



IIT, MANDI

NIT
(ELECTRICAL)

NOTICE INVITING TENDER NO: -
IIT Mandi/SE-351/2012/4110-12

NAME OF WORK

**C/o TOILET BLOCKS FOR THE PROPOSED BOYS HOSTELS AT KAMAND
CAMPUS**

(SH:-PROVIDING ELECTRICAL INSTALLATIONS, GEYSERS AND FANS)

**Name of Work: C/o Toilet blocks for the proposed Boys hostels at Kamand Campus.
S.H. Providing E.I. Geysers & Fans.**

Name of Agency : -

Date of Application :-

Date of issue of Tender Documents :-

Cost of Tender : - Rs.500.00

Date of Opening :-

UNDERTAKING

It is undertaken that we have gone through all the clauses /sub-clauses & terms & conditions of the CPWD-6 & CPWD -8 forms. We abide by that & we understand that the same shall be part & parcel of the agreement.

Signature of Contractor

**Superintending Engineer
IIT Mandi**

CHECK LIST FOR CONTRACTORS FOR SUBMISSION OF TENDERS

TENDERERS TO ENSURE THAT:-

1. EARNEST MONEY TO BE PLACED IN A SEPARATE SEALED ENVELOPE AND TENDER IN A SEPARATE ENVELOPE BOTH ENVELOPES TO BE FURTHER PLACED IN A SINGLE SEALED ENVELOPE BEFORE SUBMISSION.
2. TENDER TO BE WITNESSED ON ALL PAGES OF TENDER DOCUMENTS.
3. THE TENDERS CONTAINING CONDITIONS CONTRARY TO THOSE SPECIFIED IN THIS DOCUMENT SHALL BE LIABLE TO BE SUMMARILY REJECTED AND IN SUCH A SITUATION THE EARNEST MONEY WILL ALSO BE LIABLE TO BE FORFEITED.
4. THE RATES MUST BE FILLED BOTH IN WORDS & FIGURES AND AMOUNT SHALL BE WORKED OUT.
5. THE CONTRACTOR SHALL QUOTE HIS RATES KEEPING IN MIND THE SPECIFICATIONS, TERMS AND CONDITIONS, ADDITIONAL/PARTICULAR AND SPECIAL CONDITIONS ETC. AND NOTHING SHALL BE PAYABLE EXTRA WHATSOEVER, UNLESS OTHERWISE SPECIFIED. TENDERER MAY NOTE THAT THE PRESENT CONTRACT SHALL BE FIXED PRICE CONTRACT AND NO ESCALATION WHATSOEVER UNDER CLAUSE 10C, CLAUSE 10 CA OR CLAUSE 10CC SHALL BE PAYABLE.

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Superintending Engineer

IIT, MANDI

Item rate tenders are invited on behalf of the BOG from CPWD/State PWD registered electrical contractor of appropriate class (tender to be issued only after production of valid registration documents for the under mentioned work :-

**NAME OF WORK: - C/o Toilet blocks for the proposed boys hostels at Kamand campus
(SH: Providing EI, Geysers & fans)**

The work is Estimated to cost **Rs. 2,40,425/-**

This estimate, however, is given merely as a rough guide.

1. Tenders will be issued to eligible contractors provided they produce definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-

Criteria of eligibility for issue of tender documents

- 1.2.1 **Conditions for Non-CPWD contractors only, if tenders are also open to non-CPWD contractors. For works estimated to cost up to Rs. 15 Crore.**

Three similar works each of value not less than 40% of estimated cost or two similar works each of value not less than 50% of estimated cost or one similar work of value not less than 80% of estimated cost (rounded to nearest Rs. 10 lac) in last 7 years ending last day of the month previous to the one in which the tenders are invited.

