



Bapatla Engineering College :: Bapatla

(Autonomous)

Sustainable Institutions of India (SII)

GREEN RANKINGS2023

5.1.1. Energy Conservation-

Energy installed details with proofs

SOLAR ENERGY

Administrative Block



Total Capacity	: 100 kW _p
Make & Type of Solar Panels	: ORB Energy, Multi-Crystalline
Number of Solar Panels	: 308 No.s (20 Strings = 04 No.s & 19 Strings = 12 No.s)
Rating of Solar Panel	: 325 W _p
Number of Solar Inverters	: 02 No.s
Make & Rating of Solar Inverters	: SMA 50 KVA Civil Mechanical Block

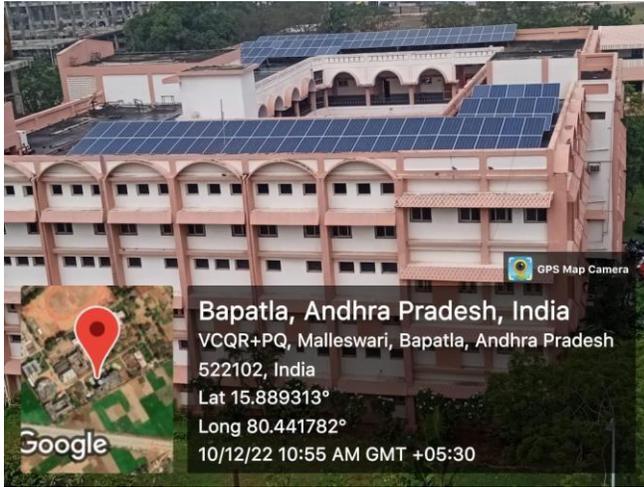


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Total Capacity	: 50 kW _p
Make & Type of Solar Panels	: ORB Energy, Multi-Crystalline
Number of Solar Panels	: 156 No.s (20 Strings = 04 No.s & 19 Strings = 04No.s)
Rating of Solar Panel	: 325 W _p
Number of Solar Inverters	: 01 No.
Make & Rating of Solar Inverters	: SMA 50 KVA



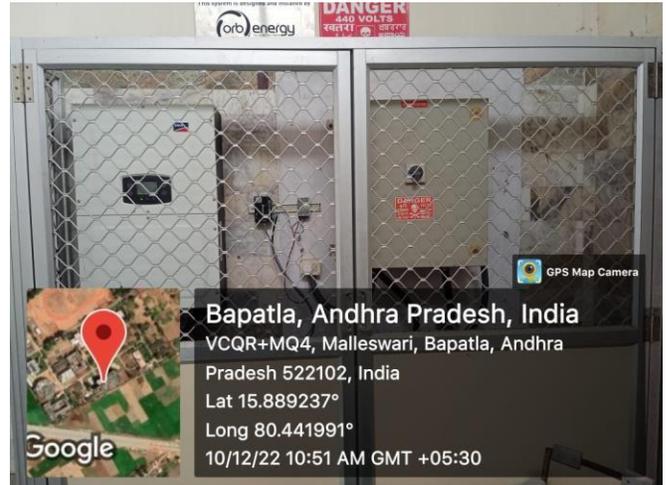
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General Engineering Block



Total Capacity : 50 kW_p
Make & Type of Solar Panels : ORB Energy, Multi-Crystalline
Number of Solar Panels : 152 No.s (19 Strings = 08No.s)



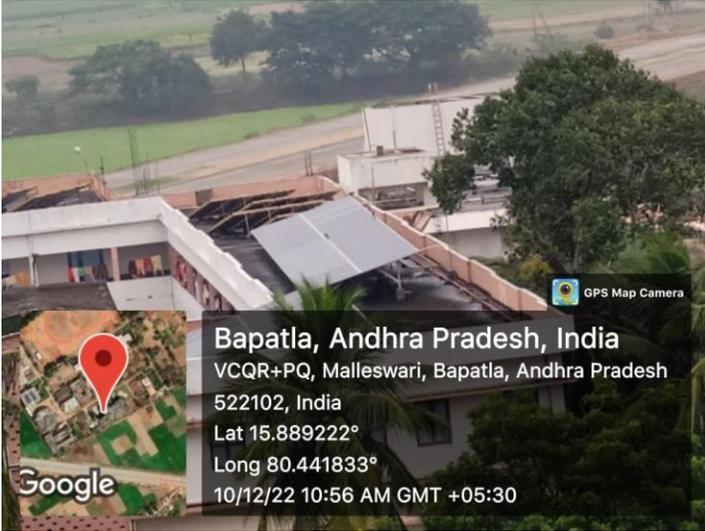
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Ladies Hostel Block



Total Capacity	: 50 kW _p
Make & Type of Solar Panels	: ORB Energy, Multi-Crystalline
Number of Solar Panels	: 156 No.s (20 Strings = 04 No.s & 19 Strings = 04No.s)
Rating of Solar Panel	: 325 W _p
Number of Solar Inverters	: 01 No.
Make & Rating of Solar Inverters	: SMA 50 KVA



