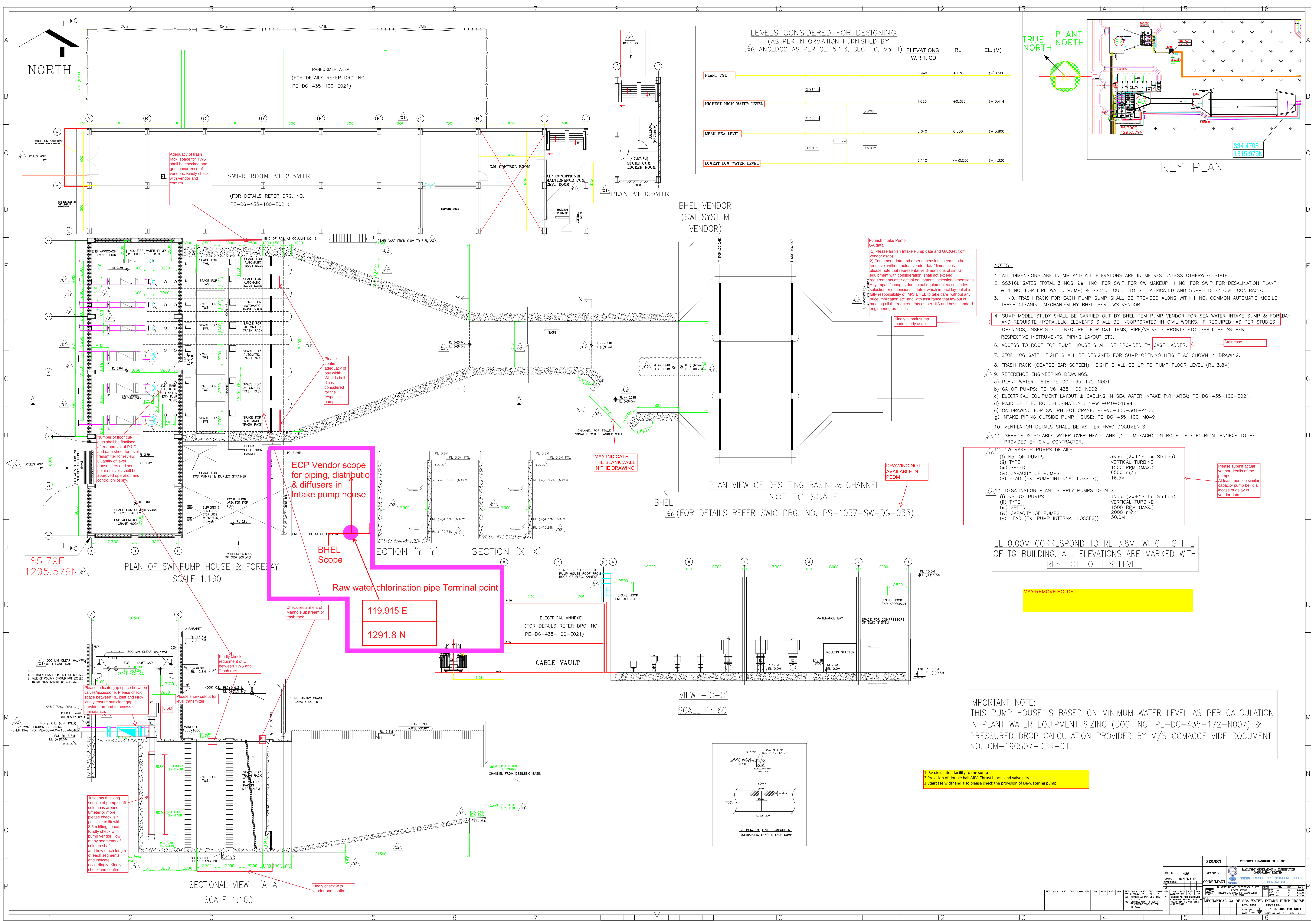
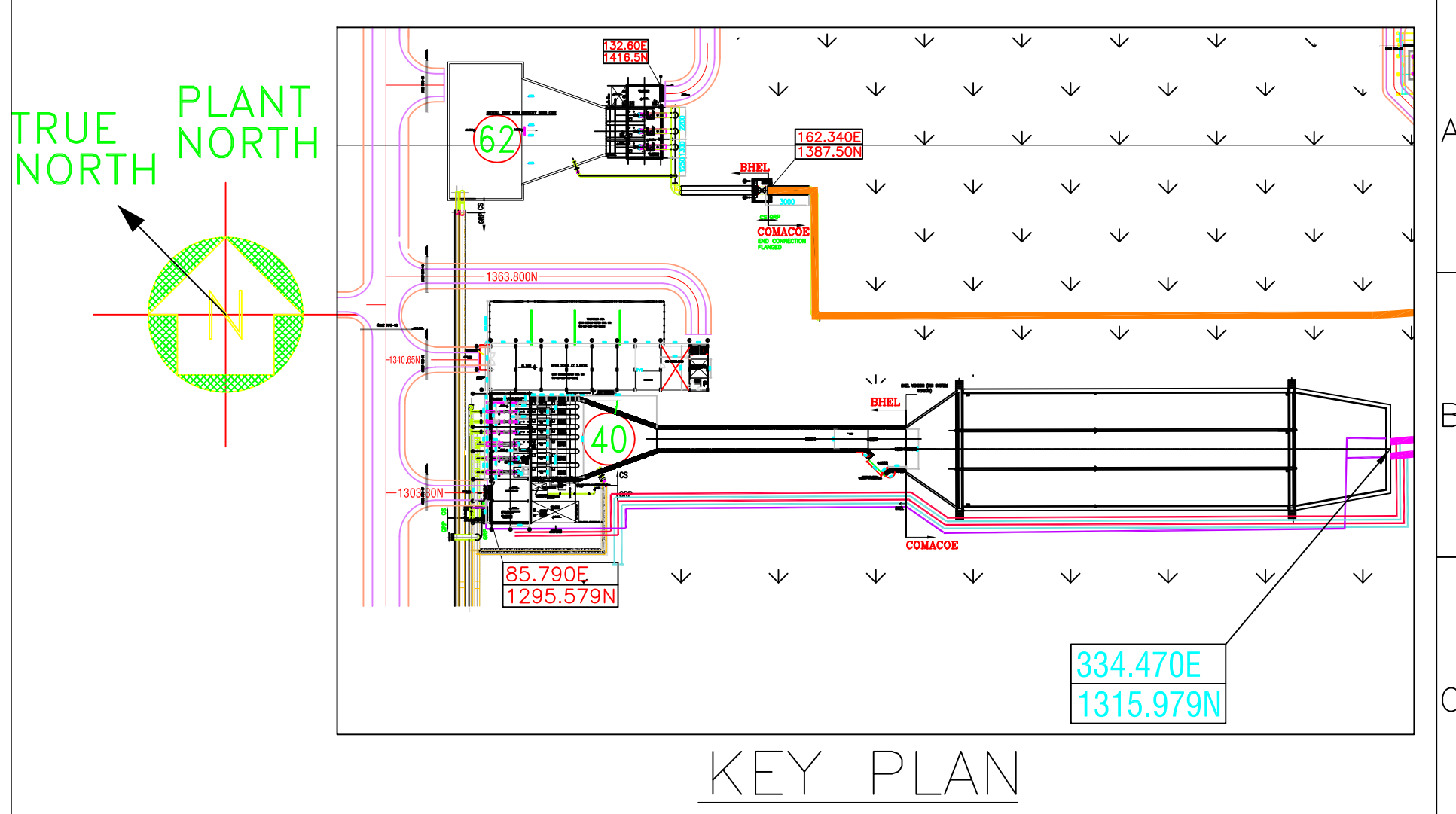




LEVELS CONSIDERED FOR DESIGNING (AS PER INFORMATION FURNISHED BY TANGEDCO AS PER CL. 5.1.3, SEC 1.0, Vol II)			
	ELEVATIONS W.R.T. CD	RL	EL. (M)
PLANT FGL	3.940	+3.300	(-0.500)
HIGHEST HIGH WATER LEVEL	1.026	+0.386	(-3.414)
MEAN SEA LEVEL	0.640	0.000	(-3.800)
LOWEST LOW WATER LEVEL	0.110	(-0.530)	(-4.330)



- NOTES :
- ALL DIMENSIONS ARE IN MM AND ALL ELEVATIONS ARE IN METRES UNLESS OTHERWISE STATED.