- 2 Agreement shall be drawn with the successful tenderer on prescribed CPWD Form No. 8. The provision included in the tender document shall prevail over the corresponding provision contained in standard CPWD form No. 8. Tenderer shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
- 3 The time allowed for carrying out the work will be **1 Month** immediately after the date of written orders to commence the work or from the 1st day of handing over the site whichever is later.
4. The site for the work will be made available in phases.
5. Last date of receipt of application for sale of Tender Document shall be 28.05.2012

Tender document consisting of plans, specification, the schedule of quantities of the various classes of work to be done and the set of terms and conditions of contract to be complied with by the contractor whose tender may be accepted and other necessary documents can be seen in the office of the **Superintending Engineer, IIT, Mandi** between hours of 11.00 A.M. & 04.00 P.M. every day except on Saturday, Sunday and Public Holidays up to **28.05.2012**. Tender documents excluding standard form, will be issued from the office of undersigned, during the hours specified above, on payment of **Rs. 500/-** in cash or in the form of DD drawn in favour of Registrar, IIT, Mandi payable at Mandi (non-refundable)

6. Tenders, which should always be placed in sealed envelope, with the name of work and due date written on the envelopes, will be received by the **Superintending Engineer, IIT, Mandi** up to 3.00 P.M. on **01.06.2012** and will be opened by him or his authorized representative in his office on the same day at 3.30 P.M.
7. The application for tender shall be accompanied by earnest money of **Rs. 4810/- (Rs. Four Thousand Eight Hundred Ten)** in receipt of deposit at call receipt of a scheduled bank / F.D.R. of a Schedule bank / Demand Draft of a Scheduled bank issued in favour of **Registrar, IIT, Mandi**.
- 8 (i) The contractor shall be required to deposit an amount equal to **5% of the tendered/awarded value** of the work as **performance guarantee** in the form of an irrevocable bank guarantee bond of any scheduled bank or State Bank of India in accordance with the form prescribed or in cash or in the form of Govt. security, fixed deposit receipt, Demand draft etc., as in the case of recovery of security deposit within prescribed number of days of the issue of letter of acceptance. This period can be further extended by the Engineer-in-charge up to a maximum period of prescribed number of days on written request of the contractor.
- (ii) **Security Deposit:-** In addition to performance guarantee stated above, security shall be deducted in accordance to CPWD clause 1-a. The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit Government at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% of the gross amount of each running bill till the sum along with the sum already deposited as earnest money, will amount to security deposit of 5% of the tendered value of the work. Such deductions will be made and held by Government by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in cash or in the form of Government Security or fixed deposit receipts. The security deposit in excess of 1% of tendered value of the work can be in the form of Guarantee Bonds of any scheduled bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the Contractor to the Government as part of security deposit and Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the Contractor and the contractor shall forth with on demand furnish additional security to the Government to make good the deficit.

No taxes such as Central State Tax, Contract Tax, and Excise Duty etc. shall be separately paid by the department. The rates tendered should be inclusive of all taxes and Octroi etc. deduction of contract tax at source shall be made while releasing payments through running account bill / final bill @ as applicable at that time. A certificate specifying the rate and amount of deduction shall however be issued. No form D, 31/32 (Road permit) shall be issued by the department. The road permit shall be arranged by the tenderer on his own.

The tender document is confidential & must be strictly confined to the contractor's own use and to the purpose of the contract. The contractor shall not communicate information / derived information to any person other than a person to whom he is authorized. The contractor shall take all necessary steps to ensure the same keeping in view that Indian Official Secret Act 1923

applies to him. He shall return the blank tender document if he does not participate in the tendering process on the date of opening of tender clearly specifying on top of the envelope.

9 The description of the work is as follows:-

NAME OF WORK:-

C/o Toilet blocks for the proposed boys hostels at Kamand campus

(SH: Providing EI, Geysers & fans)

Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools and plants, water, electricity, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local condition and other factors having a bearing on the execution of the work.

10 The competent authority on behalf of BOG does not bind himself to accept the lowest or any other tender, and reserves to himself the authority to reject any or all of the tenders received without the assignment of any reason. All tenders, in which any of the prescribed condition is not fulfilled or the tenderer puts any condition including that of conditional rebate forth, shall be summarily rejected, however tenders with un-conditional rebate shall be acceptable.

11. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.

12. The competent authority on behalf of BOG reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.

13. The contractor shall not be permitted to tender for works in the IIT, Mandi (responsible for award and execution of contracts) in which his near relative is posted as Financial Officer or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the IIT. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of IIT, Mandi as well as for future Works of IIT, Mandi.

14. No Engineer of Gazetted rank or other Gazetted officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of two years after his retirement from Government service, without the previous permission of the Govt. of India in writing. This contract is liable to be

cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Govt. of India as aforesaid before submission of the tender or engagement in the contractor's service.

15. The tender for the works shall remain open for acceptance for a period of **Ninety (90) DAYS** from the date of opening of financial bid. If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier or makes any modifications in the terms and conditions of the tender which are not acceptable to the department, then the IIT shall, without prejudice to any other right or remedy, be at a liberty to forfeit 50% of the said Earnest Money as aforesaid
16. This Notice Inviting Tender shall form a part of the contract document. The successful tenderer/contractor, on acceptance of his tender by the accepting authority, shall, immediately from the stipulated date of start of the work sign the different component part of the contract consisting of:-
 - a) The notice inviting tender, all the documents including additional conditions, specifications and drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
 - b) Standard C.P.W.D. Form 8 as per "General conditions of contract for CPWD works-2005 with up to date amendments".
17. The contractor should quote the rate of each item very carefully. If he does not quote his rate for any item, leaving the space blank, whatsoever, it will be presumed that he has quoted for this item at Zero rates and the tender will be evaluated accordingly.
18. The tender document is confidential & must be strictly confined to the contractor's own use and to the purpose of the contract. The contractor shall not communicate information / derived information to any person other than a person to whom he is authorized. The contractor shall take all necessary steps to ensure the same keeping in view that Indian Official Secret Act 1923 applies to him. He shall return the blank tender document if he does not participate in the tendering process on the date of opening of tender clearly specifying on top of the envelope.

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Superintending Engineer

SCHEDULES FOR ELECTRICAL WORKS

SCHEDULE 'A'

Schedule of quantities (Enclosed) As per sheets attached (Page No. 17 to 18)

SCHEDULE 'B'

Schedule of materials to be issued to the contractor N.A.

SCHEDULE 'C'

Tools and plants to be hired to the contractor

S.NO.	DESCRIPTION.	HIRE CHARGES PER DAY	PLACE OF ISSUE
		NIL	

SCHEDULE 'D'

Extra schedule for specific requirements/ documents for the work, if any.

General Conditions

Special Conditions

List of preferred makes

SCHEDULE 'E'

-----NIL-----

CLAUSE 10 C:	Not applicable
CLAUSE 10 CA :	Not applicable
CLAUSE 10 CC:	Not applicable

SCHEDULE 'F':-

Reference to General Conditions of Contract.

**Name of Work: - C/o Toilet blocks for the proposed boys hostels at Kamand campus
(SH: Providing EI, Geysers & fans)**

Estimated cost of work: -	Rs 240425/-
Earnest money:-	Rs. 4810/-
Security Deposit	5% of awarded amount
Performance Guarantee	5% of awarded amount

General Rules & Directions:-

Officer Inviting Tender: - Superintending Engineer, IIT, Mandi

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with clauses 12.2 & 12.3 -See Below-

Definitions:-

2(i)	Engineer-In-Charge	Superintending Engineer, IIT, Mandi
2(vii)	Accepting Authority	Superintending Engineer, IIT, Mandi
2(x)	Percentage on cost of materials and labour to cover all overheads and profits	15%
2(xi)	Standard Schedule of Rates	DSR-2012 (Internal), 1995(External) amended up to date.

Clause-16:-

Competent Authority for deciding reduced rates.