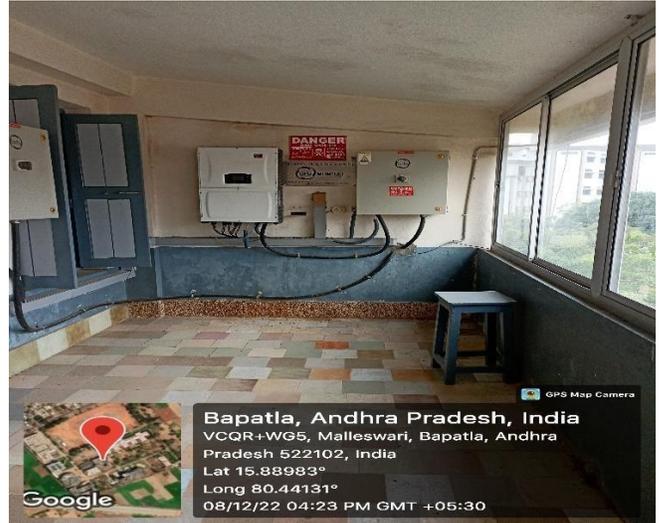
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Main Building



Total Capacity	: 100 kW _p
Make & Type of Solar Panels	: ORB Energy, Multi-Crystalline
Number of Solar Panels	: 308 No.s (20 Strings = 04 No.s & 19 Strings = 12 No.s)
Rating of Solar Panel	: 325 W _p
Number of Solar Inverters	: 02 No.s
Make & Rating of Solar Inverters	: SMA 50 KVA




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Research Park



Total Capacity	: 50 kW _p
Make & Type of Solar Panels	: ORB Energy, Multi-Crystalline
Number of Solar Panels	: 152 No.s (19 Strings = 08No.s)
Rating of Solar Panel	: 325 W _p
Number of Solar Inverters	: 01 No.
Make & Rating of Solar Inverters	: SMA 50 KVA



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SOLAR ENERGY

400kwp Solar roof top feasibility report from APSPDCL, Sanction letter from NREDCAP and Purchase order with installation layout details

CIRGNT-TECH/010/002/0009/2018-AE-TECH-CO-GNT

SOUTHERN POWER DISTRIBUTION COMPANY OF A.P LIMITED

E- 50856

OPERATION CIRCLE :: GUNTUR

From

Superintending Engineer,
Operation Circle,
APSPDCL, Vidyuth Bhavan,
GUNTUR.

To

The Principal,
Bapatla Engineering College,
Mahatmajipuram,
BAPATLA.

Lr.No.SE/O/GNT/DE.T/ADE.C/AE.T/F.Solar Roof Top/D.No. 499 /18, Dt: 24 - 03 -2018.

Sir,

Sub: - Electricity – Operation Circle – Guntur – Installation of 400 KWP Solar roof top SPV generator to HT Service No. GNT- 587 of The Principal, Bapatla Engineering College, Mahatmajipuram (V), BAPATLA. – Technical Feasibility – Issued – Regarding.

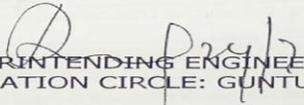
Ref:- Lr.No. DE/OPN/BPTL/AE.Comml./F.Doc/D.No. 560/18, Dt: 23-03-2018.

With reference to the proposal received under reference cited, the Technical Feasibility for installation of SPV generator for 400 KWP on your roof top proposed at The Principal, Bapatla Engineering College, Mahatmajipuram (V), BAPATLA is inspected and found feasible.

You are further requested to approach the Divisional Electrical Engineer /Operation/ Bapatla with relevant documents (Meter, SPV modules, Grid Tie Invertor, Protective System) after completion of installation of SPV generator and obtaining CEIG approval, for further processing.

Encl:- Technical Feasibility Format.

Yours faithfully,


SUPERINTENDING ENGINEER
OPERATION CIRCLE: GUNTUR

Copy to

The Divisional Electrical Engineer/Operation/ Bapatla.

The Asst. Divisional Engineer/Operation/ Bapatla.

Copy to the District Manager, NREDCAP, Chandramouli Apartment, Kannavari Thota, Medical College Road, Guntur.

Copy submitted to Chief Engineer/Zone/Vijayawada for favour of information please.

