CORRIGENDUM to NIT NO.RFQ ANKBOS0014 DTD 06.12.2017 DUE ON 27.12.2017 FOR SUPPLY OF BOS ITEMS, ERECTION, COMMISSIONING AND O&M OF 6.34 MW SPV PLANT OF HPPCL AT BERRA DOL, HIMACHAL PRADESH

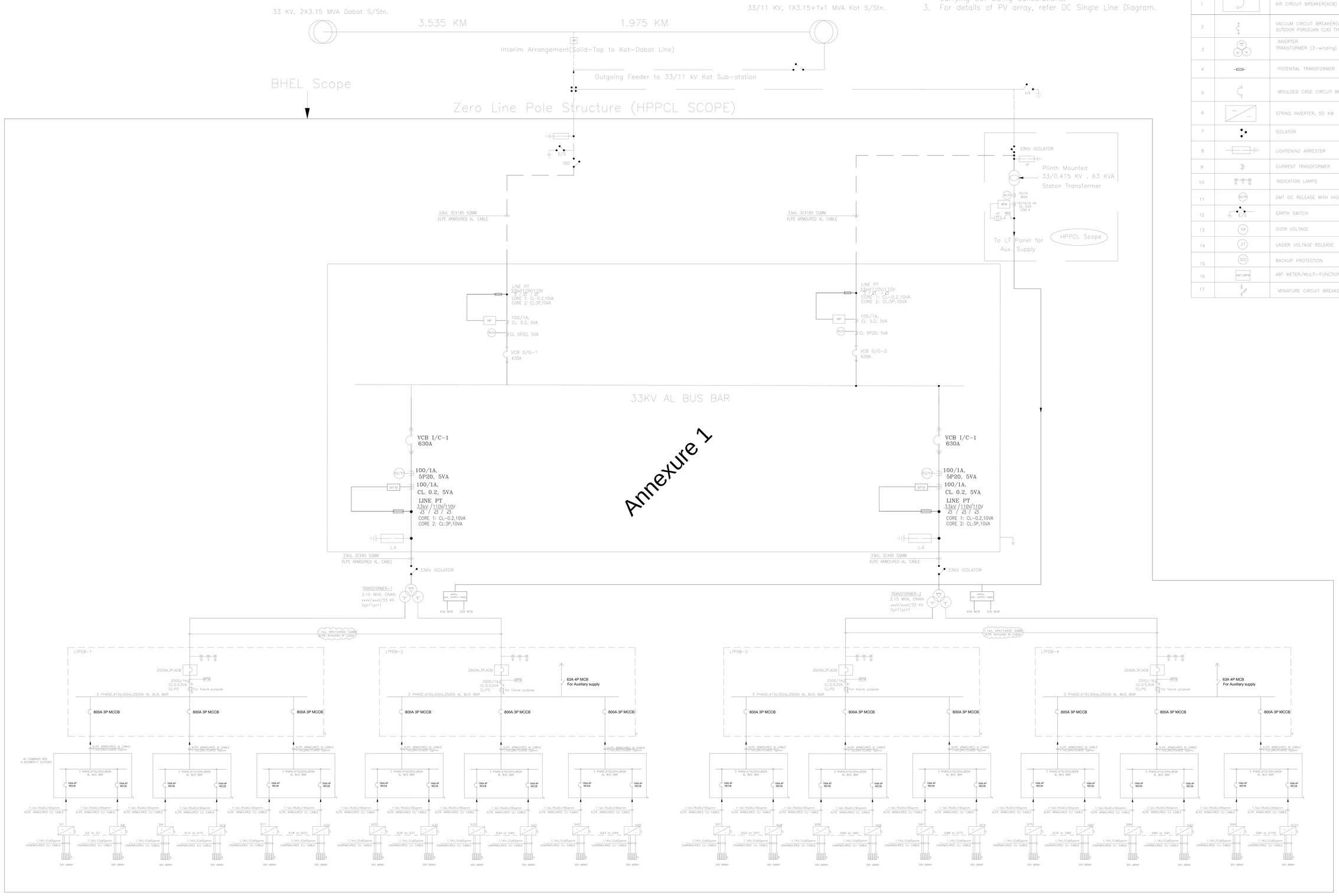
Sl.No.	**NIT Clause and reference no., Page no. of RFQ document**	**Spec and clause to be read as**
1	Warranty vide - SCC Page 5 of 139 – Sl. No.9 and SCC Page 2 of 139 Sl.No.8	1. ACDB panel, LT Panels of ACCBs and LTPDBs, Storage batteries, UPS, FCBC (Battery charger), Weather monitoring instruments etc. shall be Warranted for a period of 10 years from the date of commissioning 2. All other items supplied shall be warranted for a period of 5 years from the date of commissioning.
2	Warranty – Vide Clause 5.5 of Page 38 of 139 of Purchase specification	- Same as above –
3	5.33 , Page 3 of 83 of Purchase spec	**In addition to 3 nos ABT meters called for, 1 no. additional ABT meter** of similar specification shall be supplied as loose item for installing in Main 33 kV switchgear panel supplied by BHEL.
4	UPS Vide 5.34 of CONTENTS, Page 39/139	Clause 5.24, Subsection 3 in Page 60 of 139 to be read as : 1 no.5 KVA UPS in Control room for 4 hours back up 2 nos. 1 KVA UPS in RTU rooms for 4 hours back up
5	Clause 5.13 and 5.15 of Purchase Spec vide Pages 50 and 52 respectively of 139	12 nos. ACCBs for String Inverter Output termination and 4 nos. LTPDBs for ACCBs output termination shall be supplied as per following Incomer/ Outgoer configuration: 1. ACCB : 10 Incomer 1 outgoer 2. LTPDB : 3 Incomer 1 outgoer
6	AC SLD of 5.04 MW (AC) SPV Plant	Added vide Annexure 1
7	SPV array with tentative String Inverter locations	Added vide Annexure 2
8	BHEL Scope, Item 5, Page 45 of 139	Length of laying of BHEL supplied 400 sq.mm 1 Core Alu cable given as 5.5 km to be read 10 km

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm

DRAWING NO. BHEL-HPPCL-ELEC-01

NOTE:
1. All ACCBs and LTPDBs shall be outdoor platform mounted.
2. Cable sizes mentioned are tentative, Will be finalized after carrying out sizing cakculations.
3. For details of PV array, refer DC Single Line Diagram.



LEGEND

SL. NO:	SYMBOL	DESCRIPTION
1		AIR CIRCUIT BREAKER(ACB)
2		VACUUM CIRCUIT BREAKER(VCB) OUTDOOR PORCELAIN CLAD TYPE
3		INVERTER TRANSFORMER (3-winding)
4		POTENTIAL TRANSFORMER
5		MOULDED CASE CIRCUIT BREAKER (MCCB)
6		STRING INVERTER, 50 KW
7		ISOLATOR
8		LIGHTENING ARRESTER
9		CURRENT TRANSFORMER
10		INDICATION LAMPS
11	50/51	DMT OC RELEASE WITH HIGHEST INST ELEMENT
12		EARTH SWITCH
13	59	OVER VOLTAGE
14	27	UNDER VOLTAGE RELEASE
15	50Z	BACKUP PROTECTION
16	ABT/MFM	ABT METER/MULTI-FUNCTION METER
17		MINIATURE CIRCUIT BREAKER (MCB)

REV.	DATE	ALTERED / CHECKED / APPROVED
04	07.12.17	1. REVISED 50 KW STRING INVERTER. 2. REDUNDENT AUX SUPPLY FROM HPPCL AUX TRANSFORMER. 3. CU 16 Sq.mm CABLE FROM SI TO ACCB.
03	24.10.17	REVISED AFTER 50 KW SI ACCEPTED BY HPPCL
02	16.10.17	REVISED AS PER HPPCL COMMENTS
01	27.09.17	REVISED AS PER HPPCL COMMENTS DATED 25.09.2017
00	19.09.17	FIRST ISSUE

	NAME	SIGN	DATE
DRAWN	RK		190917
CHECKED	RK		190917
APPROVED	MS		190917

DISTRIBUTION OF PRINTS

DEPT.	CODE
SC&PV	439

PROJECT : 5.04MW SOLAR POWER PLANT
CUSTOMER : HPPCL

BHARAT HEAVY ELECTRICALS LIMITED.
ELECTRONICS DIVISION, BANGALORE

TITLE: SINGLE LINE DIAGRAM-AC

DRG. No. BHEL-HPPCL-ELEC-01

No. OF SHEETS	01
SHEET No.	01
REV	04

A0 SIZE

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SIGN & DATE | REF. DRG.NO | INVENTORY NO.

INVENTORY No. | SIGN. & DATE

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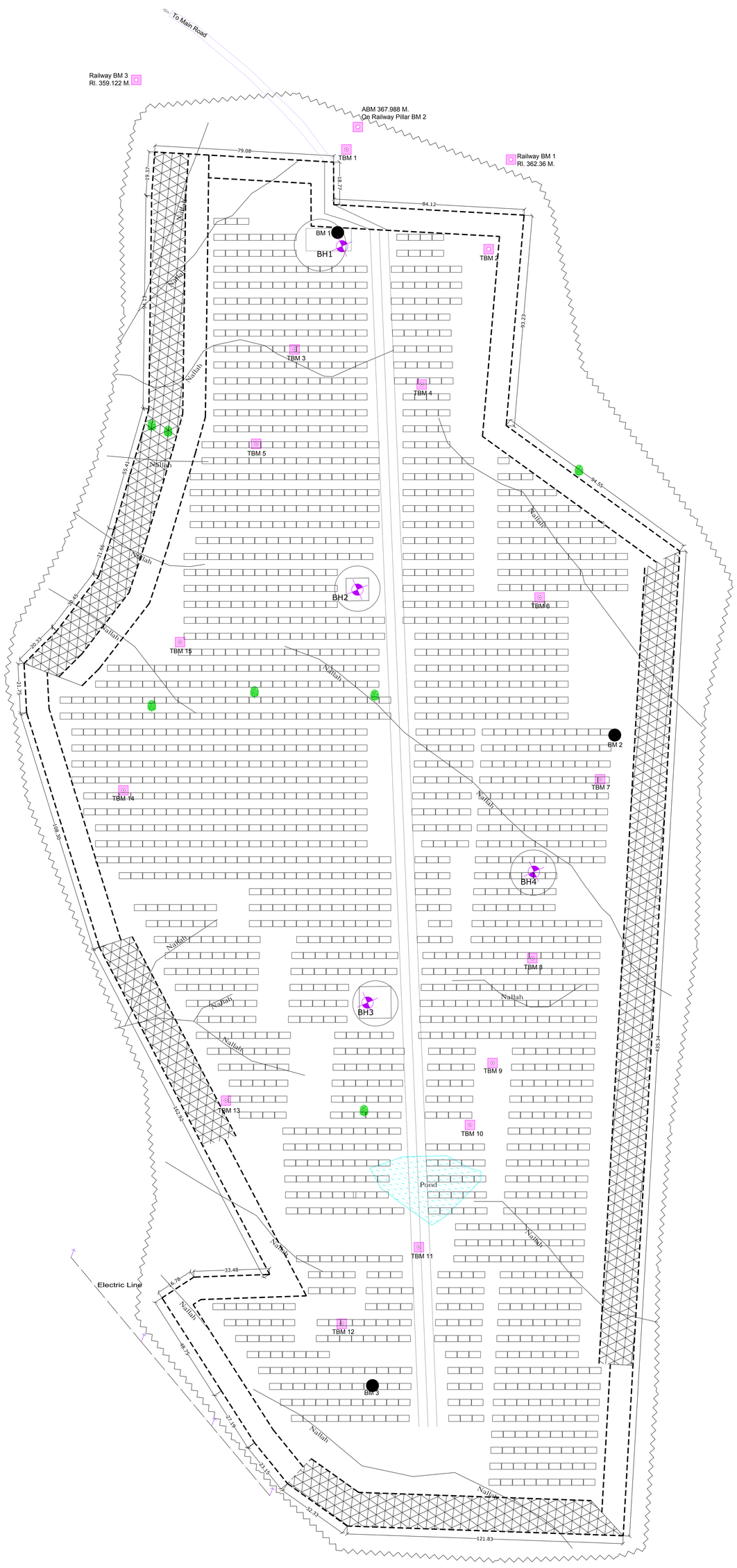

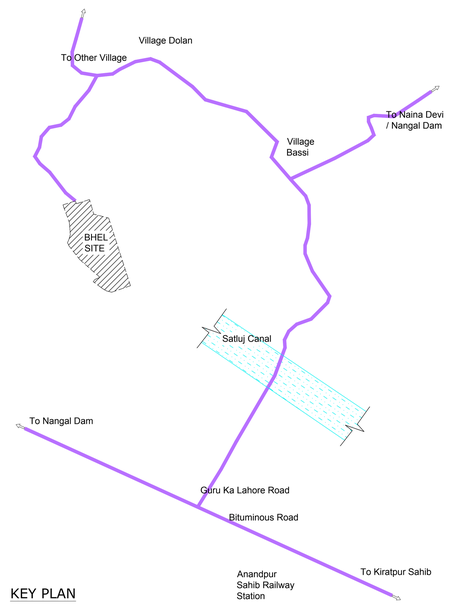

KEY PLAN

Bench Mark Co-rdinate			
S.L No	Easting	Northing	Elevation
TBM 1	2011.858	1217.782	365.439
TBM 2	2074.613	1173.766	364.039
TBM 3	1988.948	1129.477	350.261
TBM 4	2045.087	1114.053	353.683
TBM 5	1972.006	1087.856	358.829
TBM 6	2097.122	1019.997	351.919
TBM 7	2123.794	939.765	348.531
TBM 8	2093.884	860.795	345.472
TBM 9	2076.343	814.535	348.885
TBM 10	2066.344	787.199	356.943
TBM 11	2043.849	733.217	359.085
TBM 12	2009.803	699.430	350.819
TBM 13	1958.670	797.929	352.105
TBM 14	1913.418	934.884	360.24
TBM 15	1938.424	1000.329	354.662
BM 1	2007.989	1181.121	359.719
BM 2	2130.266	959.302	348.324
BM 3	2023.341	672.140	347.19

BORE MARK CO-RDINATE			
S.L No	Easting	Northing	DEPTH
BH 1	2009.896	1175.063	10.00 MT.
BH 2	2016.695	1023.471	10.00 MT.
BH 3	2021.161	841.177	10.00 MT.
BH 4	2094.599	898.986	05.00 MT.

NOTES:

1. TOTAL NO OF PV-MODULES=19820(EACH 320Wp).
2. DEPENDING UPON SITE CONDITIONS WHICH MAY VARY DURING ACTUAL LAND DEVELOPMENT WORKS THERE MAY BE SOME CHANGES IN PLACEMENT OF MMS.
3. THE INDICATED MMS OF 10 PV MODULES MAY BE REPLACED WITH SMALLER MMS TABLES TO UTILIZE THE AVAILABLE GROUND AREA AND TO AVOID INTERMEDIATE OR INTER-ROW SHADOWING
4. IN ADDITION TO APPROX 15MTS SET BACK AS ADVISED BY HPPCL AT SPECIFIC SECTIONS IN THE NIT ,AN ADDITIONAL SPACE OF 10MTS IS PROVIDED ALONG THE ARRAY BOUNDARIES FOR RUNNING ILLUMINATION CABLES ,PLACING LIGHTING POSTS, CCTV POSTS ETC.
5. ROADS AND PATHWAYS ARE TENTATIVE AND DETAILS WILL BE SUBMITTED AS PER SEPARATE DRAWING IN MDL.
6. TOTAL NO OF MMS TABLES=1982.

LEGEND

- TRANSFORMER YARD WITH LT PANELS
- AREA SETBACK AS ADVISED BY CUSTOMER
- PLANT BOUNDARY
- CONTROL ROOM (20X10) Mts

DEPT.	SC&PV
STATUS	CONTRACT
DISTRIBUTION	

REV.	DATE	DRWN	CHD	APPD	REV.	DATE	DRWN	CHD	APPD
01	23.11.17	RK	PM	MS	00	04.11.17	RK	PM	MS
Site boundary rotated as per true north south and Control Room dimension revised.					First issue.				

PROJECT : 5.04MWp SOLAR POWER PROJECT
CUSTOMER : HPPCL – BERRA DOL.H.P.

BHARAT HEAVY ELECTRICALS LTD
ELECTRONICS DIVISION, BANGALORE

TITLE

PV ARRAY LAYOUT

DRAWING NO. BHEL-HPPCL-ELEC-02

SHEET 1 OF 1 REV. 01

ANNEXURE 2

INVENTORY No. | SIGN. & DATE

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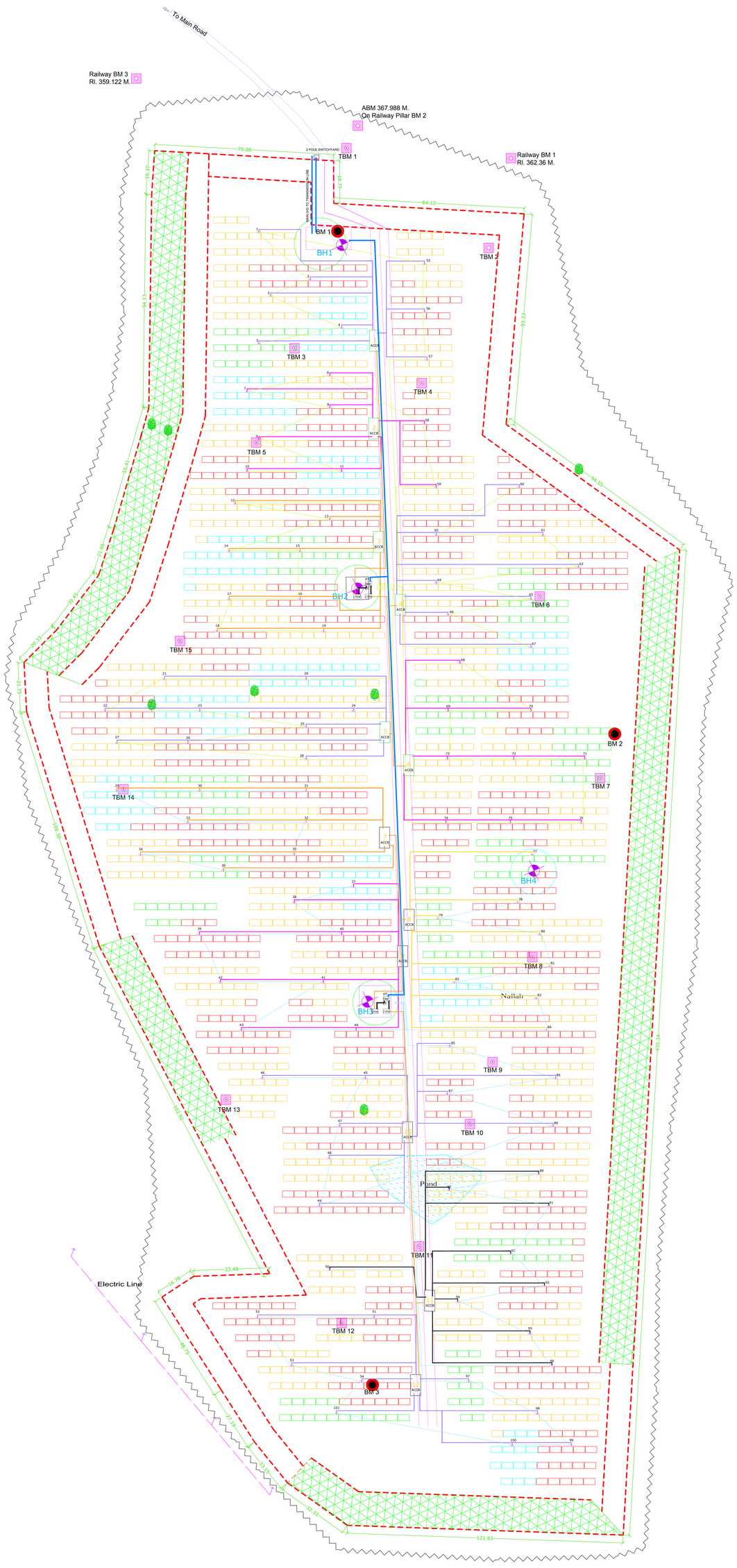

KEY PLAN

Bench Mark Co-rdinate			
S.L No	Easting	Northing	Elevation
TBM 1	2011.858	1217.782	365.439
TBM 2	2074.613	1173.766	364.039
TBM 3	1988.948	1129.477	350.261
TBM 4	2045.087	1114.053	353.683
TBM 5	1972.006	1087.856	358.829
TBM 6	2097.122	1019.997	351.919
TBM 7	2123.794	939.765	348.531
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BM 1	2007.989	1181.121	359.719
BM 2	2130.266	959.302	348.324
BM 3	2023.341	672.140	347.19

BORE MARK CO-RDINATE			
S.L No	Easting	Northing	DEPTH
BH 1	2009.896	1175.063	10.00 MT.
BH 2	2016.695	1023.471	10.00 MT.
BH 3	2021.161	841.177	10.00 MT.
BH 4	2094.599	898.986	05.00 MT.

NOTES:

1. TOTAL NO OF PV-MODULES=19820(EACH 320Wp).
2. DEPENDING UPON SITE CONDITIONS WHICH MAY VARY DURING ACTUAL LAND DEVELOPMENT WORKS THERE MAY BE SOME CHANGES IN PLACEMENT OF MMS.
3. THE INDICATED MMS OF 10 PV MODULES MAY BE REPLACED WITH SMALLER MMS TABLES TO UTILIZE THE AVAILABLE GROUND AREA AND TO AVOID INTERMEDIATE OR INTER-ROW SHADOWING
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5. ROADS AND PATHWAYS ARE TENTATIVE AND DETAILS WILL BE SUBMITTED AS PER SEPARATE DRAWING IN MDL.
6. TOTAL NO OF MMS TABLES=1982.
7. TOTAL NO OF STRING INVERTER =101

LEGEND

- TRANSFORMER YARD WITH LT PANELS
- AREA SETBACK AS ADVISED BY CUSTOMER
- PLANT BOUNDARY
- CONTROL ROOM (20X10) Mts
- RS485 COMMUNICATION CABLE
- 16 SQM CU CABLE
- 400 SQM AL CABLE
- 400 SQM AL CABLE
- 95 SQM 33Kv CABLE
- 125 SQM 33Kv CABLE
- SI — STRING INVERTER

DEPT.	SC&PV
STATUS	CONTRACT
DISTRIBUTION	

REV.	DATE	DRWN	CHD	APPD	REV.	DATE	DRWN	CHD	APPD
01	23.11.17	RK	PM	MS	00	04.11.17	RK	PM	MS
Site boundary rotated as per true north south and Control Room dimension revised.					First issue.				

PROJECT : 5.04MWp SOLAR POWER PROJECT
CUSTOMER : HPPCL – BERRA DOL.H.P.

BHARAT HEAVY ELECTRICALS LTD
ELECTRONICS DIVISION, BANGALORE

TITLE
PLANT LAYOUT WITH TENTATIVE STRING INVERTER POSITION

DRAWING NO.
BHEL-HPPCL-ELEC-02

SHEET 1 OF 1 REV. 01