Superintending Engineer, IIT, Mandi or his successor(s)

Clause-36 i) Minimum Qualification & experience and numbers required for Principal Technical Representative and his Technical subordinates.

		For Execution and billing: -		
a)	Site Engineer	1 Nos. Graduate Electrical Engineers / Diploma Electrical Engineer	:	Minimum 5 years for diploma holders

ii) Recovery to be effected from the Contractor in the event of not Fulfilling provision of clause 36(i)

a) Rs. 10,000/- p.m. for Graduate Engineer / Diploma Engineer (5 Yrs. experience)

Clause-42: -

- | | |
|--|----|
| i)a) Schedule / Statement for determining theoretical quantity of cement & bitumen | NA |
| ii) Variations permissible on theoretical quantities. | NA |
| a) Cement for works | NA |
| b) Steel Reinforcement and structure steel sections for each diameter, section and category. | NA |
| c) All other materials. | NA |
| d) Bitumen for all work. | NA |

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Superintending Engineer

ADDITIONAL SPECIFICATIONS & CONDITIONS

(Internal E.I. & Fans)

1. The work shall be carried as per CPWD general specification for electrical works 1994 (Internal) & 1995, Part - II (External) as amended up to date and in accordance to the Indian Electricity Rules 1936 and Indian Electricity Act 1910 as amended up to date i/c as per instructions and satisfaction of the Engineer-in-charge.
2. Priority to arrange the material rests with the department. Material required for the work shall be brought at site only at the appropriate time keeping in view of the progress of building works as well as Electrical & Mechanical works. Decision of Engineer-in -charge in this regard shall be final.
3. All materials to be used on the work shall be got approved from the Engineer-in-charge before installation at site and the rejected material is to be removed from the site immediately.
4. The Drawing attached with this tender document may vary as per site condition during actual execution. The work shall be carried out according to drawings / details which shall be subsequently issued to the successful tenderer for execution of work and as per instruction of the Engineer-in-charge who will have the right to change the layout as per requirement at site and the contractor shall not have any claim due to change in layout.
5. All damages done to the building during the execution of Electrical work shall be the responsibility of the electrical contractor and the same will be made good immediately at his own cost to the satisfaction of the Engineer-in-charge. Any expenditure incurred by the department in this condition shall be recovered at the panel rate from the contractor and decision of the Engineer-in-charge about recovery shall be final.
6. Bad work-man-ship will not be acceptable and defects shall be rectified at contractor's cost to the satisfaction of the Engineer-in-charge. The progress of electrical works is to be coordinated with the building works and the department will not entertain any claim for idle labour. In case Civil works are completed earlier than time stipulated in the tender, electrical works shall have to be completed within 30 days of the date of completion of civil works

7. All the debris of the electrical works shall be removed and the contractor should clear site immediately.
8. Stipulated material shall be issued according to the requirement at site from time to time depending upon the progress of work.
9. Cement for the work is to be arranged by the contractor & nothing extra shall be paid by department on this account.
10. Earthing and all hidden items of work shall be invariably done in the presence of Engineer-in-charge or his authorized representative.
11. The contractor has to intimate his authorized representative, who will be receiving materials and instructions in his absence. The contractor /his authorized representative is bound to sign the site order book as and when required by the Engineer-in-charge and to comply with the instructions therein.
12. The contractor shall make his own arrangement at his own cost for electrical general tools and plants required for the work.
13. Materials otherwise not specified in the ATTACHED LIST OF APPROVED MAKES FOR ELECTRICAL MATERIALS shall be got approved from Engineer-in-charge before use on work. Decision of Engineer-in-charge shall be final in respect.
15. Back plates suitable providing for fixing the wall brackets and ceiling flush fittings shall be supplied by the contractor free of cost. Wooden back plate shall not be less than 10 mm thick with finished edges as to suit the back plate of the fittings.
16. The switch boxes for accomodating regulators of fans shall have minimum depth of 75 mm and will be of adequate size to suit conventional fan regulators
17. The entire installations shall be at the risk and responsibility of the contractor until these are tested and handed over to the department. However if there is any delay in construction from the department side, the installations may be taken over in parts but the decision on the same shall rest with Engineer-in-charge which shall be a binding on the contractor.
18. The contractor shall use electrically operated "chase cutters" for cutting chases to lay/ fix conduits and other electrical fixtures / accessories in the wall. Nothing extra shall be paid for the same.
19. The copper conductor insulated cables of sizes above 1.5 sq.mm Shall be stranded and terminals provided with crimped lugs. Nothing extra shall be paid on this account.
20. To facilitate drawing of wires 16/18 SWG GI fish wire be provided along with laying of recessed conduit for which no payment shall be made.