E:\2017-18\Solar\Solar Roof Top NET Meter.docx

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TECHNICAL FEASIBILITY FORMAT FOR THE SOLAR ROOF TOP SPV UNIT		
A	Name of the Applicant	THE PRINCIPAL, BAPATALA ENGINEERING COLLEGE GNT-587
1	Service No	HT-Cat-II
2	Category	MAHATMAJIPURAM
3	Distribution	HT Service
4	Pole Number	Bapatla Rural
5	Section	BAPATALA ENGINEERING COLLEGE, MAHATMAJIPURAM (V), BAPATLA.
6	Address	9550666432
7	Mobile No: Aadhaar No:	
B	Distribution Transformer Details	
1	Name of the Sub-Station	33/11 KV Bapatla-II S.S
2	DTR Capacity in KVA	630 KVA
3	Voltage Ratio	11KV / 433 V
4	Total Connected load on the DTR (in KVA)	500 KVA
5	Addl. Loads Sanctioned so far (in KVA)	NIL
6	Already Poposed loads (in KVA)	NIL
7	Total Load on DTR $X=4+5+6$ (in KVA)	500 KVA
8	SPV Generators already connected Capacity (in KW)	0
9	Proposed SPV Generators Capacity (in KW)	400 KWP
10	Total Generation Capacity $Y=8+9$ (in KW)	400 KWP
11	Difference between load and generation Capacity $Z=X-Y$	$500 - 400 = 100$ KWP
12	Whether the transformer Capacity is adequate to cater the proposed generator in Addition to the existing loads and generators capacity with SPDCL and to her sources (if any)	Adequate
C	Feeder Details	
1	Name of the 11 KV Feeder	11KV D.K Palem Feeder
2	Name of 33/11 S.S from which 11 KV feeder is emanating	33/11 KV Bapatla-II S.S
3	Type and size of the conductor	AAAC & 55 sq mm
4	Current Carrying Capacity of the feeder	150 Amps.
5	Total Connected DTR capacity on this 11 KV feeder (KVA)	1500 KVA
6	SPV Generators connected on this feeder, if any and their capacity	--
7	Maximum load reached on the feeder in Amps & KVA	35 Amps
8	Remarks	
D	Whether technically feasible to export the power from proposed SPV Generator (Yes or No)	YES



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NEW & RENEWABLE ENERGY DEVELOPMENT CORPORATION OF A.P. Ltd
(A State Government Company – ISO 9001:2015 Certified)

Regd. Office : # 12-464/5/1, River Oaks Apartment, CSR Kalyana Mandapam Road,
Tadepalli, Guntur District, Andhra Pradesh – 522 501, India.

E-mail, info@nredcap.in



Ref: NREDCAP/OSD/GCRT/ Edu.Inst/ 61A/2018/184

Dt.18.04.2018

To

M/s.Bapatla Engineering College,
C/o.Bapatla Education Society, Mahatmajipuram,
Bapatla, Guntur – 522102, Mob:9866157779.

Sir,

Sub: Installation of **400 KWp** Grid connected SPV Power Plants at **M/s.Bapatla Engineering College, C/o.Bapatla Education Society, Mahatmajipuram, Bapatla, Guntur - Reg.**

Ref: 1) MNRE in principal sanction letter no. 03/73/2015-16/GCRT Dt.1.12.2015
2) Your proposal dated: 03.04.2018.

& & &

We invite your attention to your proposal submitted vide reference 2nd cited for installation of **400 KWp** grid connected Solar roof top system at **M/s.Bapatla Engineering College, C/o.Bapatla Education Society, Mahatmajipuram, Bapatla, Guntur**. Taking into consideration the in principle sanction communicated by MNRE vide reference 1st cited, in principle sanction is hereby accorded for taking up installation of **400 KWp** grid connected solar roof top system as per the terms and conditions detailed below:

1. The system shall installed as per minimum technical requirements / standards for SPV systems / plants given in sanction no.30/11/2012-13/NSM dt.26.6.2014 in vogue and amended time to time.(Refer to MNRE website: www.mnre.gov.in)
2. The installation shall be taken up through **NREDCAP empanelled suppliers only as per the finalised rate contract rates.**
3. Only indigenously manufactured PV modules will be used in the project.
4. The consent letter from respective DISCOM indicating their willingness / consent for installation of grid connected solar roof top system shall be submitted.
5. **The eligibility of Central Financial Assistance (CFA) shall be as per the guidelines of Ministry of New and Renewable Energy (MNRE) in vogue and amended time to time.**



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6. The settlement of the project capacity installed would be done on the basis of prevailing MNRE benchmark cost or the tender cost, whichever is lower. For capacity installed after 31.03.2018 the CFA will be calculated on the basis of new benchmark cost issued by MNRE for the year 2018-19, if any, or the tender cost, whichever is lower.
7. The installation of the system shall be completed and commissioned on or before 31.05.2018.
8. Proper metering arrangement may be incorporated so that the generation data from the proposed SPV power plants will be available.
9. The release of CFA is subject to sanction and release of funds by MNRE and submission of all relevant documents.
10. After completion and commissioning of the project the following documents shall be submitted in duplicate for considering release of CFA.
 1. Copy of work order
 2. Copy of Invoice
 3. Joint inspection report in original.
 4. Project completion report in original.
 5. Photographs (with beneficiary / organization)
 6. Synchronization Letter.
 7. Statement of Expenditure (SOE) duly certified by Chartered Accountant in original.
 8. One month electricity bill (after commissioning)
 9. Authorization letter for disbursement of subsidy to the System Integrator.

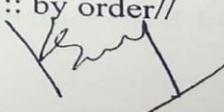
Thanking you,

Sd/-

VC & MANAGING DIRECTOR

Copy to the Project Director, NREDCAP, Guntur for information and necessary action
Copy to DGM (F&A), NREDCAP, for information.

