CONSÓRCIO SAÚDE

CONCREMAT | MEP

MEMORIAL DE CÁLCULO DE QUANTITATIVO

PROJETO EXECUTIVO DE FUNDAÇÃO

CER 2

SETEMBRO/2026

VERSÃO R00

CONSÓRCIO SAÚDE CONCREMAT-MEP – CNPJ 60.255.454/0001-35
Rua Joaquim Palhares, nº 40, Andar 5 – Rio de Janeiro/RJ
CEP: 20.260-080 – Fone: (21) 3535-4131

0087-PI-CER2-EST-MEC-PE-001-00

ASSUNTO:	**MEMORIAL DE QUANTITATIVOS – PROJETO EXECUTIVO – ESTRUTURA**	
OBRA:	CER 2	
LOCAL:	AVENIDA UPA, TAQUARI, NOSSA SENHORA DO LIVRAMENTO/BA	
CONTRATANTE:	SECRETARIA DE SAÚDE DO ESTADO DA BAHIA - SESAB	CNPJ: 13.937.131/0001-41
CONTRATADA:	CONSÓRCIO SAÚDE CONCREMAT-MEP	CNPJ: 60.255.454/0001-35

CONTRATANTE
SECRETARIA DA SAÚDE DO ESTADO DA BAHIA (SESAB)
CNPJ: 13.937.131/0001-41



AUTOR DO MEMORIAL
MURILO MATOS CONCEIÇÃO
ENG. CIVIL – **CREA/BA Nº 3000089290**

ESCALA: INDICADA	**DATA:** SETEMBRO/2026

TEXTO:
CONSÓRCIO SAÚDE CONCREMAT-MEP

INDÍCE

1. INTRODUÇÃO 4
2. DOCUMENTOS DE REFERÊNCIA 4
2.1. NORMAS DE REFERÊNCIA 4
3. EXIGENCIAS DE DURABILIDADE 4
3.1. CONCRETO ARMADO 4
3.2. ARMADURA PASSIVA 5
4. COMBINAÇÕES DE AÇÕES 6
5. RESULTADOS DAS SAPATAS DO EDÍFICIO PRINCIPAL: 9
6. RESULTADOS DOS PILARES DO EDIFÍCIO PRINCIPAL: 33
7. RESULTADOS DO RADIER DO EDIFÍCIO PRINCIPAL: 46
8. RESULTADOS DAS SAPATAS DA EDÍCULA: 46
9. RESULTADOS DOS PILARES DA EDÍCULA: 48
10. RESULTADOS DO RADIER DA CASA DE GASES: 48
11. RESULTADOS DO RESERVATÓRIO: 49

1. INTRODUÇÃO

Este documento tem como objetivo estabelecer parâmetros, especificações e critérios a serem considerados na concepção do projeto da estrutura como parte integrante de um projeto executivo para construção do CER 2, em Avenida Upa, Taquari, no município de Livramento de Nossa Senhora/Ba.

A concepção do projeto estrutural contempla as características e objetivos de uso fornecidos nos documentos de referências informados dos tópicos subsequentes. Quaisquer alterações nas premissas adotadas podem impactar na concepção estrutural e deverão ser devidamente verificadas.

O presente Memorial de Cálculo se refere ao Projeto Executivo Estrutural e compreende informações técnicas relativas ao projeto executivo de FUNDAÇÃO do prédio.

2. DOCUMENTOS DE REFERÊNCIA

2.1. NORMAS DE REFERÊNCIA

ABNT NBR 6118:2023	Projeto de Estruturas de Concreto - Procedimento
ABNT NBR 6120:2019	Cargas para cálculo de estruturas de edificações
ABNT NBR 6122:2022	Projeto e Execução de Fundações
ABNT NBR 6123:2023	Forças Devidas ao Vento em Edificações
ABNT NBR 8681:2003	Ações e Segurança nas Estruturas – Procedimento
ABNT NBR 12655:2022	Controle de cimento Portland
ABNT NBR 5674:2024	Manutenção de edificação – procedimentos
ABNT NBR 14931:2023	Execução de estruturas de concreto armado, protendido e com fibras
ABNT NBR 15575:2024	Edificações habitacionais — Desempenho

3. EXIGENCIAS DE DURABILIDADE

3.1. CONCRETO ARMADO

Na tabela abaixo, seguem propriedades e características do concreto adotado para elementos em geral do projeto.

Tabela 1 – Concreto Adotado na fundação

Propriedade	Valor Adotado
Resistência Característica do concreto (f_{ck})	35 MPa
Módulo de deformação tangente inicial mínimo (E_{ci})	33 GPa
Módulo de deformação secante (E_{cs})	29 GPa
Fator água-cimento máximo (a/c)	0,6
Diâmetro máximo agregado graúdo	19 mm

Para a produção do concreto foi considerada a utilização de agregado graúdo de origem granítica (granito), em especial na avaliação do módulo de elasticidade. Caso sejam utilizados outros tipos de agregados graúdos, o valor do módulo de elasticidade deverá ser ajustado.

3.2. ARMADURA PASSIVA

A ABNT NBR 6118 (2023) define como armadura passiva aquela que não é utilizada para produzir forças de protensão. Nos projetos de estruturas de concreto armado, deve ser utilizado aço classificado pela ABNT NBR 7480, com diâmetros e seções transversais nominais pré-estabelecidos e valor característico de resistência ao escoamento nas categorias CA-50 (fyk=500 Mpa) e CA-60 (fyk = 600 Mpa).

4. COMBINAÇÕES DE AÇÕES

Para as distintas situações de projeto, as combinações de ações serão definidas. Para o ELU será utilizado a combinação última normal. Para o ELS serão utilizadas as combinações quase permanente, combinação frequente e combinação rara.

Combinação última normal

$$F_d = \sum_{i=1}^{m} \gamma_{gi} \cdot F_{Gi,k} + \gamma_q \left[F_{Q1,k} \sum_{j=2}^{n} \psi_{0j} \cdot F_{Qj,k} \right]$$

Combinação Quase Permanente De Serviço

Nas combinações quase permanentes de serviço, todas as ações variáveis são consideradas com seus valores quase permanentes $\psi_2 F_{Qk}$

$$F_d = \sum_{i=1}^{m} F_{Gi,k} + \sum_{j=1}^{n} \psi_{2j} \cdot F_{Qj,k}$$

Combinação Frequente De Serviço

Nas combinações frequentes de serviço, a ação variável principal F_{Q1} é tomada com seu valor frequente $\psi_1 F_{Q1,k}$ e todas as demais ações variáveis são tomadas com seus valores quase-permanentes $\psi_2 F_{Qk}$

$$F_d = \sum_{i=1}^{m} F_{Gi,k} + \psi_1 \cdot F_{Q1,k} + \sum_{j=2}^{n} \psi_{2j} \cdot F_{Qj,k}$$

Combinação Rara De Serviço

Nas combinações raras de serviço, a ação variável principal FQ1 é tomada com seu valor característico $F_{Q1,k}$ e todas as demais ações são tomadas com seus valores frequentes $\psi_1 F_{Qk}$:

$$F_d = \sum_{i=1}^{m} F_{Gi,k} + F_{Q1,k} + \sum_{j=2}^{n} \psi_{1j} \cdot F_{Qj,k}$$

- Onde:

F_{Gk}	Valor característico das ações permanentes
F_{Q1k}	Valor característico da ação variável, considerada como principal
F_{Qjk}	Valor característico das ações variáveis
γ_g	Coeficiente parcial de segurança das ações permanentes
γ_q	Coeficiente parcial de segurança das ações variáveis
ψ_0	Fator de combinação
ψ_1	Fator de redução frequente
ψ_2	Fator de redução quase permanente

As ações devem ser ponderadas pelo coeficiente Yf, calculado conforme $Yf = Y_{f1}. Y_{f2}. Y_{f3}$. Onde, Y_{f1} considera a variabilidade das ações, Y_{f2} considera simultaneidade das ações e Y_{f3} considera possíveis erros da avaliação das ações, seja por problemas construtivos, seja por deficiência do método de cálculo empregado

A seguir são apresentados os coeficientes de ponderação das ações ($Y_{f1}. Y_{f3}$) para combinação normal do ELU.

Tabela 1:Coeficientes de ponderação das ações para cargas permanentes (Yg)

Ação	Exemplo	Desfavorável	Favorável
Peso próprio de estruturas de aço e de equipamentos	PP estrutura metálica	1,25	1,00
Peso próprio de estruturas pré-moldadas, de madeira e de elementos construtivos industrializados	PP concreto pré-moldado PP madeira	1,30	1,00
Peso próprio de estruturas moldadas in loco e empuxos permanentes	PP concreto moldado in loco Empuxo de solo	1,40	1,00
Peso próprio de elementos construtivos em geral	Telha Instalações Fotovoltaica	1,40	1,00
Outras	-	1,40	1,00

Tabela 2:Coeficientes de ponderação das ações para cargas variáveis (ϒq)

Ação	Exemplo	Desfavorável	Favorável
Vento	Vento	1,40	0,00
Ações truncadas	Reservatório de água Boiler	1,20	0,00
Demais ações variáveis	Sobrecargas em geral	1,50	0,00
Efeito de temperatura	Devido variação térmica da atmosfera	1,20	0,00

Em geral para o ELS, Yf = 1,00.

Os fatores de combinação e de redução ψ para ações variáveis que representam o coeficiente Y_{f2} é apresentado na tabela a seguir

Tabela 3: Valores dos fatores de combinação e de redução das ações variáveis

Ação		ψ_0	ψ_1	ψ_2
Ações variáveis causadas pelo uso e ocupação	Locais em que não há predominância de pesos de equipamentos, nem de elevadas concentrações de pessoas	0,5	0,4	0,3
	Locais em que há predominância de pesos de equipamentos ou de elevadas concentrações de pessoas	0,7	0,6	0,4
	Biblioteca, arquivos, oficinas e garagens	0,8	0,7	0,6
Vento	Pressão dinâmica do vento nas estruturas em geral	0,6	0,3	0,0
Temperatura	Variações uniformes de temperatura em relação à média anual local	0,6	0,5	0,3
Cargas móveis e seus efeitos dinâmicos	Passarelas de pedestres	0,6	0,4	0,3
	Vigas de rolamento de pontes rolantes	1,0	0,8	0,5
	Pilares e outros elementos que suportam vigas de pontes rolantes	0,7	0,6	0,4

Em atendimento ao disposto no item 13.3 da ABNT NBR 6118:2014 (revisão 2023), procedeu-se à verificação do Estado Limite de Serviço (ELS) para todos os elementos estruturais da edificação, com análise específica dos deslocamentos verticais (flechas) em comparação com os respectivos limites normativos de serviço.

As verificações foram realizadas considerando as combinações quase permanentes de ações, incluindo os efeitos de fluência e a consideração do estádio II de fissuração do concreto armado, conforme preconizado pela norma. Os deslocamentos obtidos foram comparados com os limites aplicáveis, tais como L/250 para flecha total e L/500 para situações envolvendo

elementos sensíveis, como alvenarias e revestimentos, conforme critérios normativos pertinentes.

Após a análise global e individualizada dos elementos estruturais, conclui-se que todos atendem integralmente aos limites de deslocamentos estabelecidos pela ABNT NBR 6118, não sendo identificada nenhuma situação de não conformidade quanto às flechas de serviço.