21. Wiring shall be done only by the looping system. Phase/live conductors shall be looped at the switch box. For point wiring, neutral wire/earth wire looping for the 1st point shall be done in the switch box; and neutral/earth looping of subsequent points will be made from point outlets.
22. In wiring, no joints in wiring will be permitted anywhere, except in switch box or point outlets, where jointing of wires will be allowed with use of suitable connector.
23. The wiring throughout the installation shall be such that there is no break in the neutral wire except in the form of linked switchgear.
24. Colour coding:-
Following colour coding shall be followed in wiring:-
- | | |
|----------|--------------------------------------|
| Phase: | Red/Yellow/Blue.(Three phase wiring) |
| Live: | Red (Single phase wiring) |
| Neutral: | Black |
| Earth: | Green. |
25. Termination of circuit into switchboard:-
Circuit will consist of phase/neutral/earth wire. Circuit will terminate in a switch board (first tapping point, where from point wiring starts) in following manner:-
Phase wire terminated in phase connector.
Neutral wire terminated in neutral connector.
Earth wire terminated in earth connector.
The switchboard will have phase neutral and earth terminal connector blocks to receive phase/ neutral/earth wire.

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Superintending Engineer

ADDITIONAL SPECIFICATION FOR PVC INSULATED COPPER COND. WIRING IN RECESSED RIGID PVC CONDUIT

- The PVC conduit shall comply with IS-9537 Part-3 and shall be ISI marked
- Accessories, to be used for PVC conduit in system, shall be of the same make as the PVC conduit.
- All accessories shall be solid grip type and be properly sealed with super adhesive tape or solvent before recessing.
- All joints shall be sealed / cemented with approved solvent / cement.
- Conduit pipe shall be fixed by suitable heavy gauge staples or non-metallic saddles or shall be fixed by any other approved means of fixing.
- Protective conductor of larger size which may not be possible to be carried out inside of the conduit may be laid external to the conduits with clamped thereto suitably.
- Metallic switch boxes with earth stud (Spot welded or riveted) is allowed to be used for the work.
- All bends in the system may preferably be formed by bending the pipes by approved method of heating.
- As far as possible fan box shall not be used as junction box for other points in the same circuits.
- The PVC pipe shall be of cream or white colour.
- The tenderer shall provide test certificate from the manufacturer for PVC pipe and its accessories and shall have to be got inspected and approved by engineer in charge before start of work at site.

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Superintending Engineer

Name of work: - C/o Toilet blocks for the proposed boys hostels at Kamand campus
(SH: Providing EI, Geysers & fans)

