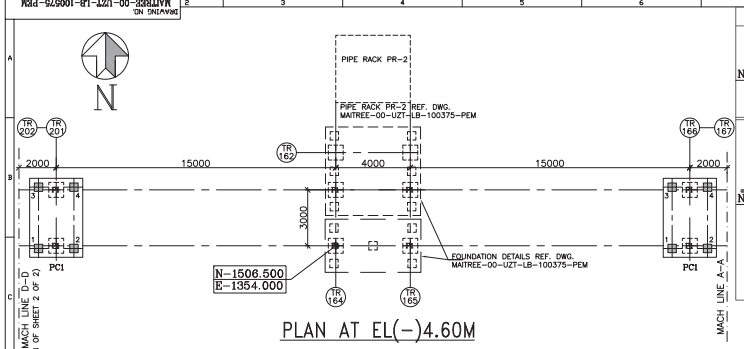
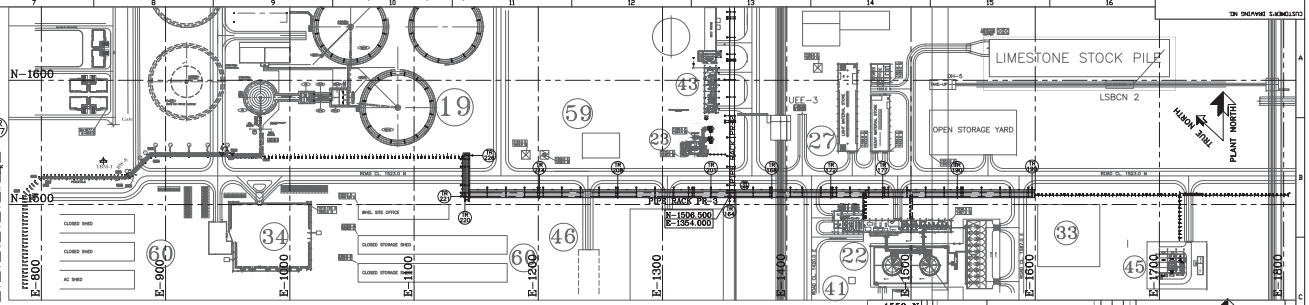
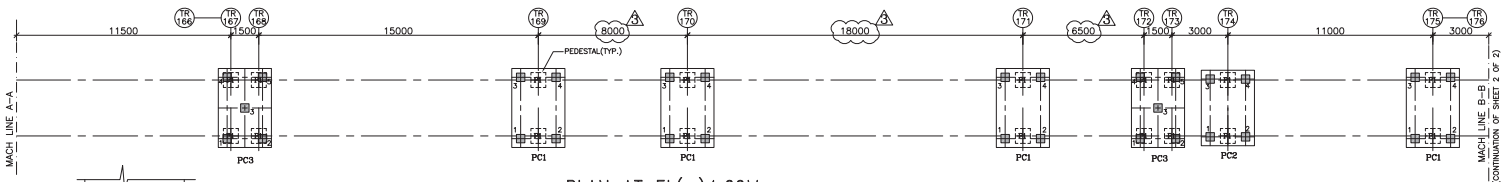