Dessa forma, atesto, sob responsabilidade técnica, que foram devidamente realizadas as verificações do Estado Limite de Serviço (ELS) de deslocamentos limites em todos os elementos estruturais, estando a estrutura dimensionada com rigidez adequada para garantir funcionalidade, desempenho e integridade dos elementos estruturais e vedação, em plena conformidade com as exigências normativas vigentes.

5. RESULTADOS DAS SAPATAS DO EDÍFICIO PRINCIPAL:

Esforços e pressões

Nome	MB MH (kN.m)	FB FH (kN)	Carga Carga total (kN)	Pressão Sig1 (kN/m²)	Pressão Sig2 (kN/m²)	Pressão Sig3 (kN/m²)	Pressão Sig4 (kN/m²)
S1	5.20 3.49	7.99 8.36	99.33 119.36	171.04 (lim = 220.00)	85.49 (lim = 220.00)	123.68 (lim = 220.00)	209.23 (lim = 220.00)
S2	10.16 1.94	0.97 1.39	101.64 124.23	217.77 (lim = 220.00)	75.62 (lim = 220.00)	56.72 (lim = 220.00)	198.87 (lim = 220.00)
S3	5.45 4.40	8.17 8.69	100.33 122.92	196.96 (lim = 220.00)	120.66 (lim = 220.00)	75.44 (lim = 220.00)	151.74 (lim = 220.00)
S4	4.51 4.46	9.61 6.42	116.93 139.61	212.65 (lim = 220.00)	158.81 (lim = 220.00)	96.43 (lim = 220.00)	150.26 (lim = 220.00)
S5	1.15 3.09	2.03 5.46	133.46 155.30	195.10 (lim = 220.00)	210.76 (lim = 220.00)	167.16 (lim = 220.00)	151.50 (lim = 220.00)
S6	1.37 3.35	1.31 4.45	93.13 108.78	197.53 (lim = 220.00)	219.30 (lim = 220.00)	141.60 (lim = 220.00)	119.83 (lim = 220.00)
S7	0.50 2.20	0.62 3.35	100.59 117.75	188.85 (lim = 220.00)	200.67 (lim = 220.00)	157.69 (lim = 220.00)	145.86 (lim = 220.00)
S8	1.27 3.57	0.98 4.41	126.51 149.19	180.75 (lim = 220.00)	198.36 (lim = 220.00)	148.32 (lim = 220.00)	130.71 (lim = 220.00)
S9	0.54 2.96	0.87 4.68	96.34 113.50	190.90 (lim = 220.00)	202.26 (lim = 220.00)	143.79 (lim = 220.00)	132.44 (lim = 220.00)
S10	1.75 5.93	1.99 9.09	101.61 121.82	190.39 (lim = 220.00)	207.05 (lim = 220.00)	109.45 (lim = 220.00)	92.79 (lim = 220.00)
S11	1.77 0.84	3.26 0.93	79.72 94.75	193.31 (lim = 220.00)	142.19 (lim = 220.00)	123.40 (lim = 220.00)	174.52 (lim = 220.00)
S12	1.79 4.73	2.17 7.16	112.27 132.47	192.61 (lim = 220.00)	211.03 (lim = 220.00)	133.45 (lim = 220.00)	115.04 (lim = 220.00)
S13	0.52 4.50	0.33 8.06	103.91 123.33	193.72 (lim = 220.00)	203.91 (lim = 220.00)	129.15 (lim = 220.00)	118.96 (lim = 220.00)

S14	2.14 5.39	2.88 8.45	107.83 128.03	190.56 (lim = 220.00)	208.68 (lim = 220.00)	120.12 (lim = 220.00)	102.00 (lim = 220.00)
S15	2.02 3.82	3.54 5.11	129.89 152.57	200.69 (lim = 220.00)	182.51 (lim = 220.00)	137.41 (lim = 220.00)	155.59 (lim = 220.00)
S16	0.59 2.22	0.86 3.48	117.07 136.50	189.16 (lim = 220.00)	200.71 (lim = 220.00)	170.06 (lim = 220.00)	158.50 (lim = 220.00)
S17	0.55 2.27	0.56 3.57	109.17 126.33	212.14 (lim = 220.00)	199.21 (lim = 220.00)	162.17 (lim = 220.00)	175.10 (lim = 220.00)
S18	0.67 2.11	0.33 3.25	134.62 156.46	190.50 (lim = 220.00)	201.68 (lim = 220.00)	177.63 (lim = 220.00)	166.45 (lim = 220.00)
S19	0.65 2.12	0.33 3.30	130.98 150.41	205.81 (lim = 220.00)	218.74 (lim = 220.00)	189.99 (lim = 220.00)	177.07 (lim = 220.00)
S20	2.35 3.35	3.60 4.68	94.18 112.04	169.31 (lim = 220.00)	200.43 (lim = 220.00)	136.32 (lim = 220.00)	105.20 (lim = 220.00)
S21	2.16 7.38	1.89 12.88	96.87 116.90	72.97 (lim = 220.00)	94.23 (lim = 220.00)	215.68 (lim = 220.00)	194.41 (lim = 220.00)
S22	0.64 1.68	0.43 2.35	29.53 41.26	61.56 (lim = 220.00)	47.78 (lim = 220.00)	106.70 (lim = 220.00)	120.47 (lim = 220.00)
S23	1.98 5.80	1.77 13.41	96.10 116.13	180.59 (lim = 220.00)	201.69 (lim = 220.00)	106.15 (lim = 220.00)	85.06 (lim = 220.00)
S24	4.56 2.96	8.96 5.15	159.31 187.07	170.41 (lim = 220.00)	130.54 (lim = 220.00)	160.53 (lim = 220.00)	200.40 (lim = 220.00)
S25	1.64 3.50	3.02 6.27	159.38 186.41	185.79 (lim = 220.00)	201.02 (lim = 220.00)	167.15 (lim = 220.00)	151.92 (lim = 220.00)
S26	1.04 2.43	1.63 3.67	91.25 106.90	147.99 (lim = 220.00)	127.04 (lim = 220.00)	180.24 (lim = 220.00)	201.19 (lim = 220.00)
S27	0.58 1.61	0.44 2.70	115.32 132.48	177.28 (lim = 220.00)	190.94 (lim = 220.00)	215.25 (lim = 220.00)	201.58 (lim = 220.00)
S28	1.44 1.82	1.66 2.73	143.96 166.65	184.65 (lim = 220.00)	164.50 (lim = 220.00)	184.65 (lim = 220.00)	204.80 (lim = 220.00)
S29	0.57 2.26	0.90 4.18	114.15 131.31	169.18 (lim = 220.00)	182.71 (lim = 220.00)	219.88 (lim = 220.00)	206.35 (lim = 220.00)
S30	1.09 4.33	1.19 8.06	108.65 128.85	112.51 (lim = 220.00)	129.97 (lim = 220.00)	199.21 (lim = 220.00)	181.75 (lim = 220.00)
S31	1.59 0.93	3.04 1.24	81.10 94.12	166.47 (lim = 220.00)	218.95 (lim = 220.00)	195.55 (lim = 220.00)	143.07 (lim = 220.00)
S32	1.11 3.80	1.11 6.57	111.09 131.30	119.62 (lim = 220.00)	137.48 (lim = 220.00)	198.25 (lim = 220.00)	180.39 (lim = 220.00)
S33	0.57 4.08	0.30 7.55	114.97 134.40	140.12 (lim = 220.00)	151.46 (lim = 220.00)	213.56 (lim = 220.00)	202.22 (lim = 220.00)
S34	1.80 4.08	2.37 7.03	127.29 147.50	144.64 (lim = 220.00)	165.59 (lim = 220.00)	219.56 (lim = 220.00)	198.60 (lim = 220.00)
S35	2.23 2.36	4.30 3.69	142.30 164.98	184.21 (lim = 220.00)	158.41 (lim = 220.00)	178.12 (lim = 220.00)	203.92 (lim = 220.00)
S36	0.68 1.77	1.08 2.94	136.33 158.16	170.78 (lim = 220.00)	182.11 (lim = 220.00)	201.35 (lim = 220.00)	190.03 (lim = 220.00)
S37	0.62 1.83	0.47 3.07	123.33 142.76	193.05 (lim = 220.00)	205.22 (lim = 220.00)	182.64 (lim = 220.00)	170.47 (lim = 220.00)
S38	0.78 1.68	0.47 2.75	155.71 180.08	175.65 (lim = 220.00)	186.64 (lim = 220.00)	205.47 (lim = 220.00)	194.48 (lim = 220.00)
S39	0.77 1.74	0.55 2.84	153.12 177.49	202.48 (lim = 220.00)	191.67 (lim = 220.00)	173.16 (lim = 220.00)	183.96 (lim = 220.00)