List of Approved Make of Electrical Material to be used

- | | |
|---|---|
| 1. Switch, Socket, Ceiling rose,
Bracket/ Batten holder
duly ISI Marked | Anchor, Leader, SSK, CPL, Plaza |
| 2. PVC insulated Copper
Conductor Cable
duly ISI marked | Grandley, Plaza, Kalinga, Poly Cab Havells |
| 3. Prewired MCB DB & MCB's | Legrand, GE, Siemens, Schneider, Action, L&T. |
| 4. PVC Conduit Duly ISI marked. | Plaza, AKG, BEC |
| 5. Accessories of PVC Conduit | Plaza, AKG, BEC |
| 6. Energy Meter | Havells, L & T., A.E |
| 7. MCCB
break | Merlin Gerin, ABB, Siemens , GE, L&T, Action having double
arrangement |
| 8. Feeder Pillar & Energy Meter Board | Shall be manufactured by Trikolite, ASPL, Adlec |
| 9. CFL Fitting | Decon, Philips, Crompton Greaves, Bajaj, Havells. |
| 10. G.I. Pipe for earthing and Laying | Jindal (Hissar), Tata |
| 11. Street Light Fitting | Crompton Greaves, Philips, Bajaj, Shakti, Havells, |
| 12. Power factor improvement | Siemens, Crompton Greaves, L & T capacitor panel |
| 13. All other materials. | Make and sample to be approved by Engineer-in-charge. |

