

Initial Environmental Examination Report

PUBLIC

Project Number: 56344-001
Draft
November 2023

Bangladesh: Paramount Solar Power Project

PART 12: Annexure

Prepared by Dynamic Sun Energy Private Limited for the Asian Development Bank (ADB).

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Annexure - 23

Approved Tower Schedule from PGCB

Project: Design, Supply, Installation, Testing & Commissioning of 132kV Double Circuit Evacuation Transmission Line From DSE 100MW (AC) Power Plant, Bhabanipur, Pabna to Jaynager Grid Sub-Station, Irshurdi, Pabna

Client ~~Grid~~ **POWER GRID COMPANY OF BANGLADESH LIMITED**

Sponsor Company **DYNAMIC SUN ENERGY PRIVATE LIMITED, B&B Empire (7th Floor), Plot No.116, Road-11, Block-E, Banani, Dhaka-1213.**

Document No. **DSE/PGCB/132kV/J-P/TS**

Rev.01

POWER GRID COMPANY OF BANGLADESH
APPROVED
This approval is general only and does not release the manufacturer/contractor/supplier from compliance with specification and Standards for Design workmanship and performance as stipulated in the contract.

Tower Schedule

Sl. NO	Tower No.	Tower Type	Tower Height(m)	Raised Chimney (m)	Easting (m)	Northing (m)	Elevation (m)	Deviation Angle	Span (m)	Wind Span(m)	Section Length (m)	Weight Span (Cold) m	Weight Span (Hot) m	Major Crossings (with in ROW)	Remark
1	Gantry	Gantry SS	16		719521.77	2652057.13	12.08		58	29	58	9.0	10.0	Earthen Road, 11kV Line	
2	TT-01/0	1DT6+0 (with Aux-x-arm) (Terminal)	28.6		719517.99	2652115.44	12.13	65°03'31"LT	244	151	482	133	146	Tinshed, Mango Garden	Angle of Entry 0deg with line side
3	TT-01/1	1DL+6	35.04		719290.70	2652203.72	12.75		238	241		289	271		
4	T-1/0	1DT6+3	31.6		719068.91	2652289.87	13.51	57°46'55"RT	318	278		247	256		
5	T-1/1	1D1+9	38.04		719008.37	2652601.59	13.86		300	309	1218	355	345	Banana Garden, Earthen Road	
6	T-1/2	1DL+4.5	33.54		718951.12	2652896.34	13.90		300	300		272	279	Banana Garden, Earthen Road	
7	T-1/3	1DL+6	35.04		718893.84	2653191.21	13.80		300	300		321	316	Banana Garden	
8	T-2/0	1D25+1.5	30.58		718836.72	2653485.31	13.96	12°23'48"LT	323	311		273	283	Banana Garden, Earthen Road	
9	T-2/1	1D1+9	38.04		718708.69	2653781.35	13.51		300	311		350	341		
10	T-2/2	1DL+6	35.04		718589.61	2654056.67	13.96		300	300	2065	273	280	Brickfield	
11	T-2/3	1DL+9	38.04		718470.71	2654331.57	13.84		295	297		313	309	Brickfield, Banana Girden	
12	T-2/4	1DL+9	38.04		718353.51	2654602.57	13.82		298	297		327	320	Banana Garden	
13	T-2/5	1DL+3	32.04		718235.03	2654876.52	13.87		272	285		257	265	Earthen Road	
14	T-2/6	1DL+3	32.04		718126.90	2655126.51	13.62		277	275		267	269		
15	T-3/0	1DT6+3	31.6		718016.80	2655381.09	13.68	49°29'31"LT	300	289		289	289	Banana Garden, Earthen Road	
16	T-3/1	1DL+6	35.04		717730.15	2655469.39	13.40		299	299		307	305	Earthen Road	
17	T-3/2	1DL+6	35.04		717444.39	2655557.40	13.54		299	299		314	311		
18	T-3/3	1DL+3	32.04		717158.76	2655645.38	13.83		300	300		275	282	Earthen Road	
19	T-3/4	1DL+6	35.04		716871.59	2655733.84	13.14		300	300	2697	314	311	Earthen Road	

Signature
(Syeed Md. Sahriar Abdullah)
Superintending Engineer (Adl.ch)
TLD, Design & QC, PGCB

Signature
(Engr. Md. Emadul Hoque)
Executive Engineer
TLD & QC, PGCB, Dhaka

Signature
Md. Sohe Rana
Sub-Divisional Engineer
Transmission Line Design & QC
PGCB, Dhaka



Sl. NO	Tower No.	Tower Type	Tower Height(m)	Raised Chimney (m)	Easting (m)	Northing (m)	Elevation (m)	Deviation Angle	Span (m)	Wind Span(m)	Section Length (m)	Weight Span (Cold) m	Weight Span (Hot) m	Major Crossings (with in ROW)	Remark
20	T-3/5	1DL+6	35.04		716585.22	2655822.04	12.81		300	300	2380	306	305		
21	T-3/6	1DL+3	32.04		716298.32	2655910.41	14.27		299	299		292	294	Earthen Road	
22	T-3/7	1DL+3	32.04		716013.01	2655998.29	14.40		299	299		301	301	Earthen Road	
23	T-3/8	1DL+3	32.04		715726.31	2656086.60	14.34		300	300		262	272	Earthen Road	
24	T-3A/0	1D25+9	38.08		715439.54	2656174.93	14.39	0°0'0"	300	300		345	335	Earthen Road, Litchi Girden	Section Tower
25	T-3A/1	1DL+9	38.04		715152.42	2656263.37	14.84		300	300		309	307	Earthen Road	
26	T-3A/2	1DL+6	35.04		714865.89	2656351.63	15.03		300	300	294	296	Banana Garden		
27	T-3A/3	1DL+4.5	33.54		714578.98	2656440.00	15.02		300	300	285	289	Banana Garden, Earthen Road		
28	T-3A/4	1DL+6	35.04		714292.58	2656528.22	15.05		300	300	326	320	Banana Garden, Earthen Road		
29	T-3A/5	1DL+3	32.04		714005.98	2656616.50	14.54		300	300	272	280	Earthen Road		
30	T-3A/6	1DL+4.5	33.54		713719.32	2656704.79	15.12		283	291	294	294	Earthen Road, Litchi Girden		
31	T-3A/7	1DL+6	35.04		713449.22	2656787.99	15.23		298	290	306	303	Banana Garden, Earthen Road		
32	T-4/0	1D25+3	32.08		713164.61	2656875.65	15.22	9°58'40"RT	300	299	276	282	Brickfield, Earthen Road		
33	T-4/1	1DL+9	38.04		712897.40	2657012.38	14.16		300	300	316	312	Brickfield, Earthen Road		
34	T-4/2	1DL+9	38.04		712630.35	2657149.02	14.50		300	300	315	312	Brickfield		
35	T-4/3	1DL+6	35.04		712363.41	2657285.61	15.01		268	284	270	274	Brickfield, Earthen Road		
36	T-4/4	1DL+6	35.04		712124.44	2657407.88	15.25		277	273	277	276	Earthen Road		
37	T-4/5	1DL+6	35.04		711877.61	2657534.18	14.82		281	279	279	280	Brickfield, Earthen Road		
38	T-4/6	1DL+6	35.04		711627.58	2657662.11	14.40		224	252	210	222	Brickfield, Tinshed		
39	T-5/0	1DT6+9	37.6	2	711428.12	2657764.17	13.89	55°47'54"RT	367	295	324	316	Pavement Road, 11kV Line, Semi Pucca, one storied Building		
40	T-6/0	1D1+12	41.04	2	711382.77	2658128.11	15.12	1°27'37"RT	274	320	375	363			
41	T-6/1	1DL+6	35.04		711355.84	2658400.55	15.18		230	252	193	206	11kV Line		
42	T-6/2	1DL+9	38.04		711333.24	2658629.30	14.95		278	278	281	280			

