and Brick work IV.F	Completed	-
7.	R.C.C. frame work and Brick work V.F	Completed	-
8.	R.C.C. frame work and Brick work VI.F	Completed	-
9.	Plastering	90%	100%
10.	Flooring	90%	95%
11.	Sanitary/Water Supply	75%	75%
12.	Electrification	75%	75%
13.	Finishing Work	25%	30%

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

.Name of Work: Construction of Lecture Hall Complex - **NBCC**

Date of Start : 15.1.09
Date of Completion: 30.6.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1	Foundation upto Plinth level	Completed	-
2	R.C.C. frame work and Brick work G.F.	Completed	-
3.	R.C.C. frame work and Brick work Ist.F	Completed	-
4.	R.C.C. frame work and Brick work II.F	Completed	-
5.	R.C.C. frame work and Brick work III.F	Completed	-
6.	Plastering	90%	95%
7.	Flooring	90%	95%
8.	Sanitary/Water Supply	60%	75%
9.	Electrification	60%	75%
10.	Finishing Work	25%	30%

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

.Name of Work: Construction of Kasturba Bhawan (800 Seats)----NBCC

Date of Start : 1.3.09
Date of Completion: 31.7.10**(Target date-30.6.10)**

Sl. No.	Items	Works completed up to 1.2.10	Work completed upto 1.3.2010
1	Foundation upto Plinth level	Completed	–
2	R.C.C. frame work and Brick work G.F.	Completed	–
3.	R.C.C. frame work and Brick work Ist.F	Completed	–
4.	R.C.C. frame work and Brick work II.F	Completed	–
5.	R.C.C. frame work and Brick work III.F	Completed	–
6.	R.C.C. frame work and Brick work IV.F	Completed	–
7.	R.C.C. frame work and Brick work V.F	Completed	–
8.	R.C.C. frame work and Brick work VI.F	RCC 100% BW 80%	RCC 100% BW 100%
9.	Plastering	45%	60%
10.	Flooring	35%	50%
11.	Sanitary/Water Supply	35%	50%
12.	Electrification	30%	50%
13.	Finishing Work		

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Construction of Malviya Bhawan(Phase-II) at DPT Saharanpur. - **UPRNN**

Date of Start : 1.9.09
Date of Completion: 30.6.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1	Foundation upto Plinth level	Completed	-
2	R.C.C. frame work and Brick work G.F.	Completed	-
3.	R.C.C. frame work and Brick work F.F	Completed	-
4.	R.C.C. frame work and Brick work S.F	RCC 100% BW 50%	RCC 100% BW 100%
5.	R.C.C. frame work and Brick work T.F	RCC 75% BW 50%	RCC 100% BW 100%
6.	Plastering	50%	75%
7.	Flooring	50%	75%
8.	Sanitary/Water Supply		25%
9.	Electrification		25%
10.	Finishing Work		

INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Extension of Community Centre. - UPRNN

Date of Start : 1.10.09
Date of Completion: 30.4.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1.	R.C.C. frame work and Brick work F.F	Completed	-
2.	R.C.C. frame work and Brick work S.F	Completed	-
3.	Plastering	80%	100%
4	Flooring	50%	100%
5	Sanitary/Water Supply		50%
6.	Electrification		50%
7.	Finishing Work		25%

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

.Name of Work: Construction of M..S. 'A' Category Residences (54 Nos.) - **NBCC**

Date of Start : 11.3.09
Date of Completion: 30.9.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1	Foundation upto Plinth level	Completed	-
2	R.C.C. frame work and Brick work G.F.	Completed	-
3.	R.C.C. frame work and Brick work Ist.F	Completed	-
4.	R.C.C. frame work and Brick work II.F	Completed	-
5.	R.C.C. frame work and Brick work III.F	Completed	-
6.	R.C.C. frame work and Brick work IV.F	Completed	-
7.	R.C.C. frame work and Brick work V.F	RCC 100% BW 75%	RCC 100% BW 100%
8.	R.C.C. frame work and Brick work VI.F	RCC 50%	RCC 75% BW 50%
9.	Plastering	25%	50%
10.	Flooring	10%	50%
11.	Sanitary/Water Supply	10%	25%
12.	Electrification	35%	50%
13.	Finishing Work		