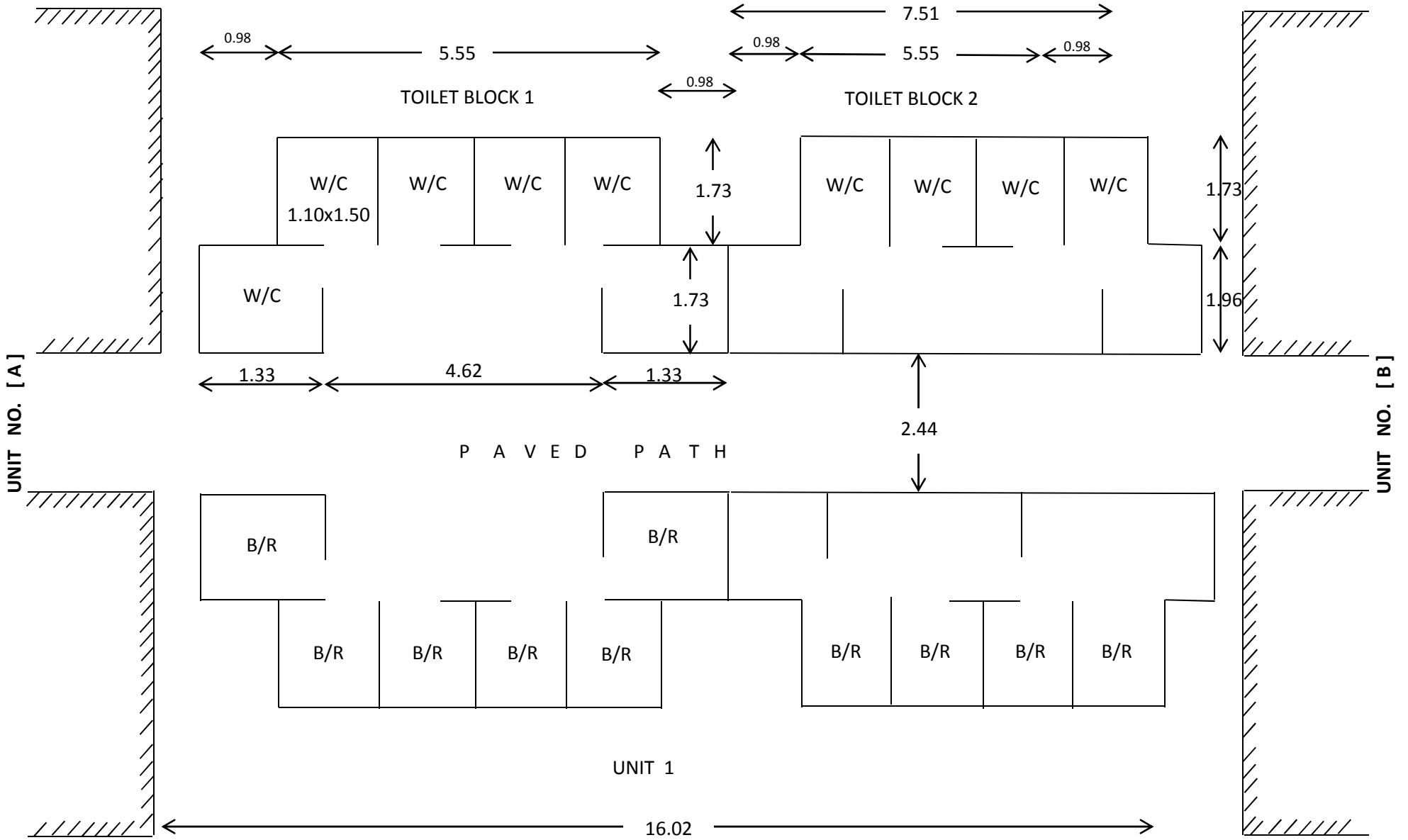
Note: -

Material to be procured only with prior approval of Engineer-in-charge. However, Contractor can use any one of the approved make as specified above, unless for specific reason Engineer-in-charge decided on a particular make.

To ensure genuineness of material the contractor will order only on manufacture or authorized dealer and the Engineer-in-charge will receive material after verifying the delivery challan of the supplier and after satisfying the genuineness of material.

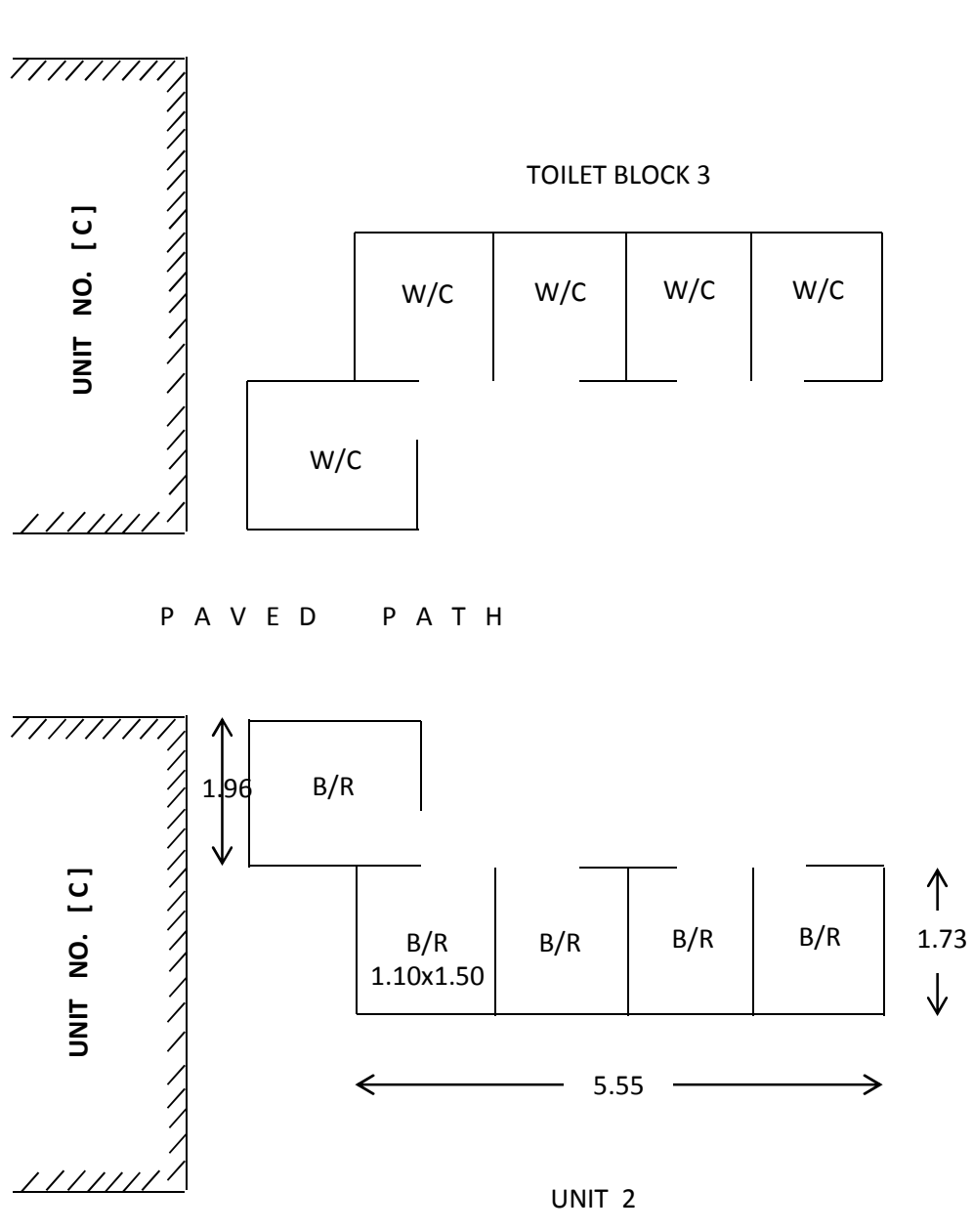
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Superintending Engineer