17 FEB 2013

(Sayed Md. Sahriar Abdullah)
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 T.L.D. Design & C.C. PSCB

Engt. Md. Emdadul Hoque
 Executive Engineer
 T.L.D. & QC, PSCB, Dhaka

Ms. Sohel Rana
 Sub-Divisional Engineer
 Transmission Line Design & C.C.
 PSCB, Dhaka



Sl. NO	Tower No.	Tower Type	Tower Height(m)	Raised Chimney (m)	Easting (m)	Northing (m)	Elevation (m)	Deviation Angle	Span (m)	Wind Span(m)	Section Length (m)	Weight Span (Cold) m	Weight Span (Hot) m	Major Crossings (with in ROW)	Remark
									325		1123			Pavement Road, 11kV Line, Semi Pucca	
43	T-6/3	1D1+12	41.04		711301.25	2658953.01	15.33			310		331	326		
									294					Pavement Road, 11kV Line, Semi Pucca	
44	T-7/0	1D25+9	38.08		711272.36	2659245.38	15.55	21°41'12"RT		293	292	306	303		
									292						
45	T-8/0	1DT6+6 (Terminal)	34.6		711352.94	2659525.64	15.42	34°10'10"RT		197	102	217	218	11kV Line	
									102						
46	T-8AR	1DH-P	21.06		711431.57	2659591.11	15.55	21°34'23"LT		98	93	66	69	Rooppur-Baghabari 230kV TL	Single Circuit Line
									93						
47	T-8BR	1DH-P	21.06		711476.27	2659672.98	15.62	34°19'20"LT		100	107	77	78		
									107						
	T-9/0	-	-	-	-	-	-	-	-	-					
	T-8/0	-	-	-	-	-	-	-	-	-	108				
									108						
48	T-8AL	1DH-P	21.06		711376.83	2659630.63	15.39	14°53'20"RT		95	83	61	65	Rooppur-Baghabari 230kV TL	Single Circuit Line
									83						
49	T-8BL	1DH-P	21.06		711415.52	2659704.31	15.50	6°05'02"RT		87	90	59	60	Pavement Road	
									90						
50	T-9/0	1DT6+9 (Terminal)	37.6		711465.69	2659779.30	15.59	57°53'20"LT		205	319	243	242	Homestead, proposed 400kV Rooppur-Dhaka Line	
									319						
51	T-10/0	1DT6+9 (Terminal)	37.6		711335.31	2660070.76	14.89	26°09'26"RT		204	88	235	235		
									88						
52	T-10AR	1DH-P	21.06		711338.48	2660159.16	14.49	6°49'18"LT		86	83	55	56	Proposed Rooppur-Dhamrai 230kV Line	Single Circuit Line
									83						
53	T-10BR	1DH-P	21.06		711331.62	2660241.52	14.98	23°57'49"LT		72	62	58	59		
									62						
	T-11/0	-	-	-	-	-	-	-	-	-					
	T-10/0	-	-	-	-	-	-	-	-	-	99				
									99						
54	T-10AL	1DH-P	21.06		711282.79	2660154.25	14.45	27°24'13"RT		91	83	63	64	Proposed Rooppur-Dhamrai 230kV Line	Single Circuit Line
									83						
55	T-10BL	1DH-P	21.06		711275.88	2660237.14	15.04	28°54'40"RT		74	64	60	61		
									64						
56	T-11/0	1DT6+0 (Terminal)	28.6		711302.04	2660295.48	14.79	30°21'29"LT		148		153	155	11kV Line	
									232						
57	T-11/1	1DL+3	32.04		711276.95	2660525.91	14.66			261		280	276		
									291						
58	T-11/2	1DL+1.5	30.54		711245.46	2660815.23	14.70			290		279	283		
									289						
59	T-11/3	1DL+3	32.04		711214.13	2661103.01	13.89			291	1694	294	293		