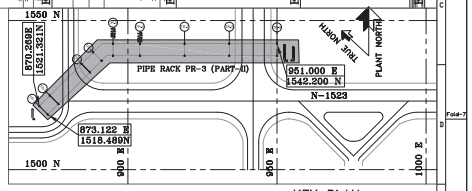
PLAN AT EL(−)4.60M



KEY PLAN

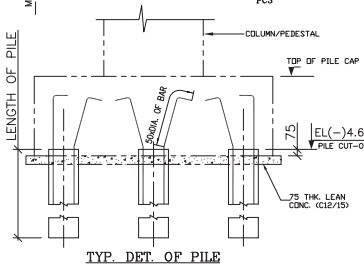


PLAN AT EL(−)4.60M



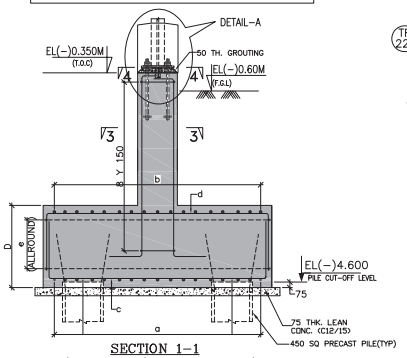
KEY PLAN

TO BE READ IN CONJUNCTION WITH SHEET 2 OF 2

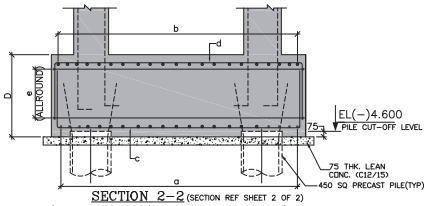


TYP. DET. OF PILE CAP AND PILE CUT-OFF

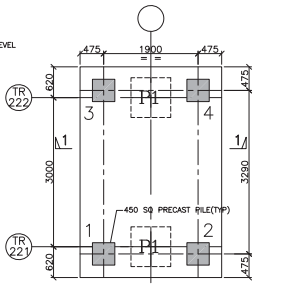
NOTE: CUT-OFF LEVELS OF ALL PILES SHALL BE 75 MM ABOVE BOTTOM OF PILE CAP UNLESS NOTED OTHERWISE.



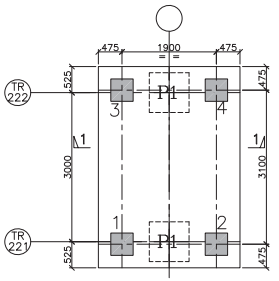
SECTION 1-1
(COLUMN & PILE R/F NOT SHOWN FOR CLARITY)



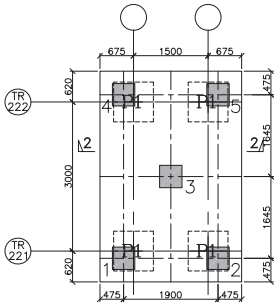
SECTION 2-2 (SECTION REF SHEET 2 OF 2)
(COLUMN & PILE R/F NOT SHOWN FOR CLARITY)



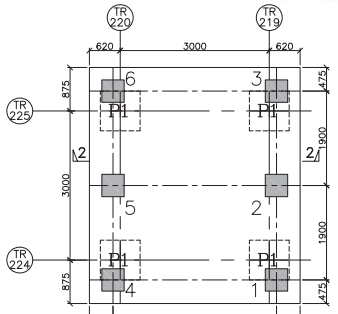
TYP. PILE & PILE CAP DETAILS FOR PC1



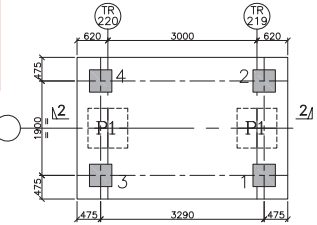
TYP. PILE & PILE CAP DETAILS FOR PC2



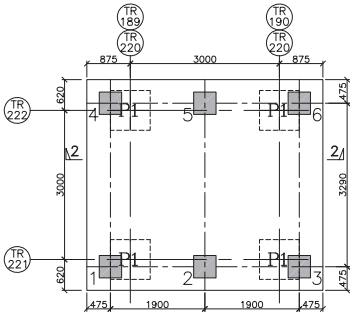
TYP. PILE & PILE CAP DETAILS FOR PC3



TYP. PILE & PILE CAP DETAILS FOR PC4A



TYP. PILE & PILE CAP DETAILS FOR PC1A



TYP. PILE & PILE CAP DETAILS FOR PC4

TABLE−A (SCHEDULE OF FOUNDATION REINFORCEMENT)

Pile cap Marked	Depth	REINFORCEMENT					SKIN RENF. Mkd-e
	D	Bottom Mkd-a	Top Bar Mkd-b	Bottom Mkd-c	Top Bar Mkd-d	SHEAR REINFORCEMENT	
PC1	750	16 Y 150	12 Y 150	16 Y 150	12 Y 150	-	12 Y 250
PC1A	750	16 Y 150	12 Y 150	16 Y 150	12 Y 150	-	12 Y 250
PC2	700	16 Y 175	12 Y 175	16 Y 175	12 Y 175	-	12 Y 250
PC3	700	16 Y 175	12 Y 175	16 Y 175	12 Y 175	-	12 Y 250
PC4	700	16 Y 175	12 Y 175	16 Y 175	12 Y 175	-	12 Y 250
PC4A	700	16 Y 175	12 Y 175	16 Y 175	12 Y 175	-	12 Y 250
PC5	850	20 Y 200	16 Y 200	20 Y 200	20 Y 200	-	12 Y 250
PC6	850	20 Y 225	20 Y 225	20 Y 225	20 Y 225		12 Y 250