// forwarded :: by order//


Officer on Special Duty



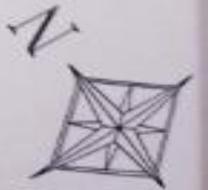
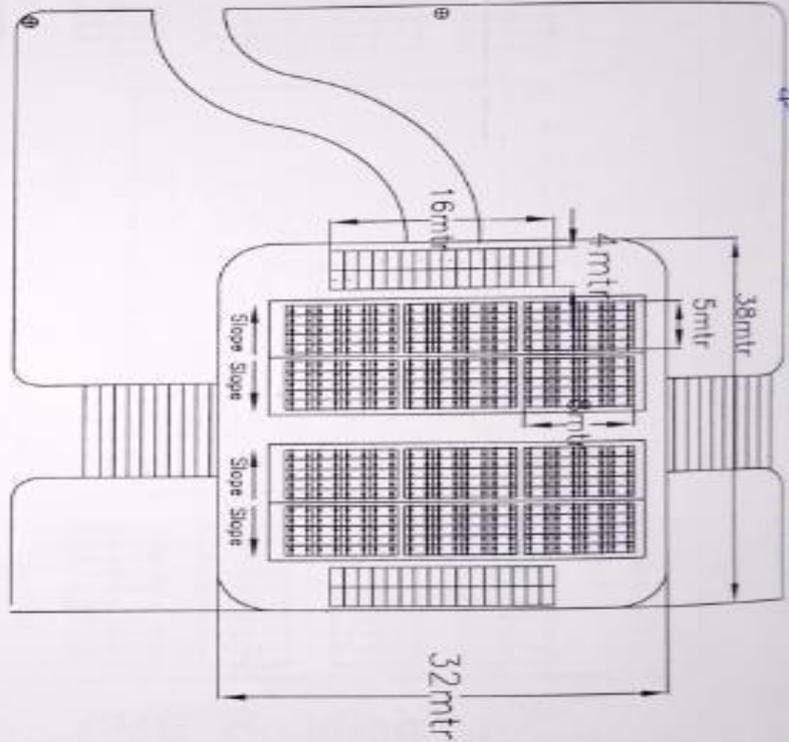


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Administrative Block Layout

- NOTE:
1. TOTAL PROPOSED CAPACITY-100kWp.
 2. SOLAR MODULE CAPACITY-325Wp.
 3. TOTAL NO OF SOLAR MODULES-308Nos.
 4. SOLAR MODULE DIMENSIONS-2mtrx1mtr.

Admin Block



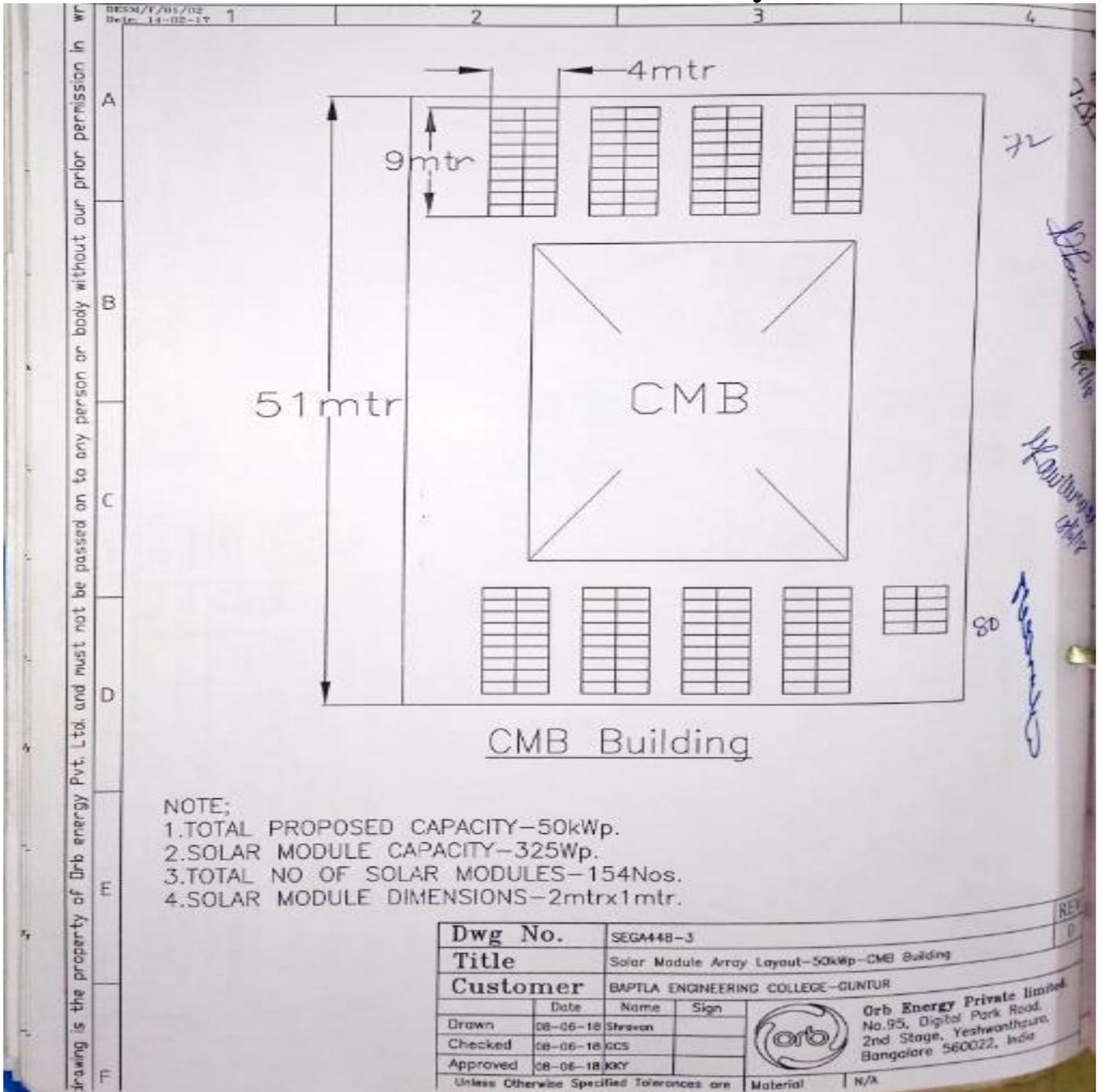
Dwg No.	SEC6448-5	REV	0
Title	Solar Module Array Layout-Admin Block-100kWp		
Customer	BAPATLA ENGINEERING COLLEGE-QUINTUR		
Date	Name	Sgn	
Drawn	VI-06-188homen		
Checked	09-06-188CS		
Approved	09-06-188KV		
Unless Otherwise Specified Tolerances are		Material	
Linear -	Angular -	Surface Finish	Weight :
Hard	Angular		
Soft			
As Shown			
All Dimensions are	Scale :	Sheet size - A4	Sheet - of -
In mm			
Orb Energy Private Limited, No.95, Digital Park Road, 2nd Stage, Yeswanthpur, Bangalore 560022, India			