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14 FEB 2023

Sl. NO	Tower No.	Tower Type	Tower Height(m)	Raised Chimney (m)	Easting (m)	Northing (m)	Elevation (m)	Deviation Angle	Span (m)	Wind Span(m)	Section Length (m)	Weight Span (Cold) m	Weight Span (Hot) m	Major Crossings (with in ROW)	Remark
									292						
60	T-11/4	1DL+3	32.04		711182.57	2661392.90	14.11		298			268	277		
									304						
61	T-11/5	1DL+9	38.04		711149.66	2661695.19	14.23		295			319	313		
									287					11kV Line, Earthen Road	
62	T-12/0	1DT6+9	37.6		711118.66	2661980.01	14.55	36°24'40"RT	298		604	311	308		
									310					Pavement Road, Litchi Garden	
63	T-12/1	1DL+9	38.04		711274.55	2662247.88	15.07		302			284	289		
									294					Litchi Garden	
64	T-13/0	1DT6+9	37.6	2	711422.26	2662501.69	14.78	45°49'10"LT	284		505	290	290		
									274					Rooppur-Pabna Highway	
65	T-13/1	1D1+12	41.04	2	711348.42	2662765.77	14.62		252			292	279		
									230					Litchi Garden	
66	T-14/0	1DT6+9	37.6		711286.41	2662987.57	14.29	36°32'18"RT	264		1170	246	253		
									298					Litchi Garden	
67	T-14/1	1DL+9	38.04		711392.66	2663265.58	13.36		298			301	301		
									298						
68	T-14/2	1DL+6	35.04		711499.07	2663543.97	13.67		299			295	296		
									300						
69	T-14/3	1DL+4.5	33.54		711606.18	2663824.24	13.42		287			264	270		
									274						
70	T-15/0	1DT6+6	34.6		711704.00	2664080.16	13.32	45°18'00"RT	294		582	298	298		
									313					Pavement Road	
71	T-15/1	1DL+9	38.04		711990.87	2664206.59	13.81		291			298	296		
									269					Litchi Garden	
72	T-16/0	1DT6+9	37.6		712236.73	2664314.93	13.40	41°59'37"LT	264		896	262	263		
									260					Pavement Road, Litchi Garden	
73	T-16/1	1DL+9	38.04	2	712343.45	2664552.16	13.91		292			295	295		
									324					Pavement Road, Litchi Garden	
74	T-16/2	1D1+12	41.04		712476.37	2664847.59	13.84		318			324	323		
									311					Pavement Road, Litchi Garden, Semi Pucca	
75	T-17/0	1DT6+9	37.6	2	712604.15	2665131.61	13.36	29°56'32"LT	252		476	265	261		
									192					Litchi Garden	
76	T-17/1	1DL+9	38.04	2	712585.01	2665322.78	13.07		238			128	166		
									284					Litchi Garden, 11kV Line	
77	T-18/0	1QT6+9	50.4	3	712556.73	2665605.12	14.19	31°23'52"LT	288		621	363	336		
									292					Ishwardi-Rooppur 132kV Line, Highway	
78	T-18/1	1Q15+15M	56.4	2	712380.38	2665838.16	13.58		311			411	390		
									329					Pavement Road	
79	T-19/0	1D25+9	38.08	2	712181.72	2666100.68	13.88	6°37'49"RT	314		299	254	266		
									299					Tinshed	
80	T-20/0	1DT6-S	41.5		712030.27	2666357.93	14.12		149			134	138		
Total Double Circuit Route Length (m)=									19797						
Total Single Circuit Route Length (m)=									1062						


Md. Sohel Rana
Sub-Divisional Engineer
Transmission Line Design & QC
PGCB, Dhaka


(Engr. Md. Emdadul Hoque)
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(Syed Md. Sahriar Abdullah)
Superintending Engineer (Addl.ch)
TLD, Design & QC PGCB

14 FEB 2023



Annexure - 24

Submission copy of IEE Report to DoE

২২ মার্চ ২০২৬

বরাবর

পরিচালক

পরিবেশ অধিদপ্তর

রাজশাহী বিভাগীয় কার্যালয়

বগুড়া

পরিবেশ অধিদপ্তর
রাজশাহী বিভাগ, বগুড়া।
গ্রহণ করা হলো
নং : ৪৭০
স্বাক্ষর :
তারিখ : ২২/৩/২০২৬

বিষয়: "১০০ মেগাওয়াট এ সি গ্রিড সোলার পাওয়ার প্লান্ট" শীর্ষক উন্নয়ন প্রকল্পের অনুকূলে অনাপত্তি প্রদান প্রসঙ্গে

জনাব

গণপ্রজাতন্ত্রী সরকারের মাননীয় প্রধানমন্ত্রীর স্লোগান "শেখ হাসিনার উদ্যোগ ঘরে ঘরে বিদ্যুৎ" এই উদ্যোগের আওতায় পাবনা জেলার, পাবনা সদর উপজেলার হিমাইতপুর, ভবানীপুর গণপ্রজাতন্ত্রী বাংলাদেশ সরকারে বিদ্যুৎ আলানি ও খনিজ সম্পদ মন্ত্রণালয় কর্তৃক অনুমোদিত ১০০ মেগাওয়াট ক্ষমতার সৌরবিদ্যুৎ প্রকল্পটি বাস্তবায়ন করার জন্য " ডাইনামিক সাম এনার্জি প্রাইভেট লিমিটেড" কাজ করে যাচ্ছে। ইতোমধ্যে প্রকল্প স্থাপনের লক্ষ্যে পরিবেশ অধিদপ্তর অবস্থানগত ছাড়পত্রের অনুমতি নেওয়া জন্য পরিবেশ অধিদপ্তর পাবনা জেলা অফিসে আবেদন করি যার পর নং- ছাড়- ০৮, তারিখ ২২/০৮/২০২২

পরবর্তীতে পরিবেশ অধিদপ্তর রাজশাহী বিভাগীয় দপ্তরের পরিবেশগত ছাড়পত্র বিষয়ক কমিটির গত ১০ জানুয়ারি ২০২৩ইং তারিখের ১৭৮ তম সভায় সিদ্ধান্ত মোতাবেক আমরা ইতিমধ্যে প্রকল্পের অনুকূলে জেলা প্রসাসক হতে গন বিজ্ঞপ্তি হাতে পেয়েছি এবং পানি উন্নয়ন বোর্ডের থেকে অনাপত্তিপত্র সংগ্রহ করার জন্য আবেদন করেছি যদিও আমাদের প্রকল্প পানি উন্নয়ন বোর্ডের কোনো জমিতে পড়েনি।

এছাড়াও বোর্ড সভার সিদ্ধান্ত মোতাবেক আমরা বিভাগীয় কমিটির নিকট আইইইই প্রতিবেদন উপস্থাপন এর জন্য একটি প্রেসেন্টেশন তৈরি করেছি এবং উক্ত প্রেসেন্টেশন উপস্থাপনা করার জন্য একটি নির্ধারিত দিন এর জন্য আবেদন করছি।

পরিশেষে উপরিউক্ত বিষয় সুবিবেচনায় নিয়ে জাতীয় স্বার্থ সংশ্লিষ্ট উক্ত প্রকল্পটির দ্রুত বাস্তবায়নের লক্ষ্যে আমাদের প্রতিষ্ঠানের অনুকূলে অনাপত্তিপত্র প্রদানের জন্য প্রয়োজনীয় ব্যবস্থা গ্রহণ করার জন্য আপনাকে সবিনয় অনুরোধ করা যাচ্ছে।