S40	2.73 2.32	3.69 3.33	120.17 140.38	142.73 (lim = 220.00)	184.10 (lim = 220.00)	203.88 (lim = 220.00)	162.51 (lim = 220.00)
S41	2.16 7.38	1.89 12.88	96.87 116.90	94.23 (lim = 220.00)	72.97 (lim = 220.00)	194.41 (lim = 220.00)	215.67 (lim = 220.00)
S42	1.68 0.64	2.35 0.43	29.53 41.26	106.70 (lim = 220.00)	47.78 (lim = 220.00)	61.56 (lim = 220.00)	120.47 (lim = 220.00)
S45	2.74 2.74	5.14 4.85	186.06 214.57	197.16 (lim = 220.00)	168.53 (lim = 220.00)	189.87 (lim = 220.00)	218.50 (lim = 220.00)
S46	5.65 2.96	9.59 5.54	262.95 302.89	216.68 (lim = 220.00)	187.17 (lim = 220.00)	171.02 (lim = 220.00)	200.53 (lim = 220.00)
S47	0.69 5.42	1.20 9.94	119.37 141.20	206.32 (lim = 220.00)	196.41 (lim = 220.00)	125.91 (lim = 220.00)	135.83 (lim = 220.00)
S48	3.77 6.11	7.15 1.71	248.88 288.82	192.37 (lim = 220.00)	211.18 (lim = 220.00)	176.42 (lim = 220.00)	157.61 (lim = 220.00)
S49	2.37 3.40	3.57 5.79	236.65 273.35	208.15 (lim = 220.00)	191.74 (lim = 220.00)	171.01 (lim = 220.00)	187.42 (lim = 220.00)
S50	1.50 6.49	1.58 2.35	149.73 174.78	201.44 (lim = 220.00)	219.41 (lim = 220.00)	148.12 (lim = 220.00)	130.15 (lim = 220.00)
S51	1.85 6.46	2.18 2.34	184.98 215.59	213.15 (lim = 220.00)	196.48 (lim = 220.00)	143.20 (lim = 220.00)	159.88 (lim = 220.00)
S52	1.79 4.20	2.03 7.62	178.80 206.57	197.29 (lim = 220.00)	215.78 (lim = 220.00)	176.63 (lim = 220.00)	158.14 (lim = 220.00)
S53	1.77 5.19	1.98 8.43	177.06 204.83	199.31 (lim = 220.00)	217.66 (lim = 220.00)	172.26 (lim = 220.00)	153.91 (lim = 220.00)
S54	4.58 2.10	8.66 2.53	210.10 243.69	207.24 (lim = 220.00)	175.37 (lim = 220.00)	158.92 (lim = 220.00)	190.79 (lim = 220.00)
S55	2.92 2.35	4.37 1.93	234.73 271.43	185.78 (lim = 220.00)	204.85 (lim = 220.00)	188.67 (lim = 220.00)	169.60 (lim = 220.00)
S56	3.59 4.59	5.89 7.06	178.94 206.71	191.60 (lim = 220.00)	218.90 (lim = 220.00)	179.05 (lim = 220.00)	151.76 (lim = 220.00)
S57	0.86 1.72	0.09 1.74	172.43 199.39	175.96 (lim = 220.00)	186.34 (lim = 220.00)	204.26 (lim = 220.00)	193.88 (lim = 220.00)
S58	0.85 1.70	0.06 1.78	170.13 198.10	174.82 (lim = 220.00)	185.05 (lim = 220.00)	202.73 (lim = 220.00)	192.49 (lim = 220.00)
S59	5.20 3.49	7.99 8.36	99.33 119.36	85.49 (lim = 220.00)	171.04 (lim = 220.00)	209.23 (lim = 220.00)	123.67 (lim = 220.00)
S60	1.94 10.16	1.39 0.97	101.64 124.23	56.72 (lim = 220.00)	75.62 (lim = 220.00)	217.77 (lim = 220.00)	198.87 (lim = 220.00)
S63	2.45 2.31	4.82 4.25	142.27 166.64	147.93 (lim = 220.00)	180.71 (lim = 220.00)	202.78 (lim = 220.00)	170.00 (lim = 220.00)
S64	6.04 3.12	10.08 5.66	168.19 195.95	157.70 (lim = 220.00)	218.88 (lim = 220.00)	193.52 (lim = 220.00)	132.34 (lim = 220.00)
S65	0.55 5.18	0.98 9.63	100.99 120.42	120.21 (lim = 220.00)	110.31 (lim = 220.00)	194.89 (lim = 220.00)	204.79 (lim = 220.00)
S66	2.30 2.39	0.68 3.20	230.28 263.87	199.52 (lim = 220.00)	217.69 (lim = 220.00)	199.52 (lim = 220.00)	181.35 (lim = 220.00)
S67	2.75 2.58	4.98 3.72	257.71 297.65	174.05 (lim = 220.00)	189.81 (lim = 220.00)	205.58 (lim = 220.00)	189.81 (lim = 220.00)
S68	1.85 3.63	0.61 8.48	184.55 215.16	202.03 (lim = 220.00)	185.40 (lim = 220.00)	153.37 (lim = 220.00)	170.00 (lim = 220.00)
S69	3.53 1.95	8.24 1.07	194.64 225.26	179.35 (lim = 220.00)	210.45 (lim = 220.00)	192.90 (lim = 220.00)	161.81 (lim = 220.00)

S70	1.98 3.08	1.33 4.94	198.28 228.89	167.22 (lim = 220.00)	184.91 (lim = 220.00)	207.66 (lim = 220.00)	189.97 (lim = 220.00)
S71	3.33 3.15	6.13 4.78	213.17 246.76	189.29 (lim = 220.00)	165.90 (lim = 220.00)	182.66 (lim = 220.00)	206.04 (lim = 220.00)
S72	1.96 2.00	3.18 2.28	190.06 217.83	197.58 (lim = 220.00)	177.87 (lim = 220.00)	197.58 (lim = 220.00)	217.28 (lim = 220.00)
S73	2.19 1.92	3.26 2.15	187.32 215.09	175.67 (lim = 220.00)	195.09 (lim = 220.00)	214.51 (lim = 220.00)	195.09 (lim = 220.00)
S74	4.07 4.58	7.27 8.08	137.51 162.56	118.90 (lim = 220.00)	157.39 (lim = 220.00)	206.23 (lim = 220.00)	167.74 (lim = 220.00)
S75	1.40 1.40	1.85 1.81	140.09 162.46	180.01 (lim = 220.00)	160.40 (lim = 220.00)	180.01 (lim = 220.00)	199.62 (lim = 220.00)
S76	0.44 1.07	0.39 1.21	7.84 18.25	66.30 (lim = 220.00)	64.27 (lim = 220.00)	20.60 (lim = 220.00)	22.63 (lim = 220.00)
S77	0.40 1.59	0.32 2.01	10.96 21.37	81.70 (lim = 220.00)	84.11 (lim = 220.00)	19.33 (lim = 220.00)	16.93 (lim = 220.00)
S78	0.44 1.07	0.39 1.21	7.84 18.25	64.27 (lim = 220.00)	66.30 (lim = 220.00)	22.63 (lim = 220.00)	20.60 (lim = 220.00)
S79	0.44 1.07	0.39 1.21	7.84 18.25	66.30 (lim = 220.00)	64.27 (lim = 220.00)	20.60 (lim = 220.00)	22.63 (lim = 220.00)
S80	0.40 1.59	0.32 2.01	10.96 21.37	81.70 (lim = 220.00)	84.10 (lim = 220.00)	19.33 (lim = 220.00)	16.93 (lim = 220.00)
S81	0.44 1.07	0.39 1.21	7.84 18.25	64.27 (lim = 220.00)	66.30 (lim = 220.00)	22.63 (lim = 220.00)	20.60 (lim = 220.00)
S82	2.41 2.41	2.62 1.42	240.97 277.67	209.07 (lim = 220.00)	192.38 (lim = 220.00)	175.69 (lim = 220.00)	192.38 (lim = 220.00)
S89	2.09 2.09	1.09 2.22	209.28 239.89	216.46 (lim = 220.00)	197.65 (lim = 220.00)	178.85 (lim = 220.00)	197.65 (lim = 220.00)
S90	2.77 4.33	4.91 6.24	223.30 256.89	213.97 (lim = 220.00)	196.53 (lim = 220.00)	171.07 (lim = 220.00)	188.50 (lim = 220.00)
S91	2.29 6.86	3.11 9.45	204.22 237.81	195.33 (lim = 220.00)	211.45 (lim = 220.00)	164.30 (lim = 220.00)	148.18 (lim = 220.00)
S92	0.86 4.85	0.40 7.93	172.68 199.71	219.90 (lim = 220.00)	209.47 (lim = 220.00)	162.32 (lim = 220.00)	172.76 (lim = 220.00)
S93	3.12 6.15	4.93 10.17	124.46 147.14	185.90 (lim = 220.00)	218.43 (lim = 220.00)	140.17 (lim = 220.00)	107.64 (lim = 220.00)
S100	0.44 1.07	0.39 1.21	7.84 18.25	22.63 (lim = 220.00)	20.60 (lim = 220.00)	64.27 (lim = 220.00)	66.29 (lim = 220.00)
S101	0.40 1.59	0.32 2.01	10.96 21.37	19.33 (lim = 220.00)	16.93 (lim = 220.00)	81.70 (lim = 220.00)	84.11 (lim = 220.00)
S102	0.44 1.07	0.39 1.21	7.84 18.25	20.60 (lim = 220.00)	22.63 (lim = 220.00)	66.29 (lim = 220.00)	64.27 (lim = 220.00)
S103	0.44 1.07	0.39 1.21	7.84 18.25	22.63 (lim = 220.00)	20.60 (lim = 220.00)	64.27 (lim = 220.00)	66.29 (lim = 220.00)
S104	0.40 1.59	0.32 2.01	10.96 21.37	16.93 (lim = 220.00)	19.33 (lim = 220.00)	84.11 (lim = 220.00)	81.70 (lim = 220.00)
S105	0.44 1.07	0.39 1.21	7.84 18.25	20.60 (lim = 220.00)	22.63 (lim = 220.00)	66.29 (lim = 220.00)	64.27 (lim = 220.00)
S108	1.59 1.59	2.04 1.08	159.03 184.01	183.62 (lim = 220.00)	164.58 (lim = 220.00)	183.62 (lim = 220.00)	202.65 (lim = 220.00)
S111	1.95 2.78	3.48 2.96	71.68 85.38	209.06 (lim = 220.00)	173.46 (lim = 220.00)	94.51 (lim = 220.00)	130.11 (lim = 220.00)

S112	1.58 1.95	1.90 2.08	111.77 129.63	187.53 (lim = 220.00)	209.37 (lim = 220.00)	171.30 (lim = 220.00)	149.46 (lim = 220.00)
S113	1.95 2.45	3.49 2.79	120.76 140.97	204.13 (lim = 220.00)	184.25 (lim = 220.00)	143.95 (lim = 220.00)	163.83 (lim = 220.00)
S114	2.99 3.13	4.86 3.75	117.75 137.95	178.17 (lim = 220.00)	213.98 (lim = 220.00)	162.45 (lim = 220.00)	126.64 (lim = 220.00)
S115	3.40 2.35	6.35 2.61	124.68 147.36	198.62 (lim = 220.00)	160.84 (lim = 220.00)	127.95 (lim = 220.00)	165.73 (lim = 220.00)
S116	4.65 1.94	8.53 2.04	96.52 114.38	139.40 (lim = 220.00)	215.16 (lim = 220.00)	177.24 (lim = 220.00)	101.47 (lim = 220.00)
S117	4.42 1.91	8.28 1.92	129.64 152.32	206.29 (lim = 220.00)	155.66 (lim = 220.00)	128.88 (lim = 220.00)	179.51 (lim = 220.00)
S118	3.25 3.40	5.24 6.18	219.74 253.34	190.19 (lim = 220.00)	213.99 (lim = 220.00)	192.93 (lim = 220.00)	169.13 (lim = 220.00)
S122	1.52 1.67	0.70 4.35	151.72 174.40	170.99 (lim = 220.00)	192.23 (lim = 220.00)	215.49 (lim = 220.00)	194.25 (lim = 220.00)
S123	1.59 1.89	1.17 3.37	159.11 184.16	184.16 (lim = 220.00)	165.07 (lim = 220.00)	184.16 (lim = 220.00)	203.25 (lim = 220.00)
S127	1.62 3.22	2.68 5.26	145.56 168.24	155.09 (lim = 220.00)	175.42 (lim = 220.00)	217.11 (lim = 220.00)	196.77 (lim = 220.00)
S128	2.45 5.04	4.62 9.05	186.46 217.07	168.53 (lim = 220.00)	151.75 (lim = 220.00)	189.67 (lim = 220.00)	206.45 (lim = 220.00)
S129	2.40 3.36	3.16 7.03	234.62 271.32	171.78 (lim = 220.00)	188.03 (lim = 220.00)	204.29 (lim = 220.00)	188.03 (lim = 220.00)
S130	1.17 2.88	0.39 5.82	234.74 270.14	183.20 (lim = 220.00)	192.49 (lim = 220.00)	208.84 (lim = 220.00)	199.55 (lim = 220.00)
S131	2.89 4.65	4.17 8.36	153.99 179.04	140.23 (lim = 220.00)	166.53 (lim = 220.00)	212.82 (lim = 220.00)	186.52 (lim = 220.00)
S132	3.05 5.24	0.68 7.94	121.78 144.46	203.05 (lim = 220.00)	162.76 (lim = 220.00)	113.41 (lim = 220.00)	153.70 (lim = 220.00)
S133	1.54 2.72	1.25 3.56	147.06 169.74	167.50 (lim = 220.00)	188.08 (lim = 220.00)	208.66 (lim = 220.00)	188.08 (lim = 220.00)
S134	2.72 4.25	1.98 6.14	207.17 237.78	215.19 (lim = 220.00)	192.33 (lim = 220.00)	173.87 (lim = 220.00)	196.73 (lim = 220.00)
S135	3.03 4.91	0.65 7.13	202.34 232.95	189.79 (lim = 220.00)	214.91 (lim = 220.00)	190.87 (lim = 220.00)	165.75 (lim = 220.00)
S136	3.60 4.30	2.42 6.25	231.51 268.21	204.45 (lim = 220.00)	180.45 (lim = 220.00)	164.54 (lim = 220.00)	188.54 (lim = 220.00)
S137	2.09 4.09	1.36 6.47	209.43 240.04	216.51 (lim = 220.00)	197.71 (lim = 220.00)	178.90 (lim = 220.00)	197.71 (lim = 220.00)
S138	6.45 4.37	12.59 6.70	243.87 283.81	206.78 (lim = 220.00)	174.26 (lim = 220.00)	151.87 (lim = 220.00)	184.39 (lim = 220.00)
S139	6.69 8.66	12.65 14.92	240.30 283.62	172.33 (lim = 220.00)	204.01 (lim = 220.00)	163.31 (lim = 220.00)	131.63 (lim = 220.00)
S140	1.07 2.31	1.23 1.32	99.05 114.70	189.18 (lim = 220.00)	211.51 (lim = 220.00)	157.44 (lim = 220.00)	135.11 (lim = 220.00)
S141	1.65 2.00	1.78 3.36	164.92 189.97	188.82 (lim = 220.00)	169.03 (lim = 220.00)	191.12 (lim = 220.00)	210.91 (lim = 220.00)
S142	1.69 4.69	1.66 7.58	168.53 196.30	189.61 (lim = 220.00)	206.99 (lim = 220.00)	165.02 (lim = 220.00)	147.64 (lim = 220.00)
S143	2.12 2.21	2.63 6.71	212.17 242.78	219.22 (lim = 220.00)	200.15 (lim = 220.00)	181.07 (lim = 220.00)	200.15 (lim = 220.00)