BHEL - PROJECT ENGINEERING MANAGEMENT (CIVIL)
RELEASED FOR CONSTRUCTION
ISSUED BY: FARRUKH JAMAL
DATE: 29/05/2019
APPROVED IN FIO-N CATEGORY ON 16/12/2018

Vetted & Approved by Prof. B. NAGESWARA RAO Structural Engineering Laboratory Department of Civil Engineering IIT Madras, Chennai - 600 036

IMP. NOTE FOR BACKFILLING:−

BACKFILLING AROUND THE FOUNDATIONS SHALL BE CARRIED OUT WITH EXCAVATED DREDGED SAND IN HORIZONTAL LAYERS NOT EXCEEDING 250MM IN LOOSE THICKNESS AND EACH LAYER SHALL BE COMPACTED TO ACHIEVE AT LEAST 85% OF RELATIVE DENSITY AS PER ASTM 4253 & 4254.

NOTES

1. ALL DIMENSIONS ARE IN MM'S AND LEVELS ARE IN METRES.
2. EL (±)0.00 M CORRESPONDS TO RL (+) 5.60M, WHICH IS FINISHED FLOOR LEVEL OF STG BUILDING.
3. ALL STRUCTURAL CONCRETE SHALL BE DESIGN MIX CONC. OF GRADE C30/37 UNLESS OTHERWISE NOTED.
4. ALL REINFORCEMENTS SHALL BE OF GRADE 8500B CONFORMING TO BS 4449.
5. LAP LENGTH/DEVLOPMENT LENGTH FOR STEEL REINF. BARS SHELL BE 46xDIA. OF BAR.
6. PILES HAVE BEEN SIZED BASED ON THE FOLLOWING SAFE LOAD CARRYING CAPACITY OF PILE.

SL. NO.	PILE SIZE (mm)	VERTICAL LOAD CAPACITY (t)	TENSILE LOAD CAPACITY (t)	LATERAL LOAD CAPACITY (t)	NO. OF PILES
1	450 SQ.	85	25	7	215

7. ALL FOUNDATION & PEDESTAL WORK BELOW GROUND SHALL BE PROVIDED WITH BITUMINOUS PAINTING

REFERENCE DRAWINGS :−

1. MAITREE-0-MA-LD-120001PEM ----- PLOT PLAN
2. MAITREE-00-UZT-MB-120018-PEM-0 - YARD PIPING & TRESTLE LAYOUT-2 (DM PLANT & FUEL OIL AREA)
3. MAITREE-00-UZT-LB-100375-PEM-0 - PIPE RACK PR-2 FOUNDATION LAYOUT & DETAILS

LEGENDS.:−

(T.O.C.)	TOP OF CONCRETE
(B/F)	BOTH FACE
EL.	ELEVATION
(TYP)	TYPICAL
F.G.L.	FINISHED GROUND LEVEL
REF.	REFERENCE
STD.	STANDARD
	450 SQ PRECAST DRIVEN PILE

20 Y 175 — C/C OF BAR; REINFORCEMENT STEEL; DIA OF BAR

TOTAL QUANTITY (EXCEPT PILES)	
CONCRETE : 750 Cum.	(APPROX)
REINFORCEMENT : 72 MT	(APPROX)

BHEL−PROJECT ENGINEERING MANAGEMENT(CIVIL)

THIS DRAWING MARKED(✓) IS RELEASED FOR
- ☑ COMMENTS/APPROVAL
- ☐ PLANNING/INFORMATION
- ☐ CONSTRUCTION

STAMP ALL PREVIOUS REVISION AS SUPERSEDED

ISSUED BY	
NAME	SACHIN PANDIT
SIGNATURE	Sd/-
DATE	26 April 2019

	DATE	ALTERED	CHECKED	APPROVED	NOTE
3	26.04.19	R.S.	DILIP	A.N.	REVISED AS PER PEM−MPL & BHEL SITE OBSERVATIONS AND REVISED MKD. AS.
2	28.02.19	R.S.	DILIP	A.N.	PEDESTAL LEVEL AND BOLT DETAIL UPDATED & MKD. AS.
1	29.11.18	R.S.	DILIP	A.N.	REVISED AS PER MPL REVISED LAYOUT DWG.