 - SS316L GATES (TOTAL 3 NOS. i.e. 1NO. FOR SWP FOR CW MAKEUP, 1 NO. FOR SWP FOR DESALINATION PLANT, & 1 NO. FOR FIRE WATER PUMP) & SS316L GUIDE TO BE FABRICATED AND SUPPLIED BY CIVIL CONTRACTOR.
 - 1 NO. TRASH RACK FOR EACH PUMP SUMP SHALL BE PROVIDED ALONG WITH 1 NO. COMMON AUTOMATIC MOBILE TRASH CLEANING MECHANISM BY BHEL-PEM TWS VENDOR.
 - SUMP MODEL STUDY SHALL BE CARRIED OUT BY BHEL PEM PUMP VENDOR FOR SEA WATER INTAKE SUMP & FOR BAY AND REQUISITE HYDRAULIC ELEMENTS SHALL BE INCORPORATED IN CIVIL WORKS, IF REQUIRED, AS PER STUDIES.
 - OPENINGS, INSERTS ETC. REQUIRED FOR C&I ITEMS, PIPE/VALVE SUPPORTS ETC. SHALL BE AS PER RESPECTIVE INSTRUMENTS, PIPING LAYOUT ETC.
 - ACCESS TO ROOF FOR PUMP HOUSE SHALL BE PROVIDED BY CAGE LADDER.
 - STOP LOG GATE HEIGHT SHALL BE DESIGNED FOR SUMP OPENING HEIGHT AS SHOWN IN DRAWING.
 - TRASH RACK (COARSE BAR SCREEN) HEIGHT SHALL BE UP TO PUMP FLOOR LEVEL (RL 3.8M).
 - REFERENCE ENGINEERING DRAWINGS:
 - a) PLANT WATER P&ID: PE-DG-435-172-N001
 - b) GA OF PUMPS: PE-V6-435-100-N002
 - c) ELECTRICAL EQUIPMENT LAYOUT & CABLING IN SEA WATER INTAKE P/H AREA: PE-DG-435-100-E021.
 - d) P&ID OF ELECTRO CHLORINATION : 1-WT-040-01694
 - e) GA DRAWING FOR SWI PH EOT CRANE: PE-V0-435-501-A105
 - f) INTAKE PIPING OUTSIDE PUMP HOUSE: PE-DG-435-100-M049
 - VENTILATION DETAILS SHALL BE AS PER HVAC DOCUMENTS.
 - SERVICE & POTABLE WATER OVER HEAD TANK (1 CUM EACH) ON ROOF OF ELECTRICAL ANNEXE TO BE PROVIDED BY CIVIL CONTRACTOR.