ধন্যবাদান্তে

আপনার বিশ্বস্ত

সাইফুল ইসলাম ইমরান

ব্যবস্থাপক এবং পরামর্শক (ডি এস সি এল)

মোবাইল: ০১৭১৬৩৪২০৮২

Annexure - 25

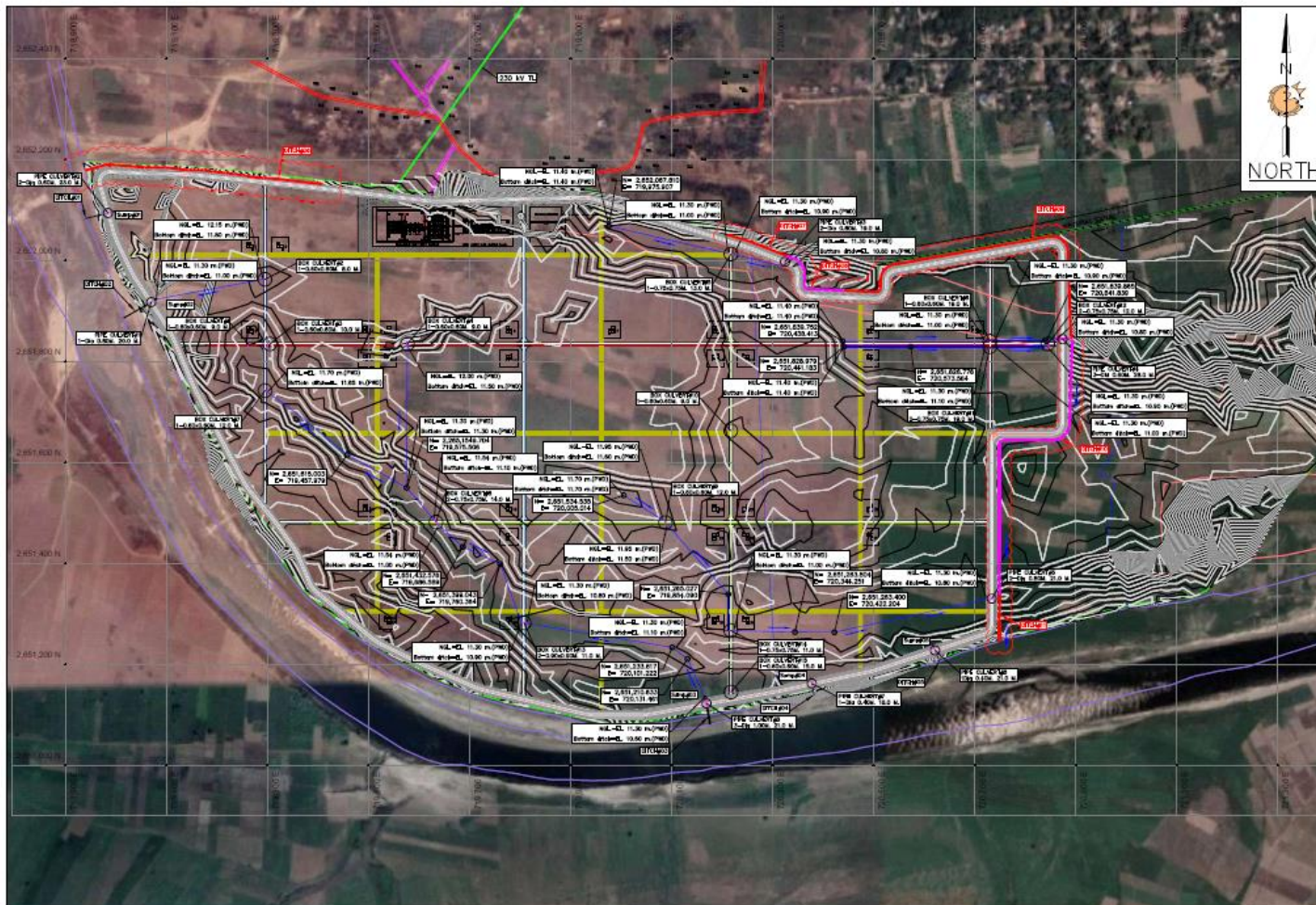
Drainage Plan of the Project Site

PROJECT :

FINAL DRAWING

100MW (AC) SOLAR PARK, BHABANIPUR, PABNA.