PROJECT
2x660MW MAITREE SUPER THERMAL POWER PROJECT, RAMPAL, BANGLADESH (EPC MAIN PLANT PACKAGE)

OWNER CONSULTANT:
FICHTNER
M/s FICHTNER GmbH & Co KG, Stuttgart,GERMANY

OWNER:
BANGLADESH−INDIA FRIENDSHIP POWER COMPANY (PVT.) LIMITED, BANGLADESH

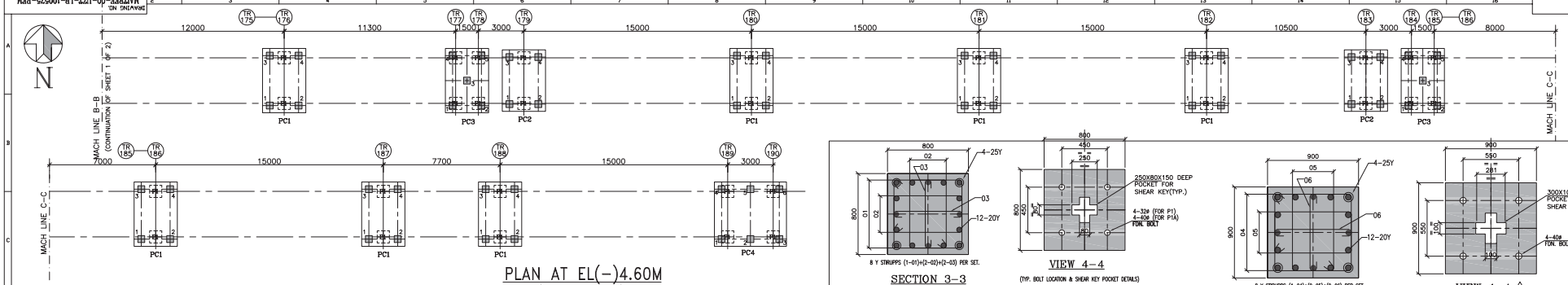
BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECTS ENGINEERING MANAGEMENT NOIDA

	DATE	NAME
DRAWN BY	26.07.2018	RAJENDRA
DESIGN BY	26.07.2018	DILIP
CHECKED BY	26.07.2018	S.S.B./S.P.
APPROVED BY	26.07.2018	A.N.
SUPERSEDES:		
SUPERSEDED BY:		

SCALE:
SHEET 1 OF 2

TITLE
PIPE RACK PR−3
FOUNDATION LAYOUT & DETAILS
(TR−166 TO TR−190, TR−201 TO TR−225 & TR−301 TO TR−310)

SIZE: A1 | PROJECT NO: 421 | FILE:
ANNEX: | DRAWING NO: MAITREE−00−UZT−LB−100575−PEM | REV 03



PLAN AT EL(–)4.60M

(TR–166 TO TR–190)

8 Y STIRUPPS (1–01)+(2–02)+(2–03) PER SET.

SECTION 3–3

(TYP. REINF. DETAILS OF PEDESTAL P1 & P1A)

VIEW 4–4

(TYP. BOLT LOCATION & SHEAR KEY POCKET DETAILS)