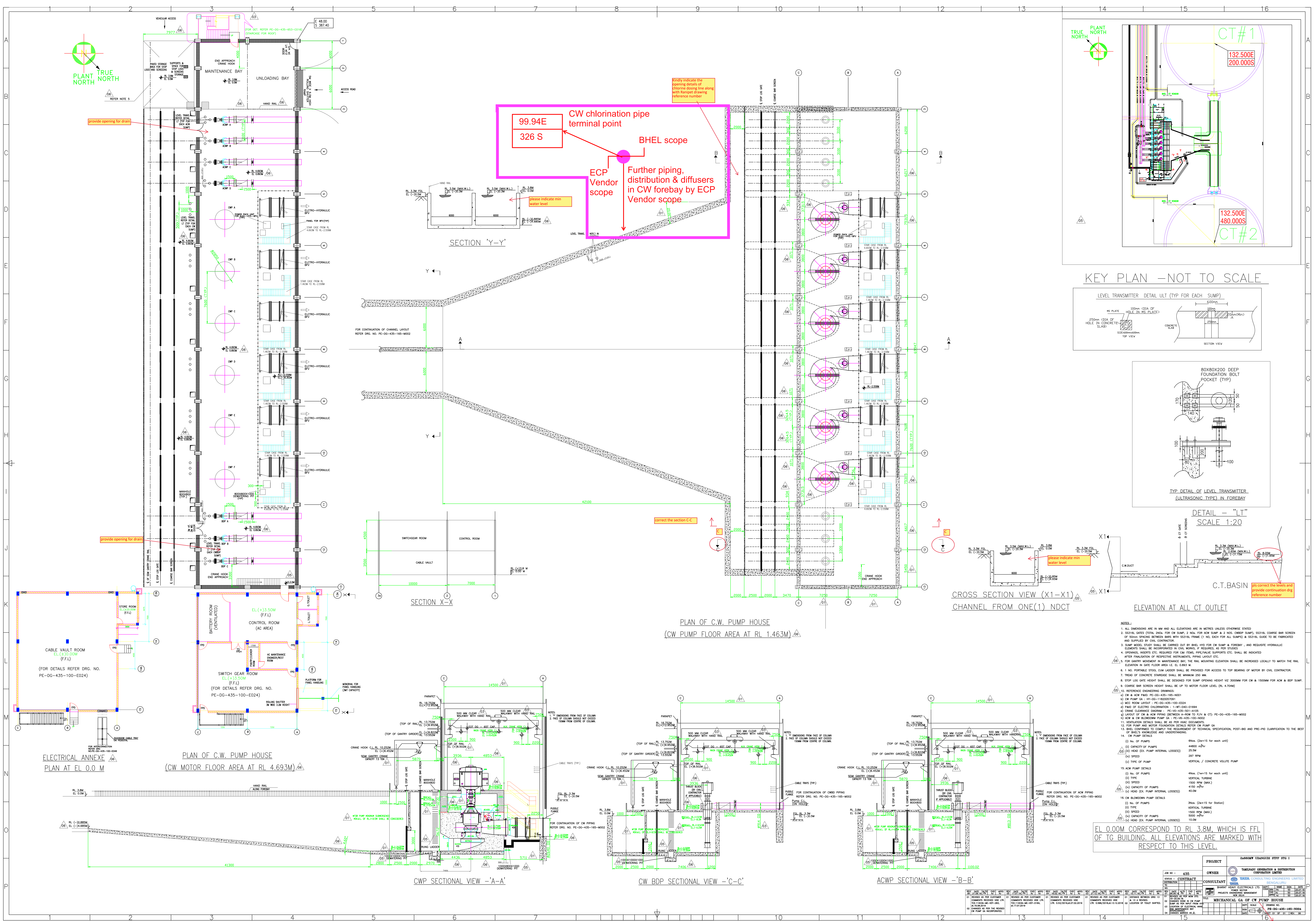
12. CW MAKEUP PUMPS DETAILS
- | | |
|-------------------------------------|---------------------------|
| (i) NO. OF PUMPS | 3Nos. (2w+1S for Station) |
| (ii) TYPE | VERTICAL TURBINE |
| (iii) SPEED | 1500 RPM (MAX.) |
| (iv) CAPACITY OF PUMPS | 6500 m ³ /hr |
| (v) HEAD (EX. PUMP INTERNAL LOSSES) | 16.5M |
13. DESALINATION PLANT SUPPLY PUMPS DETAILS
- | | |
|-------------------------------------|---------------------------|
| (i) NO. OF PUMPS | 3Nos. (2w+1S for Station) |
| (ii) TYPE | VERTICAL TURBINE |
| (iii) SPEED | 1500 RPM (MAX.) |
| (iv) CAPACITY OF PUMPS | 2000 m ³ /hr |
| (v) HEAD (EX. PUMP INTERNAL LOSSES) | 30.0M |

EL 0.00M CORRESPOND TO RL 3.8M, WHICH IS FFL OF TG BUILDING. ALL ELEVATIONS ARE MARKED WITH RESPECT TO THIS LEVEL.