INTERNAL DRAINAGE PLAN



OWNER

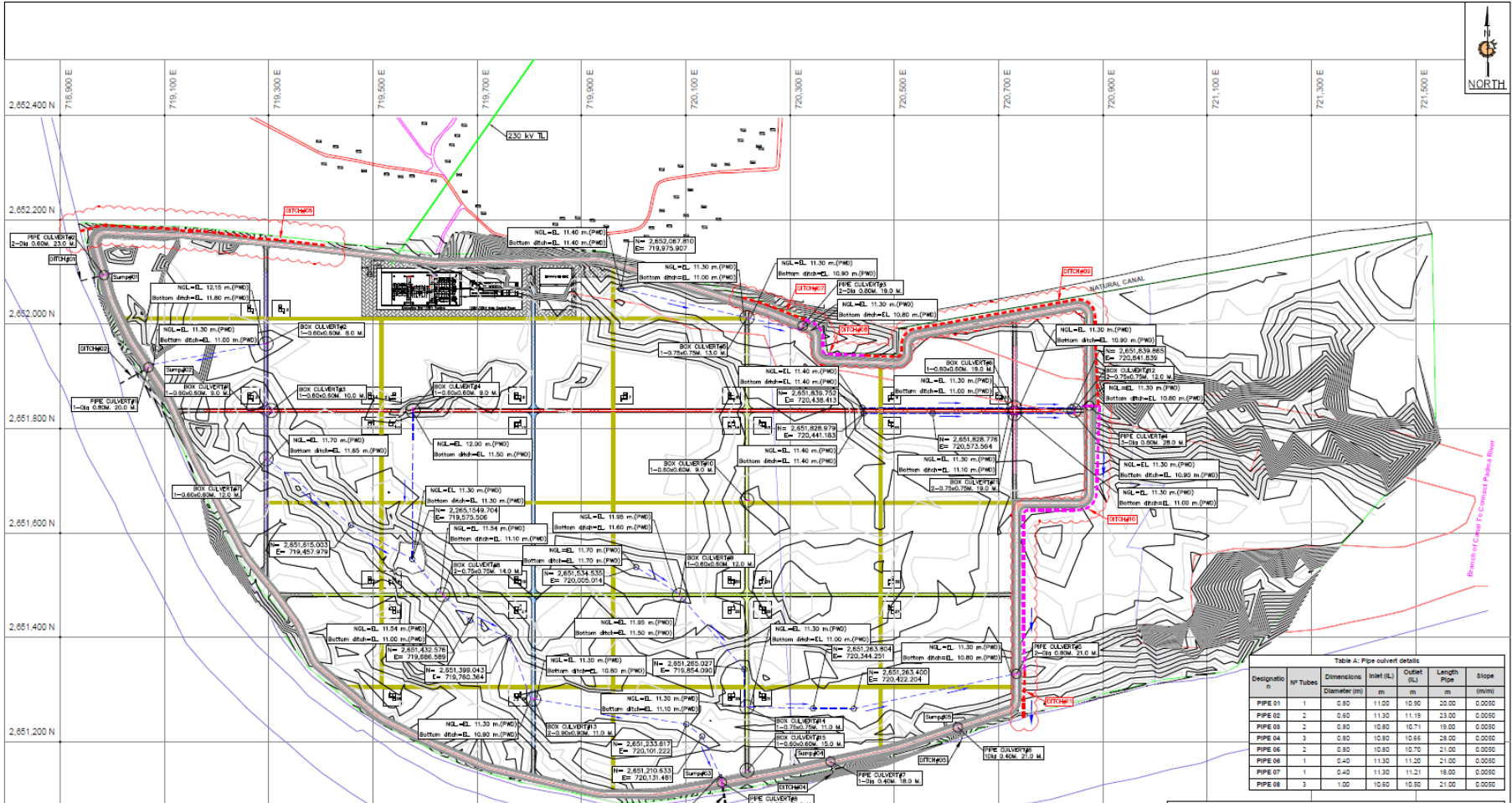
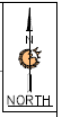
DYNAMIC SUN ENERGY
PRIVATE LIMITED

PREPARED BY

บริษัท อินฟราเทค เอ็นเนอร์จี้ จำกัด
Infratech Energy Co.,Ltd.



Infratech Energy Co., Ltd.
1032/217 Pahonyothin
18/1 RD. Jatujak District,
Bangkok 10900, Thailand
www.infratechenergy.com



LEGEND

- Project boundary / Fence
- Toe slope
- Intermediate drain
- Earth drain to river
- Flow line

LEGEND	REMARK
— 5.00 M. RD1_Boundary road/Cofferdam	EL.14.00 M. (P.W)
— 6.50 M. RD2_Internal road	EL.12.50 M. (P.W)
— 6.50 M. RD3_Internal road	EL.12.50 M. (P.W)
— 6.50 M. RD4_Internal road	EL.12.50 M. (P.W)
— 6.50 M. RD5_Internal road	EL.12.50 M. (P.W)
— 6.50 M. RD6_Internal road	EL.12.50 M. (P.W)
— 6.50 M. RD7_Internal road	EL.12.50 M. (P.W)

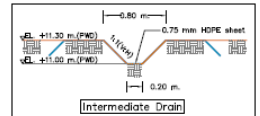


Table C: Sump details

Designation	Width (m)	Length (m)	Depth (m)
Sump-01	2.00	2.00	0.10
Sump-02	2.50	2.50	0.10
Sump-03	4.50	4.50	0.10
Sump-04	1.50	1.50	0.10
Sump-06	1.50	1.50	0.10

Table D: Ditch details

Designation	Type of ditch	Side Slope (1:H)	Dimensions (m)			Inlet (IL) m	Outlet (OL) m	Length Ditch (m)	Slope (i)
			T	B	H				
Ditch#1	Ground Ditch	2	2.00	0.40	0.40	11.19	11.02	34.11	0.0050
Ditch#2	Ground Ditch	2	2.50	0.50	0.50	10.90	10.63	53.14	0.0050
Ditch#3	Ground Ditch	2	4.50	0.90	0.90	10.80	10.34	31.65	0.0050
Ditch#4	Ground Ditch	2	1.50	0.30	0.30	11.21	11.14	13.78	0.0050
Ditch#5	Ground Ditch	2	1.50	0.30	0.30	11.20	11.14	12.93	0.0050
Ditch#6	Ground Ditch	2	3.00	0.60	0.60	12.10	9.74	47.67	0.0050
Ditch#7	Ground Ditch	2	3.50	0.70	0.70	11.85	11.40	126.10	0.0020
Ditch#8	Ground Ditch	2	5.00	1.00	1.00	11.10	10.77	161.55	0.0020
Ditch#9	Ground Ditch	2	5.50	1.10	1.10	10.67	9.32	879.23	0.0020
Ditch#10	Ground Ditch	2	9.30	1.90	1.10	9.32	8.69	626.55	0.0010
Ditch#11	Ground Ditch	2	9.30	1.90	1.10	8.69	8.60	89.94	0.0010