S144	2.29 3.53	1.33 5.75	228.88 262.47	197.94 (lim = 220.00)	215.94 (lim = 220.00)	197.94 (lim = 220.00)	179.93 (lim = 220.00)
S145	0.64 1.29	0.53 1.55	128.73 148.16	212.00 (lim = 220.00)	199.30 (lim = 220.00)	177.90 (lim = 220.00)	190.60 (lim = 220.00)
S146	2.98 8.07	5.14 13.71	163.74 194.35	181.64 (lim = 220.00)	202.07 (lim = 220.00)	136.24 (lim = 220.00)	115.80 (lim = 220.00)
S147	0.70 1.53	0.88 3.64	139.80 160.64	215.34 (lim = 220.00)	203.20 (lim = 220.00)	180.32 (lim = 220.00)	192.46 (lim = 220.00)
S148	0.80 1.60	0.60 6.09	160.20 184.57	179.21 (lim = 220.00)	190.46 (lim = 220.00)	209.74 (lim = 220.00)	198.49 (lim = 220.00)
S149	0.63 1.85	1.03 3.19	82.84 95.86	166.35 (lim = 220.00)	151.65 (lim = 220.00)	202.33 (lim = 220.00)	217.03 (lim = 220.00)
S150	0.59 1.46	0.80 2.64	118.48 137.91	198.23 (lim = 220.00)	186.54 (lim = 220.00)	164.69 (lim = 220.00)	176.38 (lim = 220.00)
S151	0.28 0.56	0.15 0.98	9.22 18.91	66.08 (lim = 220.00)	52.08 (lim = 220.00)	30.71 (lim = 220.00)	44.71 (lim = 220.00)
S152	1.31 2.24	2.72 2.34	224.08 256.85	199.76 (lim = 220.00)	189.55 (lim = 220.00)	207.30 (lim = 220.00)	217.51 (lim = 220.00)
S153	2.50 2.77	4.08 5.32	133.25 153.45	196.52 (lim = 220.00)	159.24 (lim = 220.00)	181.08 (lim = 220.00)	218.37 (lim = 220.00)
S154	1.40 1.79	1.79 1.28	120.85 138.71	216.06 (lim = 220.00)	193.13 (lim = 220.00)	158.20 (lim = 220.00)	181.13 (lim = 220.00)
S155	2.49 3.32	3.54 5.66	249.20 285.90	197.51 (lim = 220.00)	180.21 (lim = 220.00)	199.57 (lim = 220.00)	216.88 (lim = 220.00)
S156	2.57 3.39	2.95 6.37	256.94 296.89	206.56 (lim = 220.00)	190.77 (lim = 220.00)	173.46 (lim = 220.00)	189.24 (lim = 220.00)
S157	4.20 3.34	7.07 5.58	273.81 317.13	189.87 (lim = 220.00)	169.74 (lim = 220.00)	184.66 (lim = 220.00)	204.79 (lim = 220.00)
S158	5.34 4.78	10.40 8.07	211.18 244.77	150.98 (lim = 220.00)	185.67 (lim = 220.00)	219.18 (lim = 220.00)	184.49 (lim = 220.00)
S159	1.62 1.62	2.29 1.94	162.39 187.44	206.66 (lim = 220.00)	187.20 (lim = 220.00)	167.74 (lim = 220.00)	187.20 (lim = 220.00)
S160	7.06 7.71	11.92 14.19	200.45 237.15	162.97 (lim = 220.00)	119.45 (lim = 220.00)	166.17 (lim = 220.00)	209.69 (lim = 220.00)
S161	4.88 2.56	10.47 1.54	256.47 296.42	167.97 (lim = 220.00)	195.69 (lim = 220.00)	211.45 (lim = 220.00)	183.72 (lim = 220.00)
S162	4.07 4.15	9.86 6.61	309.37 356.19	197.45 (lim = 220.00)	178.34 (lim = 220.00)	193.43 (lim = 220.00)	212.54 (lim = 220.00)
S163	8.70 7.47	3.14 12.11	158.65 192.24	136.75 (lim = 220.00)	205.37 (lim = 220.00)	153.98 (lim = 220.00)	85.35 (lim = 220.00)
S164	2.13 5.05	5.13 7.47	200.52 231.13	181.25 (lim = 220.00)	163.17 (lim = 220.00)	200.78 (lim = 220.00)	218.86 (lim = 220.00)
S165	1.32 1.69	2.30 4.13	153.73 178.10	171.17 (lim = 220.00)	187.16 (lim = 220.00)	205.76 (lim = 220.00)	189.76 (lim = 220.00)
S166	2.60 7.00	2.44 13.67	85.03 105.24	56.70 (lim = 220.00)	86.16 (lim = 220.00)	199.28 (lim = 220.00)	169.83 (lim = 220.00)
S167	2.55 6.33	4.63 9.72	114.04 136.72	204.91 (lim = 220.00)	177.55 (lim = 220.00)	88.91 (lim = 220.00)	116.28 (lim = 220.00)
S168	2.67 7.42	4.10 12.89	155.79 183.55	192.36 (lim = 220.00)	210.47 (lim = 220.00)	134.85 (lim = 220.00)	116.74 (lim = 220.00)
S169	1.35 4.93	2.19 7.26	130.85 153.22	209.15 (lim = 220.00)	191.14 (lim = 220.00)	125.58 (lim = 220.00)	143.59 (lim = 220.00)

S170	2.40 1.85	4.70 3.12	185.08 213.29	194.50 (lim = 220.00)	174.95 (lim = 220.00)	193.30 (lim = 220.00)	212.86 (lim = 220.00)
S171	4.22 3.67	6.04 6.37	174.53 202.30	216.12 (lim = 220.00)	175.31 (lim = 220.00)	145.58 (lim = 220.00)	186.39 (lim = 220.00)
S172	1.74 1.25	3.40 1.76	124.76 144.19	192.73 (lim = 220.00)	165.98 (lim = 220.00)	186.72 (lim = 220.00)	213.46 (lim = 220.00)
S173	5.25 1.93	8.95 0.92	193.38 223.99	213.20 (lim = 220.00)	167.34 (lim = 220.00)	150.27 (lim = 220.00)	196.13 (lim = 220.00)
S174	0.74 1.27	1.25 0.61	127.48 146.91	188.99 (lim = 220.00)	176.41 (lim = 220.00)	197.60 (lim = 220.00)	210.18 (lim = 220.00)
S175	0.70 1.32	1.41 2.17	82.43 95.45	188.57 (lim = 220.00)	209.36 (lim = 220.00)	175.48 (lim = 220.00)	154.70 (lim = 220.00)
S176	0.47 0.94	1.41 1.87	93.56 108.58	178.13 (lim = 220.00)	164.65 (lim = 220.00)	186.85 (lim = 220.00)	200.33 (lim = 220.00)
S177	2.64 1.74	4.26 1.64	173.86 198.91	178.05 (lim = 220.00)	198.91 (lim = 220.00)	219.77 (lim = 220.00)	198.91 (lim = 220.00)
S178	2.49 2.36	5.71 3.88	131.81 152.02	154.64 (lim = 220.00)	195.58 (lim = 220.00)	218.95 (lim = 220.00)	178.01 (lim = 220.00)
S179	2.20 1.84	3.22 3.00	122.91 143.11	168.71 (lim = 220.00)	204.89 (lim = 220.00)	184.66 (lim = 220.00)	148.48 (lim = 220.00)
S180	3.79 1.43	1.22 2.04	98.85 115.57	139.95 (lim = 220.00)	218.71 (lim = 220.00)	197.12 (lim = 220.00)	118.36 (lim = 220.00)
S181	2.82 1.22	1.10 1.47	93.46 109.11	124.16 (lim = 220.00)	190.20 (lim = 220.00)	211.72 (lim = 220.00)	145.68 (lim = 220.00)
S182	2.72 1.11	3.01 0.96	77.21 91.22	127.93 (lim = 220.00)	198.65 (lim = 220.00)	176.13 (lim = 220.00)	105.41 (lim = 220.00)
S183	2.25 4.31	3.70 8.85	95.57 113.44	130.57 (lim = 220.00)	99.59 (lim = 220.00)	183.33 (lim = 220.00)	214.30 (lim = 220.00)
S184	1.93 6.87	2.79 12.47	131.16 156.21	106.45 (lim = 220.00)	122.04 (lim = 220.00)	203.48 (lim = 220.00)	187.89 (lim = 220.00)
S185	3.94 1.57	6.68 2.37	131.60 154.28	134.67 (lim = 220.00)	185.72 (lim = 220.00)	203.93 (lim = 220.00)	152.88 (lim = 220.00)
S186	6.18 2.57	8.92 4.32	211.60 245.19	153.80 (lim = 220.00)	200.31 (lim = 220.00)	217.01 (lim = 220.00)	170.49 (lim = 220.00)
S187	3.58 3.68	5.78 6.76	183.78 214.39	172.79 (lim = 220.00)	202.46 (lim = 220.00)	177.32 (lim = 220.00)	147.65 (lim = 220.00)
S188	7.30 2.21	10.72 3.38	157.69 185.45	123.05 (lim = 220.00)	197.02 (lim = 220.00)	213.37 (lim = 220.00)	139.40 (lim = 220.00)
S189	6.08 1.69	9.97 2.96	151.63 179.40	137.62 (lim = 220.00)	200.65 (lim = 220.00)	185.09 (lim = 220.00)	122.06 (lim = 220.00)
S190	1.08 1.94	1.61 2.88	69.63 81.37	119.85 (lim = 220.00)	144.21 (lim = 220.00)	212.25 (lim = 220.00)	187.89 (lim = 220.00)
S43-44	18.37 19.26	12.75 10.11	205.24 249.62	136.53 (lim = 220.00)	212.76 (lim = 220.00)	122.18 (lim = 220.00)	45.95 (lim = 220.00)
S61-62	7.46 22.35	8.11 16.79	179.52 223.69	47.31 (lim = 220.00)	76.91 (lim = 220.00)	212.04 (lim = 220.00)	182.44 (lim = 220.00)
SM1	10.14 3.79	4.25 5.32	87.40 127.69	43.19 (lim = 220.00)	92.39 (lim = 220.00)	80.19 (lim = 220.00)	30.99 (lim = 220.00)
SM2	10.14 3.79	4.25 5.32	87.40 127.69	43.19 (lim = 220.00)	92.39 (lim = 220.00)	80.19 (lim = 220.00)	30.99 (lim = 220.00)