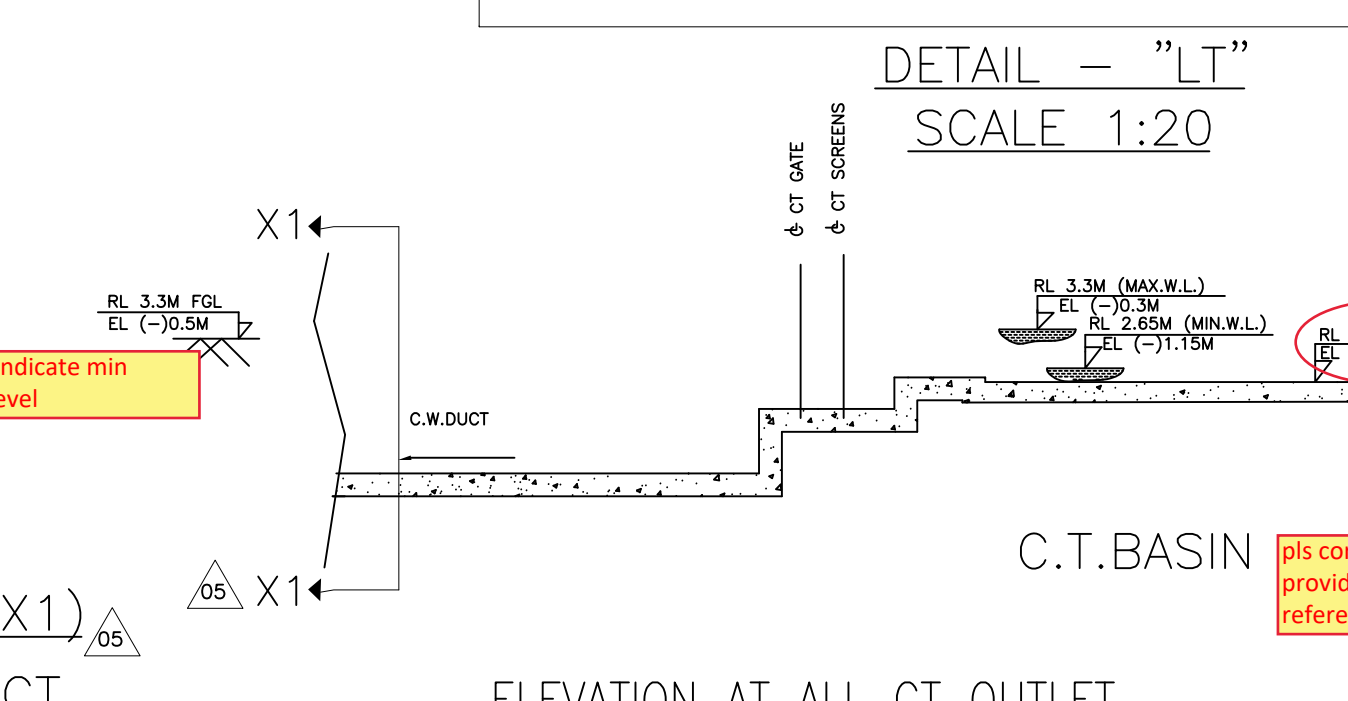
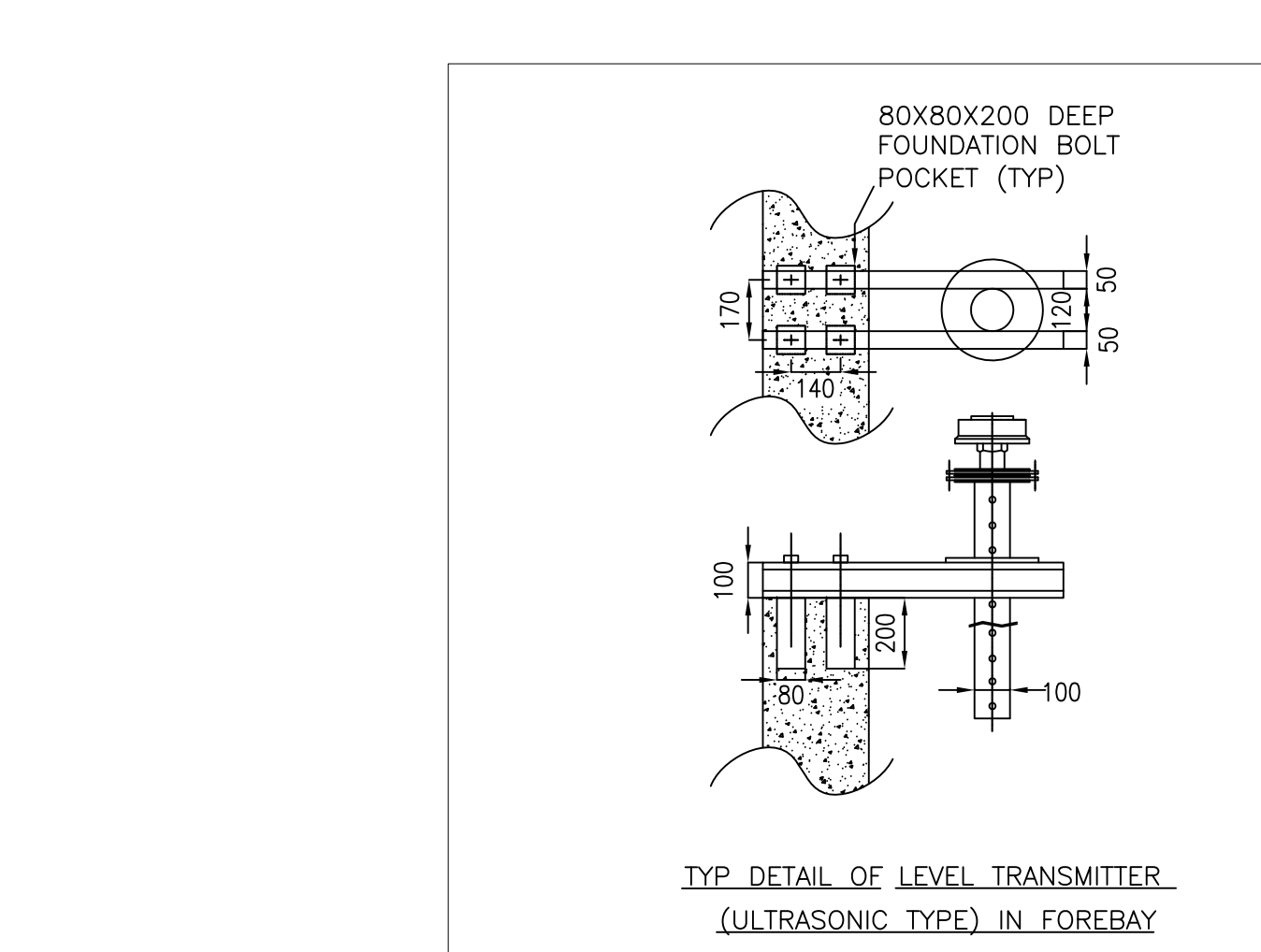
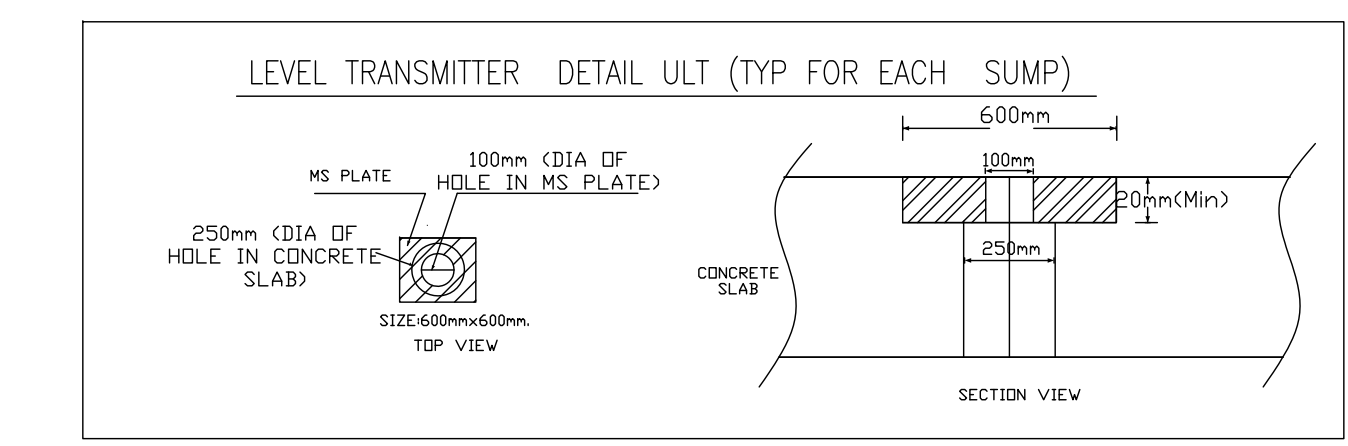
IMPORTANT NOTE:
THIS PUMP HOUSE IS BASED ON MINIMUM WATER LEVEL AS PER CALCULATION IN PLANT WATER EQUIPMENT SIZING (DOC. NO. PE-DC-435-172-N007) & PRESSURED DROP CALCULATION PROVIDED BY M/S COMACOE VIDE DOCUMENT NO. CM-190507-DBR-01.

- Re circulation facility to the sump
- Provision of double ball ARV, Thrust blocks and valve pits.
- Staircase width and also please check the provision of De-watering pump

PROJECT		24600MM URBANIZING STEP STG 1	
OWNER	WAVIA CONSULTING ENGINEERS LIMITED	CONSULTANT	WAVIA CONSULTING ENGINEERS LIMITED