Table A: Pipe culvert details

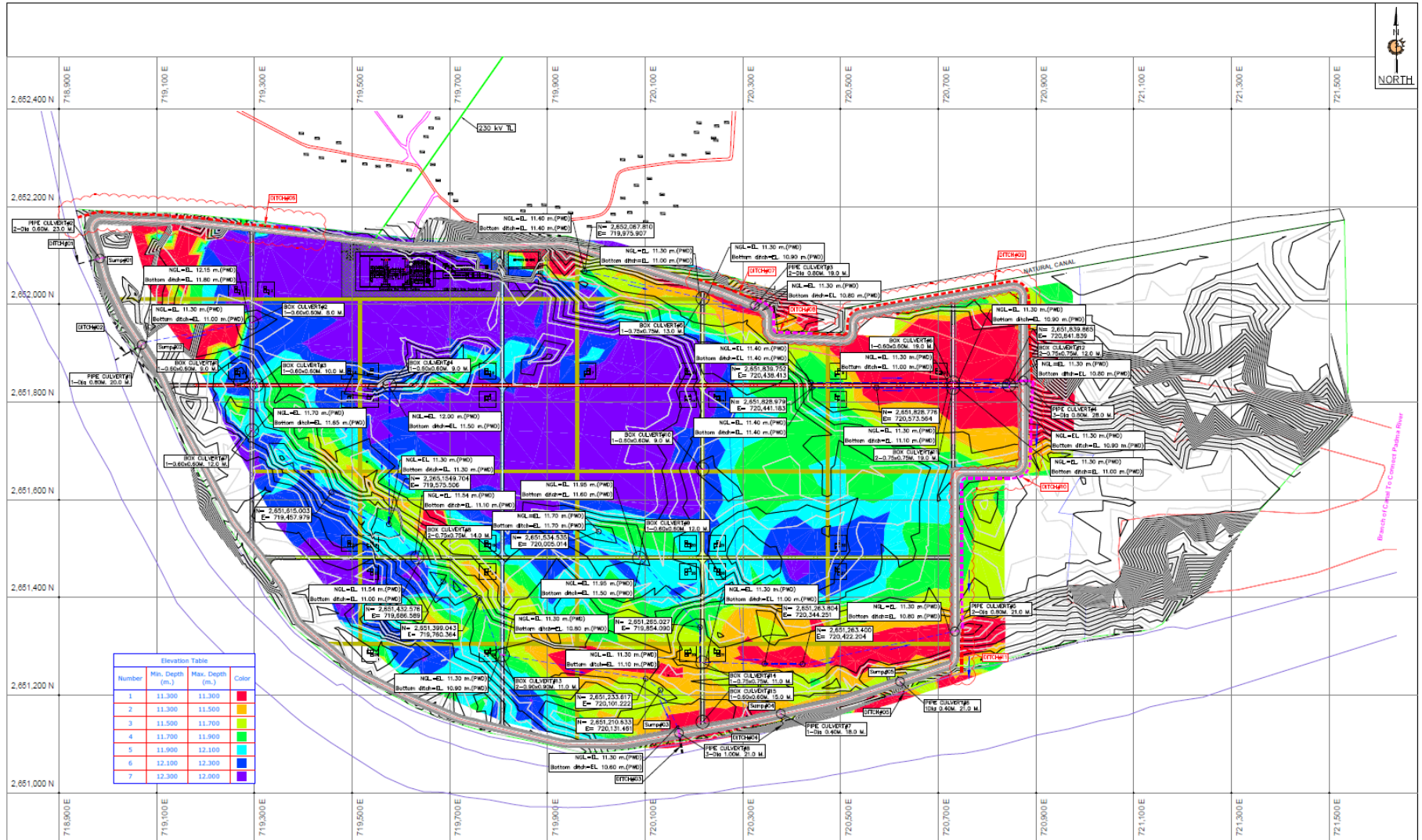
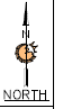
Designation	No Tubes	Dimensions		Inlet (IL) m	Outlet (OL) m	Length Pipe (m)	Slope
		Diameter (m)	Height (m)				
PIPE 01	1	0.60	1.00	11.00	10.90	20.00	0.0050
PIPE 02	2	0.60	1.10	11.19	11.19	23.00	0.0050
PIPE 03	2	0.60	10.80	10.71	10.90	19.00	0.0050
PIPE 04	3	0.60	10.80	10.66	10.90	28.00	0.0050
PIPE 06	2	0.60	10.90	10.70	11.00	21.00	0.0050
PIPE 08	1	0.40	11.30	11.20	11.00	21.00	0.0020
PIPE 07	1	0.40	11.30	11.21	11.00	18.00	0.0020
PIPE 08	3	1.00	10.90	10.80	11.00	21.00	0.0050

Table B: Box culvert details

Designation	No Culverts	Dimensions (m)		Inlet (IL) m	Outlet (OL) m	Length Box (m)	Slope
		(B) Length	(A) Height				
BOX-01	1	0.60	0.60	11.78	11.74	9.00	0.0050
BOX-02	1	0.60	0.60	11.85	11.81	8.00	0.0050
BOX-03	1	0.60	0.60	11.90	11.85	10.00	0.0050
BOX-04	1	0.60	0.60	11.70	11.66	9.00	0.0050
BOX-06	1	0.75	0.75	11.00	10.94	13.00	0.0050
BOX-08	1	0.60	0.60	11.00	10.91	19.00	0.0050
BOX-07	1	0.60	0.60	11.72	11.66	12.00	0.0050
BOX-08	2	0.75	0.75	11.10	11.03	14.00	0.0050
BOX-09	1	0.60	0.60	11.80	11.84	12.00	0.0050
BOX-09	1	0.60	0.60	11.85	11.81	9.00	0.0050
BOX-11	2	0.75	0.75	11.10	11.01	13.00	0.0050
BOX-12	2	0.75	0.75	10.90	10.84	12.00	0.0050
BOX-13	2	0.90	0.90	10.90	10.85	11.00	0.0050
BOX-14	1	0.75	0.75	11.10	11.05	11.00	0.0050
BOX-16	1	0.60	0.60	11.37	11.30	15.00	0.0050

Remark: Ditch#6 to Ditch#11 are designed for draining water from the external watersheds

PROJECT :	100M (AC) SOLAR PARK, BHABANPUR, PABNA.	OWNER :	DYNAMIC SUN ENERGY PRIVATE LIMITED	CONTRACTOR :	EPC :	DESIGN :	Intertech Energy Co., Ltd 19/2 (2/F) Palmyra Road, 19/1, 50/1, Ashraf Garden, Bangkok 10330, Thailand www.intertechenergy.com	DRAWING TITLE :	INTERNAL DRAINAGE PLAN	SCALE :	1 : 2,500
REV :	0 Oct / 18 / 2023	PRELIMINARY DESCRIPTION	SUBPHONG DRAWN	WANAGORN CHECKED	POOSIT RB 3489 APPROVED			DRAWING NO. :	DR - 1	PAPER :	A3 (m.)
								SHEET :			7



Elevation Table			
Number	Min. Depth (m.)	Max. Depth (m.)	Color
1	11.300	11.300	Red
2	11.300	11.500	Orange
3	11.500	11.700	Yellow
4	11.700	11.900	Light Green
5	11.900	12.100	Green
6	12.100	12.300	Dark Green
7	12.300	12.000	Blue