Estabilidade

Nome	Tombamento B		Tombamento H		Deslizamento		Arrancamento	
	Mrd Msd (kN.m)	Mrd / Msd	Mrd Msd (kN.m)	Mrd / Msd	Frd Fsd (kN)	Frd / Fsd	Nt (kN)	Ns (kN)
S1	53.71 5.20	10.33 (lim = 1.50)	53.40 3.49	15.32 (lim = 1.50)	43.68 11.12	3.93 lim = (1.50)		
S2	58.84 10.16	5.79 (lim = 1.50)	58.92 1.94	30.33 (lim = 1.50)	45.39 1.42	32.01 lim = (1.50)		
S3	58.39 5.45	10.71 (lim = 1.50)	58.05 4.40	13.20 (lim = 1.50)	44.98 11.48	3.92 lim = (1.50)		
S4	63.77 4.51	14.14 (lim = 1.50)	64.90 4.43	14.65 (lim = 1.50)	49.10 11.01	4.46 lim = (1.50)		
S5	62.76 1.15	54.38 (lim = 1.50)	74.86 3.02	24.82 (lim = 1.50)	54.79 5.69	9.63 lim = (1.50)		
S6	41.18 1.37	30.01 (lim = 1.50)	42.19 3.35	12.59 (lim = 1.50)	38.59 4.47	8.63 lim = (1.50)		
S7	44.16 0.50	87.79 (lim = 1.50)	51.05 2.20	23.25 (lim = 1.50)	41.51 3.37	12.33 lim = (1.50)		
S8	67.23 1.21	55.60 (lim = 1.50)	68.60 3.52	19.48 (lim = 1.50)	52.85 4.42	11.97 lim = (1.50)		
S9	40.20 0.54	74.59 (lim = 1.50)	49.47 2.96	16.70 (lim = 1.50)	40.23 4.72	8.52 lim = (1.50)		
S10	51.85 1.75	29.65 (lim = 1.50)	53.35 5.88	9.07 (lim = 1.50)	43.38 9.13	4.75 lim = (1.50)		
S11	32.20 1.77	18.17 (lim = 1.50)	38.64 0.84	45.86 (lim = 1.50)	33.67 3.26	10.31 lim = (1.50)		
S12	57.00 1.79	31.93 (lim = 1.50)	57.97 4.73	12.25 (lim = 1.50)	47.14 7.26	6.50 lim = (1.50)		
S13	49.33 0.52	94.96 (lim = 1.50)	56.81 4.50	12.63 (lim = 1.50)	43.77 8.06	5.43 lim = (1.50)		
S14	51.41 2.14	23.99 (lim = 1.50)	53.25 5.39	9.88 (lim = 1.50)	43.30 8.64	5.01 lim = (1.50)		
S15	62.70 2.02	31.05 (lim = 1.50)	64.69 3.82	16.93 (lim = 1.50)	49.84 5.71	8.74 lim = (1.50)		
S16	54.60 0.59	93.28 (lim = 1.50)	58.10 2.22	26.13 (lim = 1.50)	44.76 3.53	12.67 lim = (1.50)		
S17	47.37 0.55	86.79 (lim = 1.50)	50.89 2.27	22.42 (lim = 1.50)	41.39 3.59	11.53 lim = (1.50)		
S18	66.49 0.67	98.78 (lim = 1.50)	69.43 2.11	32.96 (lim = 1.50)	50.82 3.25	15.63 lim = (1.50)		
S19	60.16 0.65	91.87 (lim = 1.50)	63.35 2.12	29.82 (lim = 1.50)	48.81 3.30	14.81 lim = (1.50)		
S20	43.49 2.34	18.57 (lim = 1.50)	44.30 3.35	13.21 (lim = 1.50)	38.15 5.59	6.82 lim = (1.50)		
S21	52.57 2.16	24.37 (lim = 1.50)	52.61 7.38	7.13 (lim = 1.50)	42.63 12.91	3.30 lim = (1.50)		
S22	14.44	22.43	14.43	8.57	15.09	6.36		

	0.64	(lim = 1.50)	1.68	(lim = 1.50)	2.37	lim = (1.50)		
S23	52.23 1.98	26.39 (lim = 1.50)	52.26 5.80	9.00 (lim = 1.50)	42.34 13.45	3.15 lim = (1.50)		
S24	92.62 4.56	20.30 (lim = 1.50)	91.76 2.96	31.05 (lim = 1.50)	63.96 9.94	6.44 lim = (1.50)		
S25	80.83 1.64	49.20 (lim = 1.50)	92.00 3.50	26.29 (lim = 1.50)	61.22 6.80	9.00 lim = (1.50)		
S26	37.78 1.00	37.74 (lim = 1.50)	39.44 2.43	16.23 (lim = 1.50)	36.08 3.72	9.71 lim = (1.50)		
S27	49.68 0.58	86.16 (lim = 1.50)	53.71 1.61	33.43 (lim = 1.50)	43.68 2.70	16.16 lim = (1.50)		
S28	79.16 1.44	54.98 (lim = 1.50)	71.25 1.82	39.25 (lim = 1.50)	54.89 2.87	19.13 lim = (1.50)		
S29	43.51 0.53	81.55 (lim = 1.50)	53.36 2.26	23.65 (lim = 1.50)	43.39 4.23	10.26 lim = (1.50)		
S30	52.41 1.06	49.35 (lim = 1.50)	53.47 4.33	12.36 (lim = 1.50)	43.48 8.06	5.40 lim = (1.50)		
S31	27.89 1.59	17.57 (lim = 1.50)	34.03 0.93	36.46 (lim = 1.50)	31.40 3.07	10.22 lim = (1.50)		
S32	53.44 1.03	52.06 (lim = 1.50)	54.30 3.80	14.28 (lim = 1.50)	44.16 6.57	6.72 lim = (1.50)		
S33	53.76 0.57	93.52 (lim = 1.50)	58.78 4.08	14.42 (lim = 1.50)	45.29 7.55	6.00 lim = (1.50)		
S34	57.48 1.80	31.86 (lim = 1.50)	58.16 4.08	14.27 (lim = 1.50)	47.30 7.27	6.51 lim = (1.50)		
S35	64.16 2.23	28.81 (lim = 1.50)	65.22 2.36	27.60 (lim = 1.50)	50.25 5.21	9.64 lim = (1.50)		
S36	56.13 0.66	84.91 (lim = 1.50)	66.69 1.77	37.66 (lim = 1.50)	48.81 3.04	16.03 lim = (1.50)		
S37	57.10 0.62	92.60 (lim = 1.50)	57.28 1.83	31.26 (lim = 1.50)	44.13 3.08	14.34 lim = (1.50)		
S38	81.04 0.78	104.08 (lim = 1.50)	79.02 1.68	46.93 (lim = 1.50)	55.08 2.76	19.99 lim = (1.50)		
S39	79.87 0.77	104.32 (lim = 1.50)	77.89 1.74	44.77 (lim = 1.50)	54.30 2.85	19.08 lim = (1.50)		
S40	57.02 2.71	21.01 (lim = 1.50)	56.13 2.32	24.19 (lim = 1.50)	45.65 4.49	10.16 lim = (1.50)		
S41	52.57 2.16	24.37 (lim = 1.50)	52.61 7.38	7.13 (lim = 1.50)	42.63 12.91	3.30 lim = (1.50)		
S42	14.43 1.68	8.57 (lim = 1.50)	14.44 0.64	22.43 (lim = 1.50)	15.09 2.37	6.36 lim = (1.50)		
S45	92.51 2.74	33.82 (lim = 1.50)	99.96 2.72	36.74 (lim = 1.50)	66.51 6.79	9.80 lim = (1.50)		
S46	165.15 5.65	29.25 (lim = 1.50)	163.62 2.95	55.53 (lim = 1.50)	96.70 10.67	9.07 lim = (1.50)		
S47	53.96 0.69	77.69 (lim = 1.50)	64.60 5.42	11.93 (lim = 1.50)	47.28 9.98	4.74 lim = (1.50)		
S48	154.44 3.61	42.76 (lim = 1.50)	154.13 5.74	26.86 (lim = 1.50)	90.43 6.95	13.01 lim = (1.50)		
S49	140.26 2.29	61.19 (lim = 1.50)	139.97 3.40	41.20 (lim = 1.50)	85.54 6.65	12.86 lim = (1.50)		
S50	87.31	58.37	75.79	12.31	55.47	25.03		