DATE	2024-07-01	SCALE	AS SHOWN
NO.	01	DATE	2024-07-01
REV.	01	DATE	2024-07-01
REV.	02	DATE	2024-07-01
REV.	03	DATE	2024-07-01
REV.	04	DATE	2024-07-01
REV.	05	DATE	2024-07-01
REV.	06	DATE	2024-07-01
REV.	07	DATE	2024-07-01
REV.	08	DATE	2024-07-01
REV.	09	DATE	2024-07-01
REV.	10	DATE	2024-07-01
REV.	11	DATE	2024-07-01
REV.	12	DATE	2024-07-01
REV.	13	DATE	2024-07-01
REV.	14	DATE	2024-07-01
REV.	15	DATE	2024-07-01
REV.	16	DATE	2024-07-01
REV.	17	DATE	2024-07-01
REV.	18	DATE	2024-07-01
REV.	19	DATE	2024-07-01
REV.	20	DATE	2024-07-01



KEY PLAN -NOT TO SCALE



ELEVATION AT ALL CT OUTLET

- NOTES:
1. ALL DIMENSIONS ARE IN MM AND ALL ELEVATIONS ARE IN METRES UNLESS OTHERWISE STATED
 2. 55316 GATES (TOTAL 2NO. FOR CW SUMP, 2 NO. FOR ACW SUMP & 2 NOS. OVER SUMP), 55316 COARSE BAR SCREEN OF 50mm SPACING BETWEEN BARS WITH 55316 FRAME (1 NO. EACH FOR ALL SUMPS) & 55316 GATE TO BE FABRICATED AND SUPPLIED BY CIVIL CONTRACTOR
 3. SUMP MODEL STUDY SHALL BE CARRIED OUT BY BHEL HYD FOR CW SUMP & FOREBAY, AND REQUEST HYDRAULIC ELEMENTS SHALL BE INCORPORATED IN CIVIL WORKS, IF REQUIRED, AS PER STUDIES
 4. OPENINGS, INSERTS ETC. REQUIRED FOR C&M ITEMS, PIPE/VALVE SUPPORTS ETC. SHALL BE INDICATED AFTER FINALIZATION OF RESPECTIVE INSTRUMENTS, PIPING LAYOUT ETC.
 5. FOR GANTRY MOVEMENT IN MAINTENANCE BAY, THE RAIL MOUNTING ELEVATION SHALL BE INCREASED LOCALLY TO MATCH THE RAIL ELEVATION IN GATE FLOOR AREA I.E. EL. 0.00 M
 6. 1 NO. PORTABLE STEEL C&M LADDER SHALL BE PROVIDED FOR ACCESS TO TOP BEARING OF MOTOR BY CIVIL CONTRACTOR
 7. THREAD OF CONCRETE STAIRCASE SHALL BE MINIMUM 250 MM
 8. STOP LOG GATE HEIGHT SHALL BE DESIGNED FOR SUMP OPENING HEIGHT 152.000MM FOR CW & 1500MM FOR ACW & BDP SUMP
 9. COARSE BAR SCREEN HEIGHT SHALL BE UP TO MOTOR FLOOR LEVEL (EL. 4.704M)
 10. REFERENCE ENGINEERING DRAWINGS:
 - (a) CW & ACW P&ID: PE-DG-435-105-M001
 - (b) CW PUMP GA: PE-DG-435-105-M001
 - (c) ACW ROOM LAYOUT: PE-DG-435-105-M002
 - (d) P&ID OF ELECTRIC CHLORINATION: L-PE-DG-435-105-M004
 - (e) CRANE CLEARANCE DIAGRAM: PE-DG-435-105-M002
 - (f) LAYOUT OF CW & ACW PIPING (BETWEEN A-ROW TO F&M & C/T): PE-DG-435-105-M002
 - (g) ACW & CW BLOWDOWN PUMP GA: PE-DG-435-105-M002
 - (h) INSTRUMENT SCHEDULES SHALL BE AS PER HANG BOARDING
 - (i) FOR PUMP AND MOTOR FOUNDATION DETAILS REFER CW PUMP GA
 - (j) BHEL CONFORMED TO COMPLY THE REQUIREMENT OF TECHNICAL SPECIFICATION, POST-BID AND PRE-BID CLARIFICATION TO THE BEST OF BHEL'S KNOWLEDGE AND UNDERSTANDING
 11. NO. OF PUMPS: 6Nos. (2x15 for each unit)
 - (i) CAPACITY OF PUMPS: 44800 m³/hr
 - (ii) HEAD DES. PUMP INTERNAL LOSSES: 25.5M
 - (iii) SPEED: 297 RPM
 - (iv) TYPE OF PUMP: VERTICAL / CONCRETE VOLUTE PUMP
 12. ACW PUMP DETAILS:
 - (i) NO. OF PUMPS: 2Nos. (2x15 for each unit)
 - (ii) TYPE: VERTICAL TURBINE
 - (iii) SPEED: 1500 RPM (MAX.)
 - (iv) HEAD (EX. PUMP INTERNAL LOSSES): 41.80 m
 - (v) HEAD (EX. PUMP INTERNAL LOSSES): 40.0M
 13. CW BLOWDOWN PUMP DETAILS:
 - (i) NO. OF PUMPS: 2Nos. (2x15 for each unit)
 - (ii) TYPE: VERTICAL TURBINE
 - (iii) SPEED: 1500 RPM (MAX.)
 - (iv) HEAD (EX. PUMP INTERNAL LOSSES): 20.00 m
 - (v) HEAD (EX. PUMP INTERNAL LOSSES): 10.0M

EL. 0.00M CORRESPOND TO RL. 3.8M, WHICH IS FFL OF TG BUILDING. ALL ELEVATIONS ARE MARKED WITH RESPECT TO THIS LEVEL.

PROJECT	2x660MW CHANGSHI STEP 1
OWNER	TUMAKA GENERATION & DISTRIBUTION CORPORATION LIMITED
CONSULTANT	YANTRA CONSULTING ENGINEERS LIMITED
DATE	01.07.2019
SCALE	AS SHOWN
TITLE	MECHANICAL GA OF CW PUMP HOUSE
DRW. NO.	PE-DG-435-105-M004
SCALE	AS SHOWN
DATE	01.07.2019
BY	DR. S. S. S. S.
CHECKED BY	DR. S. S. S. S.
APPROVED BY	DR. S. S. S. S.