LEGEND		
LIST	REMARK	
	5.00 M. R01_Boundary road/Cofferdam	EL14.00 M. (P.W)
	6.50 M. R02_Internal road	EL12.50 M. P.W
	6.50 M. R03_Internal road	EL12.50 M. P.W
	6.50 M. R04_Internal road	EL12.50 M. P.W
	6.50 M. R05_Internal road	EL12.50 M. P.W
	6.50 M. R06_Internal road	EL12.50 M. P.W
	6.50 M. R07_Internal road	EL12.50 M. P.W

LEGEND	
	Project boundary / Fence
	Toe slope
	Intermediate drain
	Earth drain to river
	Flow line

PROJECT :	OWNER :	CONTRACTOR :	EPIC :	DESIGN :	DRAWING TITLE :	SCALE :
100MW (AC) SOLAR PARK, BHABHANPUR, PABNA.	DYNAMIC SUN ENERGY PRIVATE LIMITED				INTERNAL DRAINAGE PLAN (NOT FUNCTIONING IF OUTLINE BOUNDARY ROAD IS FLOODING)	1 : 7,500
DATE :	SUBMITTING DRAWN :	WANAJORN CHECKED :	POSIT BR.3489 APPROVED :		PROJECT DOCUMENT NO :	PAPER : A3 (m.)
01 Oct / 16 / 2023					DRAWING NO :	SHEET :
REV	DATE	DESCRIPTION			DR - 2	2
						9

INTERNAL. This information is accessible to ADB Management and staff. It may be shared outside ADB with appropriate permission.

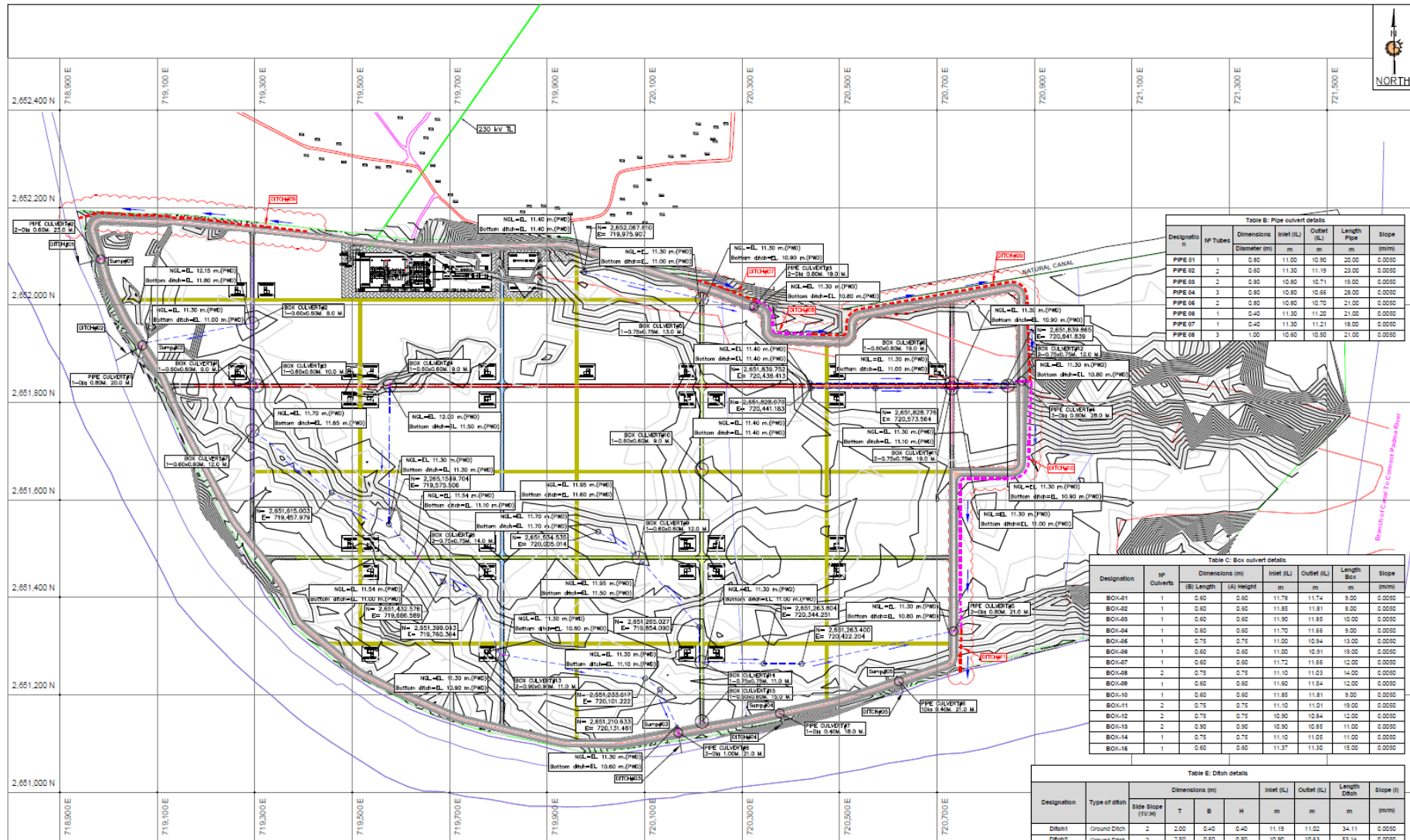
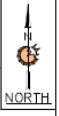


Table B: Pipe culvert details

Designation	HP Tubes	Dimensions (m)	Inlet (IL) (m)	Outlet (OL) (m)	Length Pipe (m)	Slope (1/m)
PIPE 01	1	0.80	11.00	10.90	20.00	0.0050
PIPE 02	2	0.80	11.30	11.20	23.00	0.0050
PIPE 03	2	0.80	10.90	10.71	19.00	0.0050
PIPE 04	3	0.80	10.90	10.66	28.00	0.0050
PIPE 05	2	0.80	10.80	10.73	21.00	0.0050
PIPE 06	1	0.40	11.30	11.20	21.00	0.0050
PIPE 07	1	0.40	11.30	11.21	18.00	0.0050
PIPE 08	3	1.00	10.60	10.50	21.00	0.0050