Subbu

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Civil Mechanical Block Layout



- NOTE;
1. TOTAL PROPOSED CAPACITY-50kWp.
 2. SOLAR MODULE CAPACITY-325Wp.
 3. TOTAL NO OF SOLAR MODULES-154Nos.
 4. SOLAR MODULE DIMENSIONS-2mtrx1mtr.

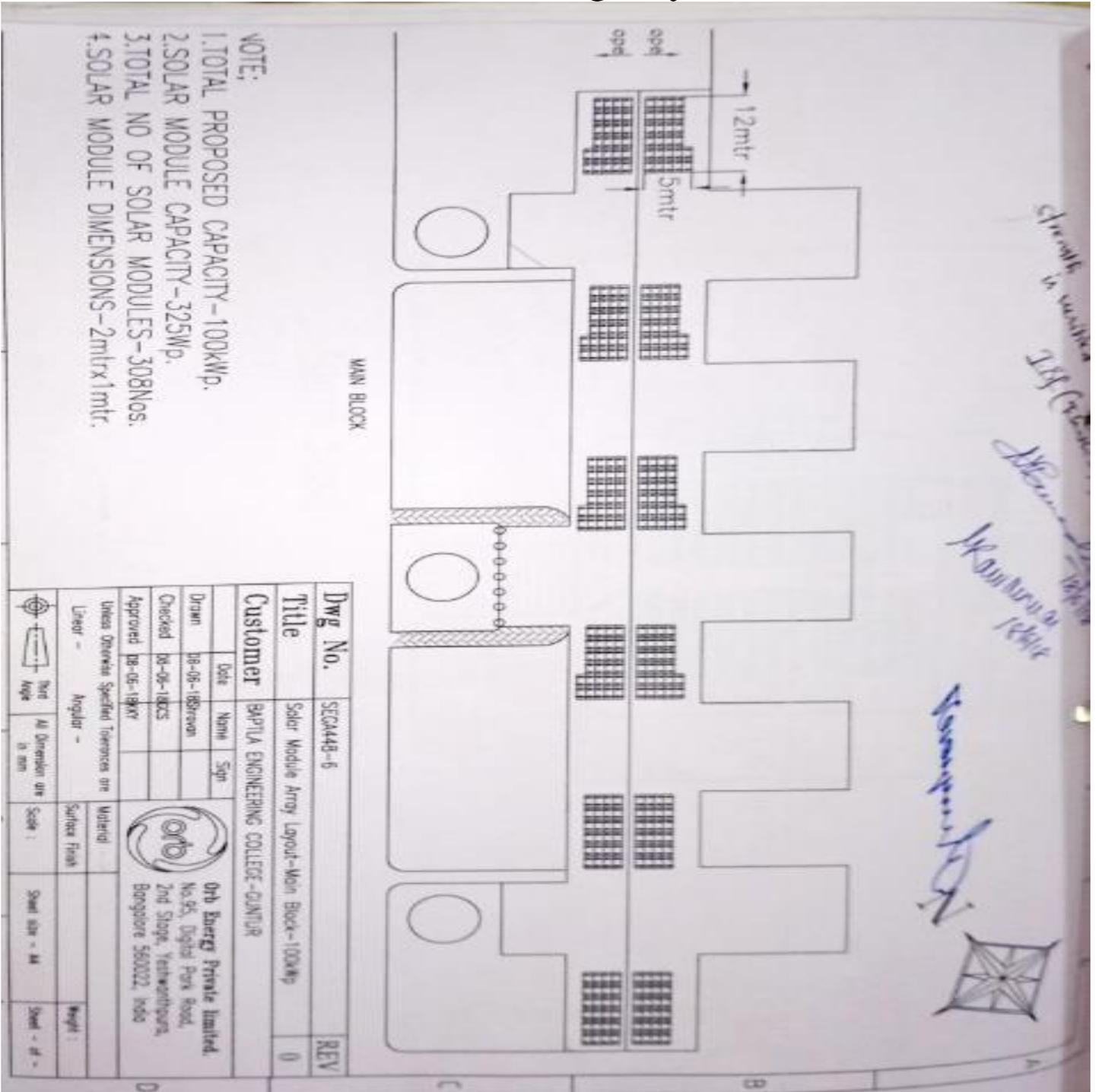
Dwg No.		SEGA448-3		REV
Title		Solar Module Array Layout-50kWp-CMB Building		0
Customer		BAPTLA ENGINEERING COLLEGE-GUNTUR		
Drawn	Date	Name	Sign	 Orb Energy Private Limited No.95, Digital Park Road, 2nd Stage, Yeshwanthura, Bangalore 560022, India
Checked	08-06-18	ACS		
Approved	08-06-18	KKY		
Unless Otherwise Specified Tolerances are			Material	N/A