PROPOSED TOILET BLOCKS AT KAMAND CAMPUS



Note : All the dimensions are in meters.

PROPOSED TOILET BLOCKS AT KAMAND CAMPUS



Note : All the dimensions are in meters.

SCHEDULE OF QUANTITY

*Name Of Work:- Estimate for Construction of Toilet Blocks for the Proposed Boys Hostels At Kamand Campus
S.H. :- Providing EI, Geysers & Fans*

Sr. No.	Description	Qty.	Unit	Rate (In Rs)		Amount (In Rs)
				In Figures	In Words	
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FR PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with piano type switch, phenolic laminated sheet, suitable size M.S. box and earthing the point with 1.5 sq.mm. FR PVC insulated copper conductor single core cable etc as required. Group 'A'.	56	Each			
2	Wiring for light/ power plug with 2X4 sq. mm FR PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit along with 1 No 4 sq. mm FR PVC insulated copper conductor single core cable for loop earthing as required.	50	Meter			
3	Wiring for light/ power plug with 4X4 sq. mm FR PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit along with 2 Nos 4 sq. mm FR PVC insulated copper conductor single core cable for loop earthing as required.	64	Meter			
4	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required, 2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire.	120	Meter			
5	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required, 2 X 10 sq. mm + 1 X 10 sq. mm earth wire.	50	Meter			
6	Supplying and fixing metal box of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc as required. 180 mm X 100 mm X 60 mm deep.	4	Each			
7	Supplying and fixing metal box of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc as required. 200 mm X 150 mm X 60 mm deep.	6	Each			
8	Supplying and fixing metal box of 180mm X 100mm X 60mm deep (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including providing and fixing 6 pin 5/6 & 15/16 amps socket outlet and 15/16 amps piano type switch, connection, painting etc. as required.	17	Each			
9	Supplying and fixing brass batten/ angle holder including connection etc. as required.	34	Each			
10	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator), 2 + 4 way, Double door.	1	Each			
11	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator), 2 + 12 way, Double door.	3	Each			

12	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.	26	Each			
13	Supplying and fixing following rating, double pole, 240 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required. 63 Amp.	3	Each			
14	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required. 63 Amp.	1	Each			
15	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	1	Each			
16	Providing and laying earth connection from earth electrode with 6 SWG dia G.I. Wire in 15 mm dia G.I. pipe from earth electrode including connection with G.I. thimble excavation and re-filling as required.	15	Meter			
17	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	5	Meter			
18	Supplying, Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent fitting of all types, with all accessories and tube etc. directly on ceiling/ wall, including connection with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable and earthing etc. as required. 1X28 Watt tube light.	22	Each			
19	Supplying, Installation, testing & commissioning of geyser (25 Ltr.) , including making good the damage, connection, testing, commissioning etc. as required.	17	Each			
20	Supply of CFL 11 Watt.	46	Each			
Grand Total						

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Superintending Engineer
IIT Mandi