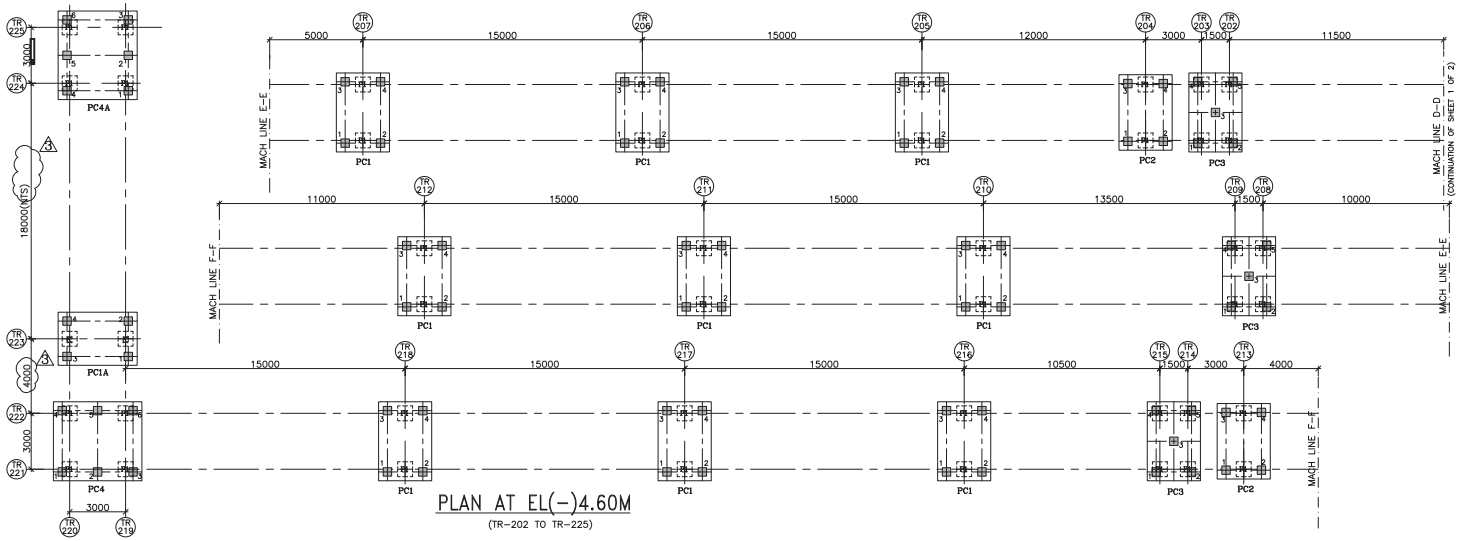
8 Y STIRUPPS (1–04)+(2–05)+(2–06) PER SET.

SECTION 3–3 (3)

(TYP. REINF. DETAILS OF PEDESTAL MKD. P2)

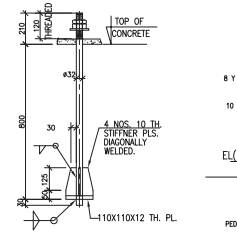
VIEW 4–4 (3)

(TYP. BOLT LOCATION & SHEAR KEY POCKET DETAILS FOR PEDESTAL MKD P2)



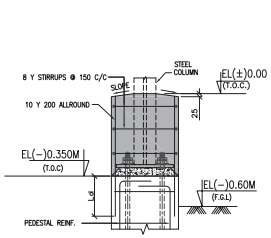
PLAN AT EL(–)4.60M

(TR–202 TO TR–225)



32ø FDN. BOLT

EACH BOLT SHALL HAVE 1 No. OF NUT, 1 No. LOCKNUT & 1No. WASHER(6THK)



DETAIL–A

(TYP. COL. ENCASING DETAILS)

TO BE READ IN CONJUNCTION WITH SHEET 1 OF 2

NOTES

1. ALL DIMENSIONS ARE IN MM'S AND LEVELS ARE IN METRES.
2. EL (±)0.00 M CORRESPONDS TO RL (+) 5.60M, WHICH IS FINISHED FLOOR LEVEL OF STG BUILDING.
3. ALL STRUCTURAL CONCRETE SHALL BE DESIGN MIX CONC. OF GRADE C30/37 UNLESS OTHERWISE NOTED.
4. ALL REINFORCEMENTS SHALL BE OF GRADE B500B CONFORMING TO BS 4449.
5. LAP LENGTH/DEVLOPMENT LENGTH FOR STEEL REINF. BARS SHELL BE 46xDIA. OF BAR.