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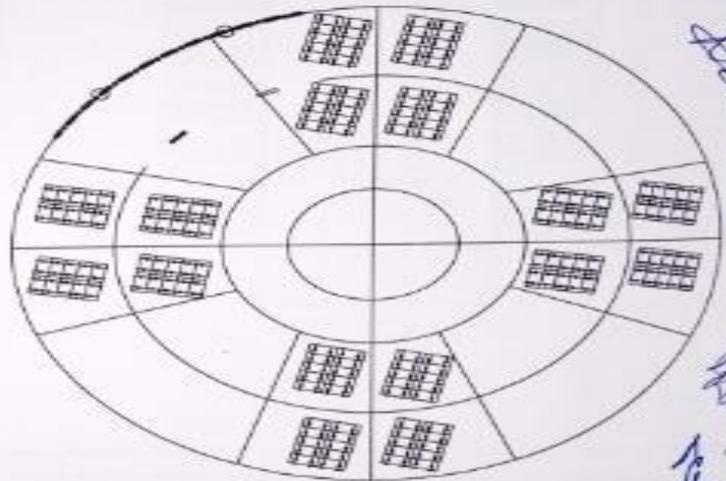
Main Building Layout



Pravin Kumar P.K.

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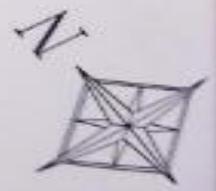
Research Park Layout



Sprinkle is verified
P.G.

LP Bhandari
18/12/18

W. K. Bhandari
18/12/18
Principal



IT Block

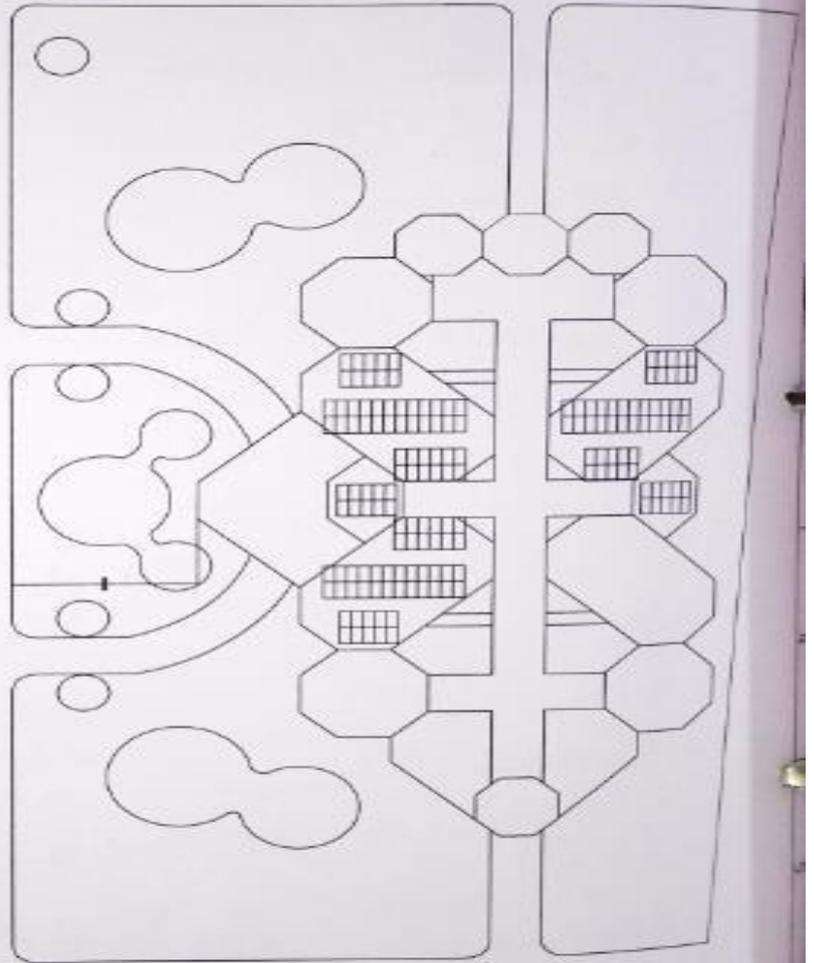
- NOTE:
1. TOTAL PROPOSED CAPACITY - 50KWp.
 2. SOLAR MODULE CAPACITY - 325Wp.
 3. TOTAL NO. OF SOLAR MODULES - 154 Nos.
 4. SOLAR MODULE DIMENSIONS - 2mtr x 1mtr.