	1.50	(lim = 1.50)	6.16	(lim = 1.50)	2.22	lim = (1.50)		
S51	101.93 1.71	59.48 (lim = 1.50)	102.15 6.12	16.69 (lim = 1.50)	67.82 2.60	26.11 lim = (1.50)		
S52	108.45 1.79	60.65 (lim = 1.50)	92.06 4.20	21.91 (lim = 1.50)	64.15 7.78	8.25 lim = (1.50)		
S53	85.81 1.44	59.56 (lim = 1.50)	85.98 5.19	16.57 (lim = 1.50)	59.93 8.50	7.05 lim = (1.50)		
S54	113.43 4.58	24.78 (lim = 1.50)	114.75 2.06	55.63 (lim = 1.50)	72.19 8.78	8.22 lim = (1.50)		
S55	133.53 2.72	49.12 (lim = 1.50)	162.86 2.35	69.38 (lim = 1.50)	81.44 4.21	19.35 lim = (1.50)		
S56	95.72 3.59	26.70 (lim = 1.50)	94.18 4.59	20.52 (lim = 1.50)	65.65 8.83	7.44 lim = (1.50)		
S57	94.71 0.86	109.85 (lim = 1.50)	109.66 1.72	63.60 (lim = 1.50)	56.86 1.63	34.89 lim = (1.50)		
S58	94.10 0.85	110.62 (lim = 1.50)	108.95 1.70	64.04 (lim = 1.50)	56.61 1.63	34.67 lim = (1.50)		
S59	53.71 5.20	10.33 (lim = 1.50)	53.40 3.49	15.32 (lim = 1.50)	43.68 11.12	3.93 lim = (1.50)		
S60	58.92 1.94	30.33 (lim = 1.50)	58.84 10.16	5.79 (lim = 1.50)	45.39 1.42	32.01 lim = (1.50)		
S63	71.04 2.45	28.95 (lim = 1.50)	81.23 2.29	35.51 (lim = 1.50)	56.62 6.16	9.20 lim = (1.50)		
S64	97.96 6.04	16.21 (lim = 1.50)	96.58 3.12	31.00 (lim = 1.50)	68.28 11.29	6.05 lim = (1.50)		
S65	46.40 0.54	85.68 (lim = 1.50)	55.78 5.18	10.77 (lim = 1.50)	42.97 9.66	4.45 lim = (1.50)		
S66	151.72 2.30	65.89 (lim = 1.50)	141.91 2.35	60.32 (lim = 1.50)	90.32 3.11	29.07 lim = (1.50)		
S67	172.05 2.75	62.49 (lim = 1.50)	171.64 2.48	69.17 (lim = 1.50)	100.50 5.83	17.25 lim = (1.50)		
S68	118.26 1.84	64.13 (lim = 1.50)	118.29 3.63	32.54 (lim = 1.50)	76.81 8.48	9.05 lim = (1.50)		
S69	123.87 3.53	35.08 (lim = 1.50)	123.87 1.95	63.65 (lim = 1.50)	80.36 8.26	9.73 lim = (1.50)		
S70	125.89 1.98	63.49 (lim = 1.50)	110.32 3.08	35.78 (lim = 1.50)	73.40 5.10	14.39 lim = (1.50)		
S71	121.31 3.33	36.41 (lim = 1.50)	120.06 3.15	38.17 (lim = 1.50)	76.41 7.37	10.37 lim = (1.50)		
S72	100.55 1.96	51.23 (lim = 1.50)	102.63 1.88	54.58 (lim = 1.50)	70.09 3.32	21.10 lim = (1.50)		
S73	99.23 2.13	46.62 (lim = 1.50)	109.96 1.92	57.23 (lim = 1.50)	69.17 3.31	20.90 lim = (1.50)		
S74	73.53 4.07	18.07 (lim = 1.50)	73.99 4.58	16.15 (lim = 1.50)	54.15 10.47	5.17 lim = (1.50)		
S75	77.17 1.40	55.08 (lim = 1.50)	71.53 1.33	53.88 (lim = 1.50)	55.10 2.37	23.23 lim = (1.50)		
S76	5.26 0.44	11.99 (lim = 1.50)	6.28 1.06	5.92 (lim = 1.50)	6.57 1.20	5.47 lim = (1.50)		
S77	6.06 0.40	15.13 (lim = 1.50)	7.43 1.59	4.68 (lim = 1.50)	7.76 2.01	3.86 lim = (1.50)		
S78	5.26	11.99	6.28	5.92	6.57	5.47		

	0.44	(lim = 1.50)	1.06	(lim = 1.50)	1.20	lim = (1.50)		
S79	5.26 0.44	11.99 (lim = 1.50)	6.28 1.06	5.92 (lim = 1.50)	6.57 1.20	5.47 lim = (1.50)		
S80	6.06 0.40	15.13 (lim = 1.50)	7.43 1.59	4.68 (lim = 1.50)	7.76 2.01	3.86 lim = (1.50)		
S81	5.26 0.44	11.99 (lim = 1.50)	6.28 1.06	5.92 (lim = 1.50)	6.57 1.20	5.47 lim = (1.50)		
S82	166.60 2.41	69.14 (lim = 1.50)	166.60 2.41	69.14 (lim = 1.50)	98.94 2.59	38.26 lim = (1.50)		
S89	131.81 2.09	63.05 (lim = 1.50)	131.81 2.09	63.05 (lim = 1.50)	77.60 2.23	34.80 lim = (1.50)		
S90	125.22 2.77	45.28 (lim = 1.50)	123.91 4.33	28.64 (lim = 1.50)	78.86 7.58	10.40 lim = (1.50)		
S91	118.63 2.16	54.90 (lim = 1.50)	119.03 6.86	17.35 (lim = 1.50)	75.76 9.65	7.85 lim = (1.50)		
S92	94.86 0.86	109.88 (lim = 1.50)	95.20 4.85	19.63 (lim = 1.50)	63.35 7.93	7.98 lim = (1.50)		
S93	62.61 3.07	20.40 (lim = 1.50)	63.18 6.15	10.27 (lim = 1.50)	48.67 11.06	4.40 lim = (1.50)		
S100	5.26 0.44	11.99 (lim = 1.50)	6.28 1.06	5.92 (lim = 1.50)	6.57 1.20	5.47 lim = (1.50)		
S101	6.06 0.40	15.13 (lim = 1.50)	7.43 1.59	4.68 (lim = 1.50)	7.76 2.01	3.86 lim = (1.50)		
S102	5.26 0.44	11.99 (lim = 1.50)	6.28 1.06	5.92 (lim = 1.50)	6.57 1.20	5.47 lim = (1.50)		
S103	5.26 0.44	11.99 (lim = 1.50)	6.28 1.06	5.92 (lim = 1.50)	6.57 1.20	5.47 lim = (1.50)		
S104	6.06 0.40	15.13 (lim = 1.50)	7.43 1.59	4.68 (lim = 1.50)	7.76 2.01	3.86 lim = (1.50)		
S105	5.26 0.44	11.99 (lim = 1.50)	6.28 1.06	5.92 (lim = 1.50)	6.57 1.20	5.47 lim = (1.50)		
S108	91.94 1.59	57.86 (lim = 1.50)	91.94 1.59	57.86 (lim = 1.50)	61.19 2.17	28.21 lim = (1.50)		
S111	30.18 1.95	15.49 (lim = 1.50)	32.02 2.78	11.54 (lim = 1.50)	30.77 4.12	7.47 lim = (1.50)		
S112	52.25 1.58	33.13 (lim = 1.50)	55.09 1.95	28.28 (lim = 1.50)	47.44 2.30	20.62 lim = (1.50)		
S113	60.40 1.95	31.02 (lim = 1.50)	62.77 2.43	25.79 (lim = 1.50)	51.59 3.96	13.01 lim = (1.50)		
S114	59.28 2.99	19.81 (lim = 1.50)	62.08 3.13	19.83 (lim = 1.50)	48.67 5.38	9.04 lim = (1.50)		
S115	66.75 3.40	19.61 (lim = 1.50)	70.00 2.35	29.79 (lim = 1.50)	51.43 6.41	8.02 lim = (1.50)		
S116	45.81 4.65	9.85 (lim = 1.50)	48.61 1.94	25.05 (lim = 1.50)	39.44 8.56	4.61 lim = (1.50)		
S117	67.92 4.42	15.35 (lim = 1.50)	69.85 1.88	37.07 (lim = 1.50)	52.33 8.29	6.31 lim = (1.50)		
S118	136.54 3.23	42.30 (lim = 1.50)	134.42 3.40	39.48 (lim = 1.50)	85.55 7.93	10.79 lim = (1.50)		
S122	82.84 1.52	54.60 (lim = 1.50)	76.79 1.59	48.40 (lim = 1.50)	59.19 4.21	14.05 lim = (1.50)		
S123	92.08	57.87	84.61	46.54	62.99	19.43		

	1.59	(lim = 1.50)	1.82	(lim = 1.50)	3.24	lim = (1.50)		
S127	72.75 1.58	45.94 (lim = 1.50)	72.60 3.21	22.59 (lim = 1.50)	55.93 5.78	9.68 lim = (1.50)		
S128	97.60 2.45	39.83 (lim = 1.50)	97.31 5.04	19.29 (lim = 1.50)	64.75 9.91	6.54 lim = (1.50)		
S129	133.61 2.34	57.04 (lim = 1.50)	133.71 3.36	39.81 (lim = 1.50)	81.55 7.34	11.10 lim = (1.50)		
S130	148.58 1.17	126.59 (lim = 1.50)	136.76 2.88	47.50 (lim = 1.50)	80.08 5.82	13.75 lim = (1.50)		
S131	78.09 2.78	28.11 (lim = 1.50)	76.81 4.65	16.51 (lim = 1.50)	56.22 9.14	6.15 lim = (1.50)		
S132	66.91 3.05	21.93 (lim = 1.50)	62.50 5.21	12.00 (lim = 1.50)	48.15 7.92	6.08 lim = (1.50)		
S133	72.42 1.46	49.66 (lim = 1.50)	70.32 2.65	26.52 (lim = 1.50)	54.18 3.59	15.08 lim = (1.50)		
S134	125.00 2.72	46.00 (lim = 1.50)	112.35 4.25	26.41 (lim = 1.50)	74.75 6.30	11.87 lim = (1.50)		
S135	111.59 2.90	38.42 (lim = 1.50)	109.66 4.91	22.34 (lim = 1.50)	72.96 7.13	10.23 lim = (1.50)		
S136	153.58 3.60	42.64 (lim = 1.50)	137.61 4.30	31.97 (lim = 1.50)	83.93 6.50	12.91 lim = (1.50)		
S137	132.02 2.09	63.04 (lim = 1.50)	113.28 4.09	27.69 (lim = 1.50)	75.37 6.49	11.62 lim = (1.50)		
S138	163.23 6.45	25.32 (lim = 1.50)	162.60 4.37	37.23 (lim = 1.50)	95.20 13.48	7.06 lim = (1.50)		
S139	171.38 6.69	25.61 (lim = 1.50)	173.53 8.66	20.04 (lim = 1.50)	97.70 19.03	5.13 lim = (1.50)		
S140	44.68 1.07	41.91 (lim = 1.50)	44.37 2.31	19.23 (lim = 1.50)	40.88 1.54	26.63 lim = (1.50)		
S141	94.99 1.65	57.59 (lim = 1.50)	92.29 2.00	46.11 (lim = 1.50)	66.65 3.54	18.85 lim = (1.50)		
S142	103.06 1.69	61.15 (lim = 1.50)	90.77 4.69	19.37 (lim = 1.50)	63.27 7.60	8.32 lim = (1.50)		
S143	110.98 1.79	62.05 (lim = 1.50)	111.80 2.03	55.06 (lim = 1.50)	73.90 6.75	10.94 lim = (1.50)		
S144	150.92 2.29	65.94 (lim = 1.50)	125.15 3.53	35.45 (lim = 1.50)	79.65 5.78	13.79 lim = (1.50)		
S145	59.26 0.64	92.07 (lim = 1.50)	61.59 1.28	47.98 (lim = 1.50)	47.45 1.54	30.76 lim = (1.50)		
S146	97.41 2.98	32.71 (lim = 1.50)	95.86 8.07	11.88 (lim = 1.50)	63.78 14.51	4.39 lim = (1.50)		
S147	68.27 0.70	97.67 (lim = 1.50)	66.38 1.53	43.42 (lim = 1.50)	51.14 3.66	13.98 lim = (1.50)		
S148	83.06 0.80	103.69 (lim = 1.50)	96.90 1.60	60.49 (lim = 1.50)	55.34 5.91	9.36 lim = (1.50)		
S149	27.16 0.61	44.62 (lim = 1.50)	33.75 1.77	19.02 (lim = 1.50)	30.87 3.12	9.89 lim = (1.50)		
S150	46.64 0.52	90.29 (lim = 1.50)	55.88 1.46	38.22 (lim = 1.50)	43.05 2.67	16.15 lim = (1.50)		
S151	5.67 0.28	20.30 (lim = 1.50)	6.12 0.56	10.90 (lim = 1.50)	6.92 0.98	7.06 lim = (1.50)		
S152	118.96	90.85	154.10	68.78	82.89	24.88		

	1.31	(lim = 1.50)	2.24	(lim = 1.50)	3.33	lim = (1.50)		
S153	64.26 2.50	25.70 (lim = 1.50)	62.45 2.77	22.58 (lim = 1.50)	50.78 6.41	7.92 lim = (1.50)		
S154	57.03 1.40	40.81 (lim = 1.50)	54.01 1.75	30.92 (lim = 1.50)	49.10 1.99	24.62 lim = (1.50)		
S155	148.44 2.31	64.31 (lim = 1.50)	148.99 3.32	44.82 (lim = 1.50)	90.87 6.25	14.55 lim = (1.50)		
S156	185.51 2.57	72.22 (lim = 1.50)	160.47 3.39	47.31 (lim = 1.50)	93.96 6.69	14.04 lim = (1.50)		
S157	177.39 4.20	42.28 (lim = 1.50)	177.98 3.34	53.34 (lim = 1.50)	99.87 8.62	11.58 lim = (1.50)		
S158	120.99 5.34	22.67 (lim = 1.50)	121.50 4.78	25.44 (lim = 1.50)	77.33 12.90	5.99 lim = (1.50)		
S159	93.72 1.62	57.71 (lim = 1.50)	85.99 1.54	55.70 (lim = 1.50)	62.93 2.38	26.49 lim = (1.50)		
S160	127.74 6.72	19.01 (lim = 1.50)	127.65 7.71	16.56 (lim = 1.50)	77.86 17.66	4.41 lim = (1.50)		
S161	159.71 4.88	32.74 (lim = 1.50)	159.51 2.41	66.18 (lim = 1.50)	93.48 10.45	8.94 lim = (1.50)		
S162	212.06 4.01	52.89 (lim = 1.50)	210.74 4.15	50.80 (lim = 1.50)	114.25 11.35	10.06 lim = (1.50)		
S163	106.62 8.70	12.26 (lim = 1.50)	96.57 7.33	13.18 (lim = 1.50)	61.46 12.12	5.07 lim = (1.50)		
S164	109.44 2.13	51.39 (lim = 1.50)	111.21 5.05	22.03 (lim = 1.50)	74.00 8.61	8.60 lim = (1.50)		
S165	70.78 1.30	54.26 (lim = 1.50)	90.79 1.69	53.73 (lim = 1.50)	58.46 4.47	13.07 lim = (1.50)		
S166	44.35 2.50	17.75 (lim = 1.50)	44.38 7.00	6.34 (lim = 1.50)	35.92 13.66	2.63 lim = (1.50)		
S167	63.48 2.55	24.88 (lim = 1.50)	61.83 6.32	9.79 (lim = 1.50)	47.64 10.65	4.47 lim = (1.50)		
S168	89.79 2.67	33.65 (lim = 1.50)	90.41 7.42	12.18 (lim = 1.50)	63.02 13.27	4.75 lim = (1.50)		
S169	67.77 1.34	50.54 (lim = 1.50)	68.88 4.93	13.99 (lim = 1.50)	53.07 7.35	7.22 lim = (1.50)		
S170	99.98 2.40	41.61 (lim = 1.50)	109.29 1.76	62.26 (lim = 1.50)	73.17 5.30	13.81 lim = (1.50)		
S171	100.64 4.22	23.83 (lim = 1.50)	99.70 3.67	27.20 (lim = 1.50)	70.15 8.29	8.47 lim = (1.50)		
S172	54.35 1.74	31.31 (lim = 1.50)	68.49 1.25	54.90 (lim = 1.50)	49.72 3.57	13.94 lim = (1.50)		
S173	115.17 5.25	21.94 (lim = 1.50)	123.20 1.93	63.71 (lim = 1.50)	76.63 8.95	8.56 lim = (1.50)		
S174	55.74 0.74	74.87 (lim = 1.50)	69.78 1.27	54.74 (lim = 1.50)	50.99 1.25	40.65 lim = (1.50)		
S175	29.80 0.70	42.53 (lim = 1.50)	36.21 1.29	27.97 (lim = 1.50)	33.13 2.41	13.77 lim = (1.50)		
S176	38.00 0.47	81.24 (lim = 1.50)	42.92 0.91	47.17 (lim = 1.50)	36.96 2.25	16.46 lim = (1.50)		
S177	92.94 2.56	36.28 (lim = 1.50)	99.45 1.74	57.20 (lim = 1.50)	68.02 4.22	16.10 lim = (1.50)		
S178	68.09	27.38	65.40	27.66	55.37	8.70		

	2.49	(lim = 1.50)	2.36	(lim = 1.50)	6.36	lim = (1.50)		
S179	64.40 2.20	29.30 (lim = 1.50)	61.92 1.83	33.80 (lim = 1.50)	52.37 3.84	13.62 lim = (1.50)		
S180	48.71 3.79	12.84 (lim = 1.50)	43.93 1.42	30.95 (lim = 1.50)	40.19 2.13	18.89 lim = (1.50)		
S181	41.45 2.76	14.99 (lim = 1.50)	41.46 1.22	33.85 (lim = 1.50)	37.93 1.60	23.76 lim = (1.50)		
S182	33.67 2.72	12.39 (lim = 1.50)	35.61 1.11	32.09 (lim = 1.50)	32.86 3.04	10.80 lim = (1.50)		
S183	47.27 2.25	21.05 (lim = 1.50)	47.45 4.31	11.00 (lim = 1.50)	40.86 9.42	4.34 lim = (1.50)		
S184	74.21 1.93	38.45 (lim = 1.50)	75.35 6.87	10.97 (lim = 1.50)	55.15 12.58	4.38 lim = (1.50)		
S185	70.24 3.94	17.81 (lim = 1.50)	68.96 1.56	44.16 (lim = 1.50)	54.11 6.82	7.93 lim = (1.50)		
S186	133.39 5.96	22.37 (lim = 1.50)	132.44 2.57	51.54 (lim = 1.50)	84.89 9.61	8.83 lim = (1.50)		
S187	112.32 3.58	31.41 (lim = 1.50)	110.63 3.68	30.05 (lim = 1.50)	73.61 8.14	9.05 lim = (1.50)		
S188	96.07 7.30	13.16 (lim = 1.50)	91.74 2.21	41.46 (lim = 1.50)	64.59 10.74	6.01 lim = (1.50)		
S189	90.73 6.05	15.00 (lim = 1.50)	89.06 1.69	52.61 (lim = 1.50)	63.24 10.16	6.22 lim = (1.50)		
S190	27.53 1.08	25.45 (lim = 1.50)	28.48 1.94	14.64 (lim = 1.50)	29.78 3.03	9.84 lim = (1.50)		
S43-44	170.01 18.37	9.25 (lim = 1.50)	165.02 19.26	8.57 (lim = 1.50)	88.11 15.77	5.59 lim = (1.50)		
S61-62	163.61 7.46	21.93 (lim = 1.50)	127.55 22.35	5.71 (lim = 1.50)	81.17 18.33	4.43 lim = (1.50)		
SM1	73.42 10.14	7.24 (lim = 1.50)	114.92 3.79	30.34 (lim = 1.50)	46.73 6.66	7.02 lim = (1.50)		
SM2	73.42 10.14	7.24 (lim = 1.50)	114.92 3.79	30.34 (lim = 1.50)	46.73 6.66	7.02 lim = (1.50)		

Verificação de tensão em área reduzida

Nome	Interface pilar-fundação		
	Força solicitante (kN)	Força resistente (kN)	Condição
S1	138.48	4000.00	OK
S2	142.22	4000.00	OK
S3	139.87	4000.00	OK
S4	162.87	2250.00	OK
S5	186.47	3712.50	OK
S6	129.55	2250.00	OK
S7	140.27	3375.00	OK
S8	176.29	2250.00	OK
S9	134.27	3375.00	OK

S10	141.56	2250.00	OK
S11	111.27	2625.00	OK
S12	156.40	2250.00	OK
S13	144.92	3562.50	OK
S14	150.14	2250.00	OK
S15	181.01	2250.00	OK
S16	163.31	3562.50	OK
S17	152.24	3375.00	OK
S18	187.88	3712.50	OK
S19	182.78	3562.50	OK
S20	131.05	2250.00	OK
S21	135.52	4000.00	OK
S22	41.32	2250.00	OK
S23	134.44	4000.00	OK
S24	222.75	2250.00	OK
S25	222.69	3562.50	OK
S26	127.05	2250.00	OK
S27	160.92	3375.00	OK
S28	200.94	2250.00	OK
S29	159.26	3375.00	OK
S30	151.65	2250.00	OK
S31	113.30	2437.50	OK
S32	154.80	2250.00	OK
S33	160.46	3562.50	OK
S34	177.72	2250.00	OK
S35	198.66	2250.00	OK
S36	190.35	3712.50	OK
S37	172.14	3562.50	OK
S38	217.46	3712.50	OK
S39	213.89	3712.50	OK
S40	167.92	2250.00	OK
S41	135.52	4000.00	OK
S42	41.32	2250.00	OK
S45	259.69	3712.50	OK
S46	367.71	2250.00	OK
S47	166.73	3712.50	OK
S48	348.29	2250.00	OK
S49	331.11	2250.00	OK
S50	209.56	2250.00	OK
S51	258.89	2250.00	OK
S52	250.14	2250.00	OK
S53	247.83	2250.00	OK
S54	293.60	2250.00	OK
S55	328.07	2250.00	OK
S56	250.04	2250.00	OK
S57	241.11	1125.00	OK
S58	237.85	1125.00	OK
S59	138.48	4000.00	OK
S60	142.22	4000.00	OK
S63	198.56	3375.00	OK
S64	234.94	2250.00	OK

S65	141.11	3562.50	OK
S66	321.55	2250.00	OK
S67	360.36	2250.00	OK
S68	258.31	2250.00	OK
S69	272.48	2250.00	OK
S70	277.18	2250.00	OK
S71	297.99	2250.00	OK
S72	265.16	2250.00	OK
S73	261.24	2250.00	OK
S74	191.92	2250.00	OK
S75	195.50	5564.02	OK
S76	10.75	2450.00	OK
S77	15.25	2450.00	OK
S78	10.75	2450.00	OK
S79	10.75	2450.00	OK
S80	15.25	2450.00	OK
S81	10.75	2450.00	OK
S82	337.10	2250.00	OK
S89	292.70	2250.00	OK
S90	312.17	2250.00	OK
S91	285.49	2250.00	OK
S92	241.39	3712.50	OK
S93	173.70	2250.00	OK
S100	10.75	2450.00	OK
S101	15.25	2450.00	OK
S102	10.75	2450.00	OK
S103	10.75	2450.00	OK
S104	15.25	2450.00	OK
S105	10.75	2450.00	OK
S108	222.49	5831.58	OK
S111	98.38	2250.00	OK
S112	154.61	2250.00	OK
S113	167.12	2250.00	OK
S114	162.89	2250.00	OK
S115	172.51	2250.00	OK
S116	133.27	2250.00	OK
S117	180.87	2250.00	OK
S118	306.98	2250.00	OK
S122	212.17	2250.00	OK
S123	222.36	2250.00	OK
S127	203.48	2250.00	OK
S128	260.97	2250.00	OK
S129	328.25	2250.00	OK
S130	328.39	1125.00	OK
S131	215.08	2250.00	OK
S132	169.60	2250.00	OK
S133	204.79	2250.00	OK
S134	289.04	2250.00	OK
S135	282.28	2250.00	OK
S136	323.09	2250.00	OK
S137	292.26	2250.00	OK