BHEL - PROJECT ENGINEERING MANAGEMENT (CIVIL)

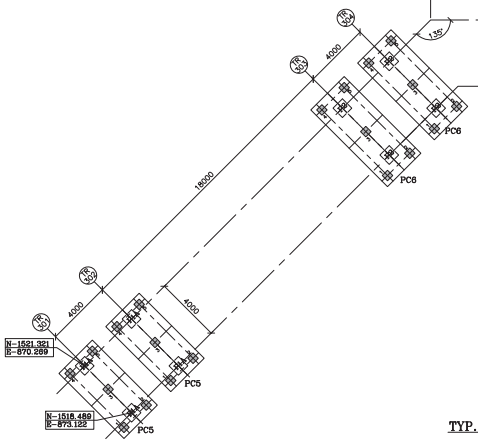
RELEASED FOR CONSTRUCTION

ISSUED BY	FARRUKH JAMAL
DATE	29/05/2019

APPROVED IN FIGN. CATEGORY ON 18/12/2018

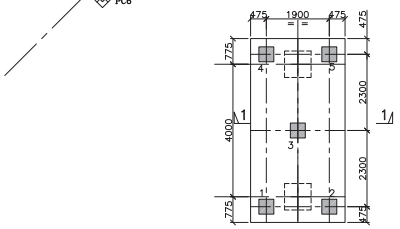
BHEL–PROJECT ENGINEERING MANAGEMENT(CIVIL)	
THIS DRAWING MARKED(✓) IS RELEASED FOR	
☑ COMMENTS/APPROVAL	
☐ PLANNING/INFORMATION	
☐ CONSTRUCTION	
STAMP ALL PREVIOUS REVISION AS SUPERSEDED	
ISSUED BY	
NAME	SACHIN PANDIT
SIGNATURE	Sd/-
DATE	26 April 2019

Vetted & Approved by Prof. B. NAGESWARA RAO Structural Engineering Laboratory Department of Civil Engineering IIT Madras, Chennai - 600 036



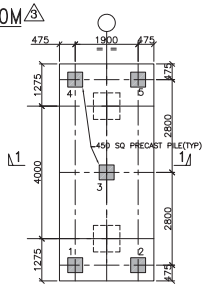
PLAN AT EL(–)4.60M (3)

(TR–301 TO TR–310)



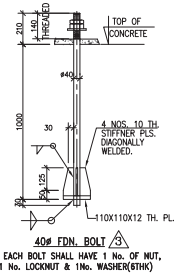
TYP. PILE & PILE CAP DETAILS FOR PC5

(ORIENTATION AS PER PLAN) (3)



TYP. PILE & PILE CAP DETAILS FOR PC6

(ORIENTATION AS PER PLAN) (3)



40ø FDN. BOLT (3)

EACH BOLT SHALL HAVE 1 No. OF NUT, 1 No. LOCKNUT & 1No. WASHER(6THK)

NO.	DATE	ALTERED	CHECKED	APPROVED	NOTE
3	26.04.19	R.S.	DILIP	A.N.	REVISED AS PER PEM–MPL & BHEL SITE OBSERVATIONS AND REVISED MKD. AS. (3)
2	28.02.19	R.S.	DILIP	A.N.	PEDESTAL LEVEL AND BOLT DETAIL UPDATED & MKD. AS. (2)
1	29.11.18	R.S.	DILIP	A.N.	REVISED AS PER MPL REVISED LAYOUT DWG.

PROJECT

2x660MW MAITREE SUPER THERMAL POWER PROJECT, RAMPAL, BANGLADESH (EPC MAIN PLANT PACKAGE)

OWNER CONSULTANT:

FICHTNER

M/s FICHTNER GmbH & Co KG, Stuttgart,GERMANY

OWNER:

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BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECTS ENGINEERING MANAGEMENT
NOIDA

	DATE	NAME
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DESIGN BY	26.07.2018	DILIP
CHECKED BY	26.07.2018	S.S.B./S.P.
APPROVED BY	26.07.2018	A.N.
SUPERSEDES		
SUPERSEDED BY:		
SYSTEM		

SCALE:

SHEET 2 OF 2

TITLE

PIPE RACK PR–3

FOUNDATION LAYOUT & DETAILS

(TR–166 TO TR–190, TR–201 TO TR–225 & TR–301 TO TR–310)

SIZE: A1 | PROJECT NO: 421 | FILE:

ANNEX: | DRAWING NO: MAITREE–00–UZT–LB–100575–PEM | REV 03

COMPUTER FILE NAME: