











S. NOS.	DESCRIPTION	UNIT	VALUE
1.	NOMINAL SYSTEM VOLTAGE	kV	400
2.	HIGHEST SYSTEM VOLTAGE	kV	420
3.	MINIMUM CLEARANCE BETWEEN PHASES	MM	4000
4.	MINIMUM CLEARANCE BETWEEN PHASES & EARTH	MM	3500
5.	SECTION CLEARANCE	MM	6500
6.	MINIMUM HEIGHT OF LIVE POINT ABOVE GROUND LEVEL	MM	8000
7.	POWER FREQUENCY WITHSTAND FOR EQUIPMENT OTHER THAN TRANSFORMERS AND RECTORS	kVms	6.50
8.	SWITCHING IMPULSE WITHSTAND VOLTAGE	kVP	1050
9.	CREEPAGE DISTANCE (MINIMUM)	mm	8400
10.	SYSTEM FAULT LEVEL FOR 1 SEC	kA	40

S.No.	DESCRIPTION	EQUIV. RATING KV	QTY.	SYMBOLS
1.	CIRCUIT BREAKER TYPE SF6 WITH CLOSE RESISTER	400	08	
2.	CIRCUIT BREAKER TYPE SF6 WITHOUT CLOSE RESISTER	400	04	
3.	ISOLATOR CENTRE BREAK WITH ONE E/S 2000A	400	22	
4.	ISOLATOR CENTRE BREAK WITH TWO E/S	400	10	
5.	CURRENT TRANSFORMER (5 CORES)	400	36	
6.	CURRENT TRANSFORMER (6 CORES)	400	12	
7.	ELECTRO MAGNETIC VOLTAGE TRANSFORMER	400	06	
8.	CAPACITIVE VOLTAGE TRANSFORMER	400	24	
9.	WAVE TRAP 0.5mH 2000A	400	08	
10.	SURGE ARRESTOR	360	36	

ADDITIONAL INFORMATION W.O.No.	आकृष्ट/परिचयना का नाम ALKAKANDA HYDRO POWER COMPANY LTD.
STATUS OF DRAWING	NAME OF CUSTOMER/PROJECT SHRI NAGAR HYDRO ELECTRIC PROJECT (330MW)
DISTRIBUTION OF PRINTS	<div style="display: flex; justify-content: space-between;"> <div>  <p>भारतीय भारी बिजली उपकरण लिमिटेड भारत हेवी इलेक्ट्रिकल लिमिटेड BHARTI HEAVY ELECTRICALS LTD.</p> </div> <div> <p>प्रमाणित प्रतीक प्राधिकृत विक्रेता</p> </div> <div> <p>संख्या / मूद्रा KAPIL</p> </div> <div> <p>एस्टा./सोल. -SD-</p> </div> <div> <p>दिनांक JAN 10, 2007</p> </div> <div> <p>रु./एसए 26,10,000/-</p> </div> </div>

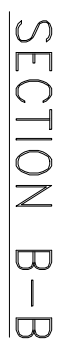
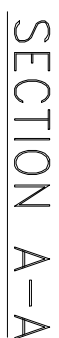
[illegible]

1. ALL DIMENSIONS ARE IN MM.
2. TWO LEVELS OF 635m AND 645m ELEVATION SHALL BE PROVIDED BY CUSTOMER
3. APPROACH ROAD TO BOTH LEVELS AND RETENTION WALL SHALL BE PROVIDED BY CUSTOMER
4. 12Nos. LAs SHALL BE LOCATED AT TRANSFORMER YARD.
5. REFER SECTIONAL ELEVATION DRG NO. TB-1-297-316-103 Rev-02.
6. DETAILS OF CONTROL ROOM SHALL BE SHOWN IN SEPARATE DRAWING.
7. MAIN BUS-I & II : OUD MOOSE ACSR CONDUCTOR.
- JACK BUS : TWIN MOOSE ACSR CONDUCTOR.

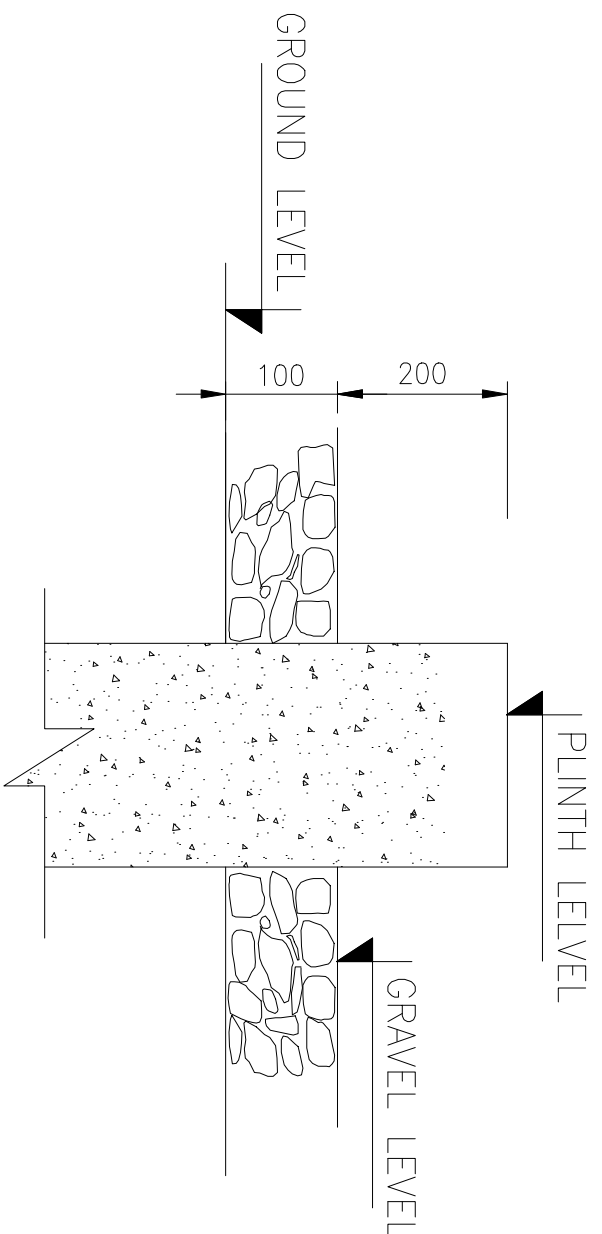
LAYOUT PLAN FOR 400KV SWITCHYARD EXTENSION AT SHRI NAGAR	TB-1-297-316-102	02
	पृष्ठ No./SHEET No. 01	अगला पृष्ठ /NEXT SHEET -

SWITCHYARD EXTENSION AT SHRI NAGAR

IB-1-297-316-102	02
පිටු අං./SHEET No. 01	ප්‍රතිඵල පිටු/NEXT SHEET -



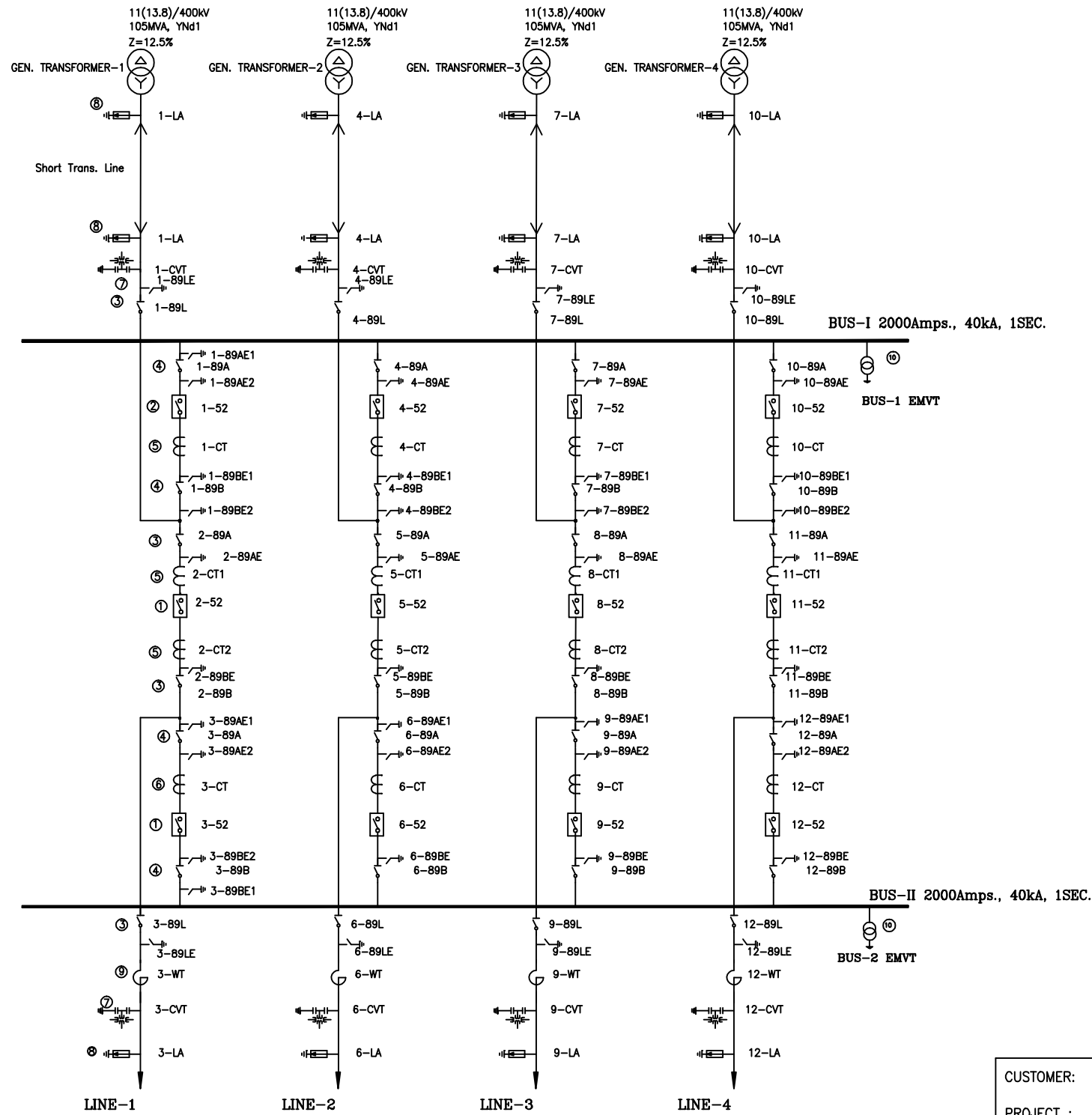
TYPICAL PLINTH LEVEL



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INVENTORY No.		SIGN. & DATE		REF. DRG. No.		COMPUTER DRG. PATH NAME :					
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FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM)

DRG. NO. TB-3-275-510-001



BILL OF QUANTITY - 400kV

S.NO.	DESCRIPTION	SYMBOL	QTY.
1	400 kV CIRCUIT BREAKER WITH CLOSE RESISTOR 2000A, 40 KA, 1 SEC		08
2	400 kV CIRCUIT BREAKER WITHOUT CLOSE RESISTOR 2000A, 40 KA, 1 SEC		04
3	ISOLATOR WITH ONE EARTH SWITCH 2000A		22
4	ISOLATOR WITH TWO EARTH SWITCHES 2000A		10
5	400kV CURRENT TRANSFORMER 2000A WITH 5 CORES		36
6	400kV CURRENT TRANSFORMER 2000A WITH 6 CORES		12
7	CAPACITIVE VOLTAGE TRANSFORMER		24
8	SURGE ARRESTER 360 kV		36
9	WAVE TRAP(0.5mH)		08
10	400kV EMVT		06

400kV CT DETAILS (FIVE CORES)

CORE	RATIO	MAX. EXCITING (mA) CURRENT/BURDENS	KNEE POINT VOLTAGE	CLASS	RCT
1	2000-1000/1	30 ON 2000/1 TAP 60 ON 1000/1 TAP	2000/1000V	PS	10/5
2	2000-1000/1	30 ON 2000/1 TAP 60 ON 1000/1 TAP	2000/1000V	PS	10/5
3	2000-1000/1 -500/1A	20VA 20VA 20VA		0.2 0.2 0.2	-
4	2000-1000 -500/1A	30 ON 2000/1 TAP 60 ON 1000/1 TAP 120 ON 500/1 TAP	4000/2000/1000V	PS	10/5/2.5
5	2000-1000 -500/1A	30 ON 2000/1 TAP 60 ON 1000/1 TAP 120 ON 500/1 TAP	4000/2000/1000V	PS	10/5/2.5

400kV CT DETAILS (SIX CORES)

CORE	RATIO	MAX. EXCITING (mA) CURRENT/BURDENS	KNEE POINT VOLTAGE	CLASS	RCT
1	2000-1000/1	30 ON 2000/1 TAP 60 ON 1000/1 TAP	2000/1000V	PS	10/5
2	2000-1000/1	30 ON 2000/1 TAP 60 ON 1000/1 TAP	2000/1000V	PS	10/5
3	2000-1000/1 -500/1A	20VA 20VA 20VA		0.2 0.2 0.2	-
4	2000-1000/1 -500/1A	20VA 20VA 20VA		0.2 0.2 0.2	-
5	2000-1000 -500/1A	30 ON 2000/1 TAP 60 ON 1000/1 TAP 120 ON 500/1 TAP	4000/2000/1000V	PS	10/5/2.5
6	2000-1000 -500/1A	30 ON 2000/1 TAP 60 ON 1000/1 TAP	4000/2000/1000V	PS	10/5/2.5

400kV CVT DETAILS, 4400 pF (+10%,- 5%)

RATIO	400kV / 110V	110V / 110V	110V / 110V
SEC-I	CLASS 3P, 50VA		
SEC-II	CLASS 3P, 50VA		
SEC-III	0.2, 50VA		

NOTE:-

1. THE SYSTEM IS SOLIDLY EARTHED.
2. WAVE TRAP SHALL IN TWO PHASES OF LINE BAYS.

CUSTOMER: ALAKNANDA HYDRO POWER COMPANY LTD.
PROJECT : 400kV SWITCH YARD AT HEP SHRINAGAR

BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION PROJECTS DIVISION

SINGLE LINE DIAGRAM

CARD CODE

NEXT SHEET

SHEET No.

REV. 01

SCALE W.O. No. 87001 DRG. No. TB-3-297-316-001

COMPUTER DRG. PATH NAME :
231/SURESH/DOC/MANDAL/ARASUR/LATEST/
/SLD

SIGN & DATE

INVENTORY NO.

REV.	DATE	ALTD.	CHD.	APPD.
01	08/11/07			

Revised as per customer comments
dated 08/11/07.

REV.	DATE	ALTD.	CHD.	APPD.

DRAWN Honey sd/

CHECKED RJ/MK/GC sd/

APPROVED S.NAYAR sd/

DISTRIBUTION OF PRINTS

NAME	SIGN.	DATE



DEPT.

CODE

TBEM