Dwg No.	SEC0448-4	REV	0
Title	Solar Module Array Layout - IT Block - 50kwp		
Customer	BAPATLA ENGINEERING COLLEGE - QUINTUR		
Date	Name	Sign	
Drawn	18-05-18/Sheena		
Checked	18-08-18/CS		
Approved	18-08-18/KV		
Used: Orbita Specified Tolerances on Linear - Angular -		Material	Orbita Energy Private Limited, No.95, Digital Park Road, 2nd Stage, Yeshwanthpura, Bangalore 560022, India
Tolerances in mm All Dimension in mm		Surface Finish	Weight:
Scale:		Sheet size - A4	Sheet - of -



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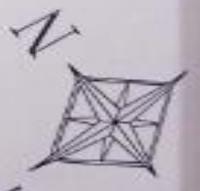
General Engineering Block Layout



GEB Building

- NOTE:
1. TOTAL PROPOSED CAPACITY - 50KWP.
 2. SOLAR MODULE CAPACITY - 325WP.
 3. TOTAL NO OF SOLAR MODULES - 154 NOS.
 4. SOLAR MODULE DIMENSIONS - 2mtr x 1mtr.

Strength is Verified
 7.8%
 K. Ravindran
 18/06/2023

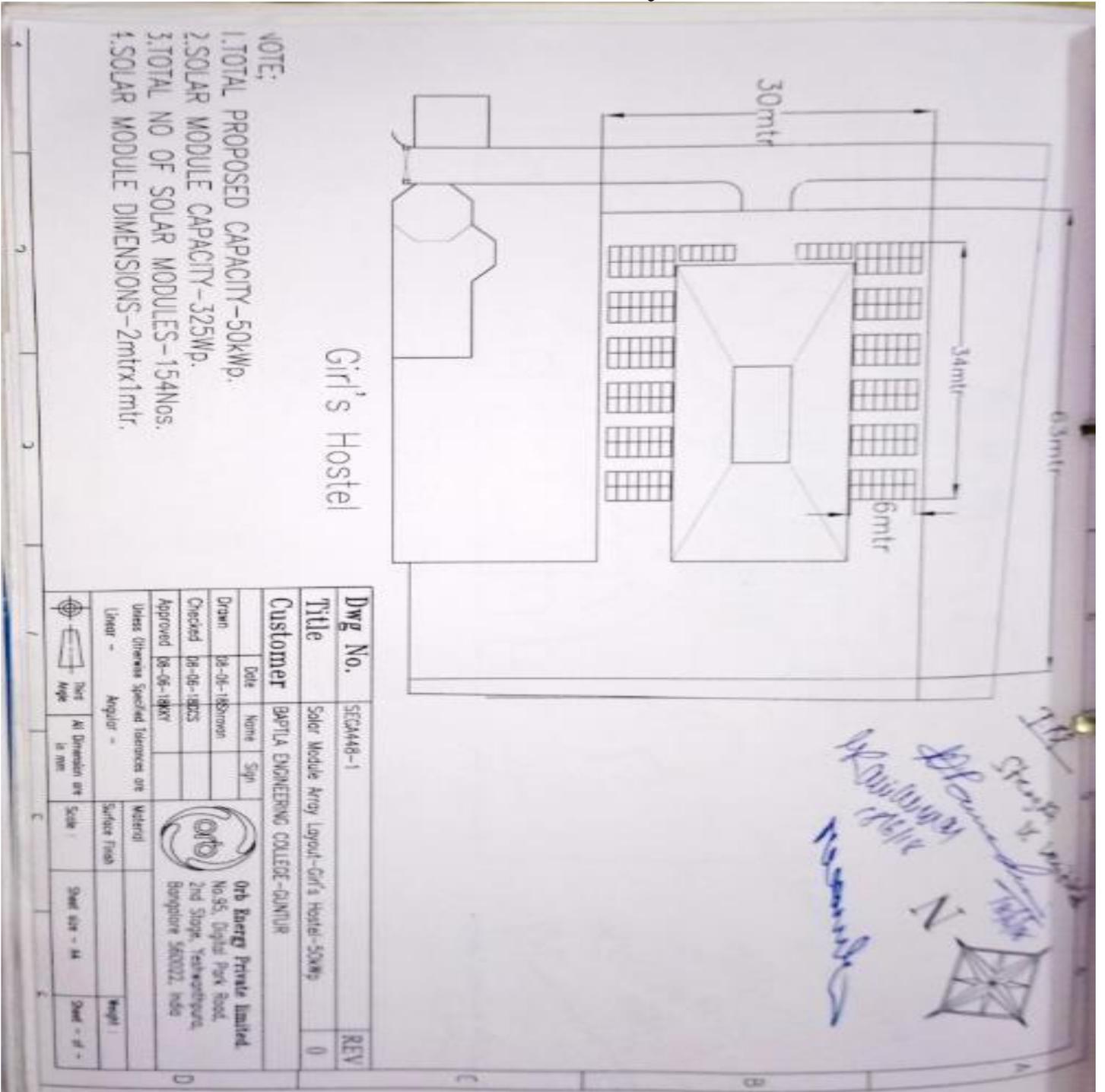


Dwg No.	SEP448-2	REV
Title	Solar Module Array Layout - GEB Building - 50KWP	0
Customer	BAPATLA ENGINEERING COLLEGE - GUNTUR	
Date	Name	Sign
Drawn	18-06-2023	
Checked	18-06-2023	
Approved	18-06-2023	
Uses (Specify) Tolerances are		
Linear -	Angular -	Material
		Surface Finish
 Orb Energy Private Limited. No.95, Digital Park Road, 2nd Stage, Yeshwanthpura, Bangalore 560022, India		
Scale:	Sheet size - A4	Sheet - of -



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Girls Hostel Layout



- NOTE:
1. TOTAL PROPOSED CAPACITY - 50KWp.
 2. SOLAR MODULE CAPACITY - 325Wp.
 3. TOTAL NO OF SOLAR MODULES - 154Nos.
 4. SOLAR MODULE DIMENSIONS - 2mtr x 1mtr.

Girl's Hostel

Dwg No.	SEC444B-1	REV	0
Title	Solar Module Array Layout - Girl's Hostel - 50KWp		
Customer	BAPTLA ENGINEERING COLLEGE - GUNTUR		
Drawn	18-06-18/Smrson		
Checked	18-06-18/CS		
Approved	18-06-18/KV		
Unless otherwise Specified Tolerances are		Material	
Linear -	Angular -	Surface Finish	Height -
		Scale	Sheet size - A4
			Sheet - of -



Orb Energy Private Limited
 No.95, Digital Park Road,
 2nd Stage, Yeshwanthpur,
 Bangalore 560022, India



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Purchase order



COMMERCIAL INVOICE

Orb Energy Pvt Ltd, 95, Digital Park Road, 2nd Stage, Yeshwanthpura, Bangaluru - 560022		Ref No : 1819100111-112-113-114-139-141-151-225-318-363-441 DATED 30-05-2018		
		Buyers Order no. 16401195	Email India	
Buyer Bapatla Education Society Bapatla Engineering College, Mahatmajipuram, Bapatla, Guntur - 522102, Andhra Pradesh M-9866157779		Delivery Address (if other than the buyer address) NA		
Buyer's Contact Details :		Payment Terms :		
Product Code	Model	Quantity	Unit Price	Total Amount
SL400KAN06053	Soelectric 400kWp with 50kVAx8 GT - Fit Spl	1 Nos	18,285,714.29	18,285,714.29
	IGST @ 5%			914,285.71
	Less Subsidy			19,200,000.00
				7,200,000.00
Amount chargeable in words : One Crore Twenty Lakhs Only			Total Amount	12,000,000.00
Our Bankers : Axis Bank Ltd., Sona Tower, No.8, 32E Cross, 4th T Block, Jayanagar, Bangalore - 560041 A/c Name: Orb Energy Private Limited A/c No.911020049684781 Swift Code : AXISINBB052, RTGS Code : UTIB0000052		For Orb Energy Pvt Ltd   Authorised Signatory		



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Project Completion Report



PROJECT COMPLETION REPORT

This is to certify that M/s.Orb Energy Pvt.Ltd., has successfully installed and commissioned 400Kwp Grid-Tie Solar Roof Top System at your College premises of Bapatla Engineering College under The Bapatla Education Society, Bapatla (PO & M) Guntur Dt.The project has been synchronized to grid On 26.12.2018 and the system is working satisfactorily.

The Project Details is as follows:

Total Plant Capacity	: 400Kwp
Solar Modules Make	: Orb
Inverter Make	: SMA
Web Monitor Make	: e-senz

Technical Assistance: If any technical issues please contact the following contact numbers

- (1) Sk.Subhani — Technical Manager — 9885779748
- (2) B.Kaleswara Rao — Technical Executive - 9951046775
- (3) N,Ramesh — Technician — 8978487361
- (4) Customer Care Number : 09900520505 .



Yours faithfully

Orb Energy Pvt Ltd

G.V.Sivakumar

Assistant General Manager - Projects
Mobile: 9618533010

26/12/18

ORB ENERGY PVT LTD NO. 12, SRIDANDHADA KAVALLU, SUNKADAKATTE, MAGADI ROAD, BANGALORE 56001, INDIA
TEL +91 80 23284142 - 44 FAX +91 80 23284141



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