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Const. of '**B & C**' Category Residences Solani Kunj (64 Nos.) - UPRNN

Date of Start : 1.11.09
Date of Completion: 30.8.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1	Foundation upto Plinth level	Completed	-
2	R.C.C. frame work and Brick work G.F.	RCC 80% BW 50%	RCC 100% BW 75%
3.	R.C.C. frame work and Brick work F.F	RCC 80% BW 50%	RCC 100% BW 75%
4.	R.C.C. frame work and Brick work S.F	RCC 60%	RCC 70% BW 25%
5.	R.C.C. frame work and Brick work T.F	RCC 50%	RCC 60%
6.	Plastering		
7.	Flooring		
8.	Sanitary/Water Supply		
9.	Electrification		
10.	Finishing Work		

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Extension of G.P. Hostel (72 Suites). - **UPRNN**

Date of Start : 1.9.09
Date of Completion: 30.6.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1	Foundation upto Plinth level	Completed	-
2	R.C.C. frame work and Brick work G.F.	Completed	-
3.	R.C.C. frame work and Brick work F.F	Completed	-
4.	R.C.C. frame work and Brick work S.F	Completed	-
5.	R.C.C. frame work and Brick work T.F	RCC 80% BW 50%	RCC 100% BW 75%
6.	Plastering	40%	50%
7.	Flooring	40%	50%
8.	Sanitary/Water Supply		25%
9.	Electrification		25%
10.	Finishing Work		

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Const. of 'D' Category Residences Vikas Kunj (64 Nos.) - **UPRNN**

Date of Start : 1.9.09
Date of Completion: 30.6.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1	Foundation upto Plinth level	Completed	-
2	R.C.C. frame work and Brick work G.F.	Completed	-
3.	R.C.C. frame work and Brick work F.F	Completed	-
4.	R.C.C. frame work and Brick work S.F	RCC 100% BW 50%	RCC 100% BW 100%
5.	R.C.C. frame work and Brick work T.F	RCC 90% BW 50%	RCC 100% BW 75%
6.	Plastering	40%	50%
7.	Flooring		50%
8.	Sanitary/Water Supply		25%
9.	Electrification		25%
10.	Finishing Work		

ESTATE & WORKS

INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Extension of Met.& Mat. Engg./ Chemical Department. - **UPRNN**

Date of Start : 1.9.09
Date of Completion: 30.6.10

Sl. No.	**Items**	**Works completed up to 1.2.2010**	**Work completed upto 1.3.2010**
1.	R.C.C. frame work and Brick work S.F	RCC 100% BW 80%	RCC 100% BW 100%
2.	Plastering	50%	75%
3.	Flooring		25%
4	Sanitary/Water Supply		-
5	Electrification		25%
6.	Finishing Work		

INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Const. of Overhead Water Tank 500KL capacity at DPT Saharanpur - **UPRNN**

Date of Start : 1.9.09
Date of Completion: 30.6.10

Sl. No.	Items	Works completed up to 1.2.2010	Work completed upto 1.3.2010
1	Foundation	Completed	-
2	Staging	Completed	-
3.	Dome	Completed	-
4.	Water connection		100%

ESTATE & WORKS
INDIAN INSTITUTE OF TECHNOLOGY
ROORKEE
PROGRESS OF WORK AS ON 1.3.2010

Name of Work: Status of Barrier Free Access & Toilets for Physically Disabled Persons (Phase-I)

Date of Start : 1.2.2009
Date of Completion: 31.3.2011

Sl. No.	Items	Works completed up to 1.2.2010	Work completed up to 1.3.2010	In Progress
1	Barrier Free Access (Ramps) Target - 60	37	40	2
2	Toilets Target - 30	14	16	-