Table C: Box culvert details

Designation	HP Tubes	Dimensions (m)	Inlet (IL) (m)	Outlet (OL) (m)	Length Box (m)	Slope (1/m)	
BOX-01	1	0.80	0.80	11.78	11.74	9.50	0.0050
BOX-02	1	0.80	0.80	11.85	11.81	9.00	0.0050
BOX-03	1	0.80	0.80	11.90	11.85	10.00	0.0050
BOX-04	1	0.60	0.60	11.70	11.66	9.00	0.0050
BOX-05	1	0.75	0.75	11.00	10.84	10.00	0.0050
BOX-06	1	0.60	0.60	11.00	10.91	19.00	0.0050
BOX-07	1	0.60	0.60	11.72	11.66	12.00	0.0050
BOX-08	2	0.75	0.75	11.10	11.03	14.00	0.0050
BOX-09	1	0.60	0.60	11.60	11.54	12.00	0.0050
BOX-10	1	0.60	0.60	11.85	11.81	9.00	0.0050
BOX-11	2	0.75	0.75	11.10	11.01	19.00	0.0050
BOX-12	2	0.75	0.75	10.90	10.84	12.00	0.0050
BOX-13	2	0.75	0.75	10.90	10.85	11.00	0.0050
BOX-14	1	0.75	0.75	11.10	11.05	11.00	0.0050
BOX-15	1	0.60	0.60	11.37	11.30	15.00	0.0050

Table E: Ditch details

Designation	Type of ditch	Dimensions (m)				Inlet (IL) (m)	Outlet (OL) (m)	Length Ditch (m)	Slope (1/m)
		Side Slope (TV:HV)	T	B	H				
Ditch1	Ground Ditch <td>2</td> <td>0.40</td> <td>0.40</td> <td>11.19</td> <td>11.02</td> <td>34.11</td> <td>0.0050</td>	2	0.40	0.40	11.19	11.02	34.11	0.0050	
Ditch2	Ground Ditch <td>2</td> <td>2.80</td> <td>0.80</td> <td>0.80</td> <td>10.90</td> <td>10.63</td> <td>53.14</td> <td>0.0050</td>	2	2.80	0.80	0.80	10.90	10.63	53.14	0.0050
Ditch3	Ground Ditch <td>2</td> <td>4.00</td> <td>0.90</td> <td>0.90</td> <td>10.90</td> <td>10.34</td> <td>31.65</td> <td>0.0050</td>	2	4.00	0.90	0.90	10.90	10.34	31.65	0.0050
Ditch4	Ground Ditch <td>2</td> <td>1.50</td> <td>0.30</td> <td>0.30</td> <td>11.21</td> <td>11.14</td> <td>13.78</td> <td>0.0050</td>	2	1.50	0.30	0.30	11.21	11.14	13.78	0.0050
Ditch5	Ground Ditch <td>2</td> <td>1.50</td> <td>0.30</td> <td>0.30</td> <td>11.20</td> <td>11.14</td> <td>12.93</td> <td>0.0050</td>	2	1.50	0.30	0.30	11.20	11.14	12.93	0.0050
Ditch6	Ground Ditch <td>2</td> <td>3.00</td> <td>0.80</td> <td>0.80</td> <td>12.10</td> <td>9.74</td> <td>47.87</td> <td>0.0050</td>	2	3.00	0.80	0.80	12.10	9.74	47.87	0.0050
Ditch7	Ground Ditch <td>2</td> <td>3.50</td> <td>0.70</td> <td>0.70</td> <td>11.65</td> <td>11.40</td> <td>126.10</td> <td>0.0050</td>	2	3.50	0.70	0.70	11.65	11.40	126.10	0.0050
Ditch8	Ground Ditch <td>2</td> <td>5.00</td> <td>1.00</td> <td>1.00</td> <td>11.10</td> <td>10.77</td> <td>161.69</td> <td>0.0050</td>	2	5.00	1.00	1.00	11.10	10.77	161.69	0.0050
Ditch9	Ground Ditch <td>2</td> <td>5.00</td> <td>1.10</td> <td>1.10</td> <td>10.87</td> <td>9.32</td> <td>679.23</td> <td>0.0050</td>	2	5.00	1.10	1.10	10.87	9.32	679.23	0.0050
Ditch10	Ground Ditch <td>2</td> <td>9.30</td> <td>4.90</td> <td>1.10</td> <td>9.32</td> <td>8.89</td> <td>628.55</td> <td>0.0100</td>	2	9.30	4.90	1.10	9.32	8.89	628.55	0.0100
Ditch11	Ground Ditch <td>2</td> <td>9.30</td> <td>4.90</td> <td>1.10</td> <td>8.89</td> <td>8.60</td> <td>89.84</td> <td>0.0100</td>	2	9.30	4.90	1.10	8.89	8.60	89.84	0.0100

Table D: Sump details

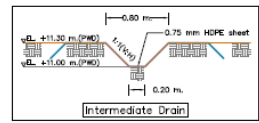
Designation	Width (m)	Length (m)	Depth (m)
Sump-01	2.00	2.00	0.10
Sump-02	2.50	2.50	0.10
Sump-03	4.50	4.50	0.10
Sump-04	1.50	1.50	0.10
Sump-05	1.50	1.50	0.10

LEGEND

LIST	REMARK
5.00 m. R01_Boundary road/Cofferdam	EL.14.00 m. (P.W)
6.50 m. R02_Internal road	EL.12.50 m. (P.W)
6.50 m. R03_Internal road	EL.12.50 m. (P.W)
6.50 m. R04_Internal road	EL.12.50 m. (P.W)
6.50 m. R05_Internal road	EL.12.50 m. (P.W)
6.50 m. R06_Internal road	EL.12.50 m. (P.W)
6.50 m. R07_Internal road	EL.12.50 m. (P.W)

LEGEND

- Project boundary / Fence
- Toe slope
- Intermediate drain
- Earth drain to river
- Flow line



PROJECT :	100MW (AC) SOLAR PARK, BHABANPUR, PABNA.	OWNER :	DYNAMIC SUN ENERGY PRIVATE LIMITED	CONTRACTOR :		EPIC :		DESIGN :	Watech Energy Co., Ltd. 145/201, Akshaypasha, 10/7, Rd., Shuja Bazar, Dhaka-1000, Dhaka. www.watechenergy.com	DRAWING TITLE :	INTERNAL DRAINAGE PLAN	SCALE :	1 : 7,500
REV	DATE	DESCRIPTION	DESIGNED	CHECKED	APPROVED					DRAWING NO. :	DR - 2	PAPER :	A3 (m.)
0	Oct / 19 / 2023	PRELIMINARY	SUBPHONG	KANAGORN	PODDET	BR.3489				DRAWING NO. :	DR - 2	SHEET :	2