S138	340.69	2250.00	OK
S139	335.80	2250.00	OK
S140	138.44	2250.00	OK
S141	230.37	2250.00	OK
S142	235.76	2250.00	OK
S143	296.79	2250.00	OK
S144	320.15	2250.00	OK
S145	179.75	3562.50	OK
S146	228.83	2250.00	OK
S147	195.35	3093.75	OK
S148	223.97	3375.00	OK
S149	115.65	2437.50	OK
S150	165.45	3000.00	OK
S151	12.88	2250.00	OK
S152	313.54	3712.50	OK
S153	185.90	2250.00	OK
S154	169.01	2250.00	OK
S155	348.72	2250.00	OK
S156	359.56	2250.00	OK
S157	383.21	2250.00	OK
S158	295.43	2250.00	OK
S159	227.25	2250.00	OK
S160	280.25	2250.00	OK
S161	358.68	2250.00	OK
S162	432.82	2250.00	OK
S163	221.94	2250.00	OK
S164	280.21	2250.00	OK
S165	214.85	3712.50	OK
S166	118.53	2250.00	OK
S167	159.16	2250.00	OK
S168	217.86	2250.00	OK
S169	182.88	7125.00	OK
S170	258.87	4950.00	OK
S171	244.04	2250.00	OK
S172	174.45	3000.00	OK
S173	270.41	2250.00	OK
S174	177.70	3000.00	OK
S175	115.18	3000.00	OK
S176	130.76	3187.50	OK
S177	242.80	2250.00	OK
S178	184.12	2250.00	OK
S179	171.00	2250.00	OK
S180	138.05	2250.00	OK
S181	130.78	2250.00	OK
S182	107.11	5625.00	OK
S183	133.27	2250.00	OK
S184	183.17	2250.00	OK
S185	183.75	2250.00	OK
S186	295.89	2250.00	OK
S187	256.75	2250.00	OK
S188	220.50	2250.00	OK

S189	211.75	2250.00	OK
S190	96.16	2250.00	OK
S43-44	152.45	6675.00	OK
S61-62	139.87	11200.00	OK
SM1	122.36	27000.00	OK
SM2	122.36	27000.00	OK

Dimensionamento

Nome	Armaduras inferiores		Armaduras superiores	
	Dir. B	Dir. H	Dir. B	Dir. H
	Md (kN.m/m) As (cm²/m)	Md (kN.m/m) As (cm²/m)	Md (kN.m/m) A's (cm²/m)	Md (kN.m/m) A's (cm²/m)
S1	87.91 9.44	87.91 9.44	0.00 0.00	0.00 0.00
S2	87.34 8.52	87.34 8.52	0.00 0.00	0.00 0.00
S3	87.34 8.52	87.34 8.52	0.00 0.00	0.00 0.00
S4	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S5	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S6	54.02 6.21	54.02 6.21	0.00 0.00	0.00 0.00
S7	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S8	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S9	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S10	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S11	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S12	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S13	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S14	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S15	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S16	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S17	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S18	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00

S19	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S20	53.60 6.16	53.60 6.16	0.00 0.00	0.00 0.00
S21	87.91 9.44	87.91 9.44	0.00 0.00	0.00 0.00
S22	56.85 7.63	56.85 7.63	0.00 0.00	0.00 0.00
S23	87.91 9.44	87.91 9.44	0.00 0.00	0.00 0.00
S24	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S25	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S26	54.02 6.21	54.02 6.21	0.00 0.00	0.00 0.00
S27	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S28	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S29	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S30	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S31	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S32	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S33	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S34	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S35	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S36	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S37	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S38	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S39	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S40	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S41	87.91 9.44	87.91 9.44	0.00 0.00	0.00 0.00
S42	56.85 7.63	56.85 7.63	0.00 0.00	0.00 0.00
S45	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S46	49.41 5.68	49.41 5.68	0.00 0.00	0.00 0.00

S47	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S48	49.41 5.68	49.41 5.68	0.00 0.00	0.00 0.00
S49	49.68 5.71	49.68 5.71	0.00 0.00	0.00 0.00
S50	50.95 5.86	50.95 5.86	0.00 0.00	0.00 0.00
S51	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S52	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S53	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S54	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S55	49.68 5.71	49.68 5.71	0.00 0.00	0.00 0.00
S56	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S57	50.27 5.78	47.13 5.42	0.00 0.00	0.00 0.00
S58	80.59 7.21	76.46 6.84	0.00 0.00	0.00 0.00
S59	87.91 9.44	87.91 9.44	0.00 0.00	0.00 0.00
S60	87.34 8.52	87.34 8.52	0.00 0.00	0.00 0.00
S63	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S64	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S65	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S66	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S67	49.41 5.68	49.41 5.68	0.00 0.00	0.00 0.00
S68	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S69	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S70	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S71	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S72	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S73	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S74	50.95 5.86	50.95 5.86	0.00 0.00	0.00 0.00

S75	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S76	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S77	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S78	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S79	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S80	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S81	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S82	49.68 5.71	49.68 5.71	0.00 0.00	0.00 0.00
S89	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S90	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S91	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S92	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S93	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S100	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S101	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S102	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S103	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S104	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S105	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S108	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S111	56.46 6.73	56.46 6.73	0.00 0.00	0.00 0.00
S112	53.60 6.16	53.60 6.16	0.00 0.00	0.00 0.00
S113	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S114	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S115	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S116	53.60 6.16	53.60 6.16	0.00 0.00	0.00 0.00

S117	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S118	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S122	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S123	50.95 5.86	50.95 5.86	0.00 0.00	0.00 0.00
S127	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S128	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S129	49.68 5.71	49.68 5.71	0.00 0.00	0.00 0.00
S130	38.58 5.18	36.60 4.91	0.00 0.00	0.00 0.00
S131	50.95 5.86	50.95 5.86	0.00 0.00	0.00 0.00
S132	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S133	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S134	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S135	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S136	49.68 5.71	49.68 5.71	0.00 0.00	0.00 0.00
S137	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S138	49.41 5.68	49.41 5.68	0.00 0.00	0.00 0.00
S139	49.17 5.65	49.17 5.65	0.00 0.00	0.00 0.00
S140	54.02 6.21	54.02 6.21	0.00 0.00	0.00 0.00
S141	50.95 5.86	50.95 5.86	0.00 0.00	0.00 0.00
S142	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S143	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S144	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S145	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S146	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S147	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S148	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00

S149	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S150	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S151	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S152	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S153	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S154	53.60 6.16	53.60 6.16	0.00 0.00	0.00 0.00
S155	49.68 5.71	49.68 5.71	0.00 0.00	0.00 0.00
S156	49.41 5.68	49.41 5.68	0.00 0.00	0.00 0.00
S157	49.17 5.65	49.17 5.65	0.00 0.00	0.00 0.00
S158	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S159	50.95 5.86	50.95 5.86	0.00 0.00	0.00 0.00
S160	49.68 5.71	49.68 5.71	0.00 0.00	0.00 0.00
S161	49.41 5.68	49.41 5.68	0.00 0.00	0.00 0.00
S162	48.94 5.63	48.94 5.63	0.00 0.00	0.00 0.00
S163	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S164	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S165	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S166	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S167	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S168	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S169	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S170	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S171	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S172	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S173	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S174	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00

S175	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S176	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S177	50.95 5.86	50.95 5.86	0.00 0.00	0.00 0.00
S178	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S179	53.22 6.12	53.22 6.12	0.00 0.00	0.00 0.00
S180	54.02 6.21	53.60 6.16	0.00 0.00	0.00 0.00
S181	54.02 6.21	54.02 6.21	0.00 0.00	0.00 0.00
S182	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S183	53.60 6.16	53.60 6.16	0.00 0.00	0.00 0.00
S184	50.95 5.86	50.95 5.86	0.00 0.00	0.00 0.00
S185	52.87 6.08	52.87 6.08	0.00 0.00	0.00 0.00
S186	49.96 5.75	49.96 5.75	0.00 0.00	0.00 0.00
S187	50.27 5.78	50.27 5.78	0.00 0.00	0.00 0.00
S188	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S189	50.60 5.82	50.60 5.82	0.00 0.00	0.00 0.00
S190	56.85 7.63	56.85 7.63	0.00 0.00	0.00 0.00
S43-44	99.36 8.89	99.36 9.04	0.00 7.50	0.00 7.50
S61-62	99.36 8.89	99.36 8.89	0.00 7.50	0.00 7.50
SM1	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
SM2	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00

6. RESULTADOS DOS PILARES DO EDIFÍCIO PRINCIPAL:

Dados				Resultados					
Pilar	**Seção (cm)**	**Nível Altura (cm)**	**leb vínc leh vínc (cm)**	**Nd máx Nd mín (kN)**	**MBd topo MBd base (kN.m)**	**MHd topo MHd base (kN.m)**	**As b Armaduras As h % armad total**	**Estribo Topo Base cota**	**Esb b Esb h**
P1 1:20	40.00 X 40.00	20.00 150.00	150.00 RR 150.00 RR	138.48 90.39	10.60 6.59	13.31 4.46	4.02 2 ø 16.0 4.02 2 ø 16.0 0.5 4 ø 16.0	ø 5.0 c/19	12.97 12.97
P2 1:20	40.00 X 40.00	20.00 150.00	1472.00 EL 150.00 RR	142.22 95.27	12.42 12.91	0.19 2.26	4.02 2 ø 16.0 4.02 2 ø 16.0 0.5 4 ø 16.0	ø 5.0 c/19	127.33 12.97
P3 1:20	40.00 X 40.00	20.00 150.00	150.00 RR 150.00 RR	139.87 91.38	10.63 6.94	12.73 5.74	4.02 2 ø 16.0 4.02 2 ø 16.0 0.5 4 ø 16.0	ø 5.0 c/19	12.97 12.97
P4 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	162.87 104.30	14.19 6.05	7.21 5.71	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P5 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	186.47 123.31	2.56 1.54	7.04 4.01	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P6 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	129.55 80.19	1.82 1.54	4.49 4.08	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P7 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	140.27 90.38	0.62 0.53	3.78 2.75	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P8 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	176.29 112.16	1.23 1.35	4.12 4.36	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P9 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	134.27 86.51	0.99 0.68	5.51 3.81	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P10 1:20	30.00 X 30.00	15.00 150.00	150.00 RR	141.56 89.79	1.49 2.06	10.62 7.66	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30

			150.00 RR						
P11 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	111.27 72.72	4.28 2.37	0.68 0.92	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P12 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	156.40 99.44	1.85 2.12	8.24 6.01	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P13 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	144.92 94.38	0.26 0.28	10.45 5.96	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P14 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	150.14 88.63	2.84 2.61	10.01 6.89	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P15 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	181.01 103.89	4.41 2.44	5.16 4.70	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P16 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	163.31 96.76	1.03 0.65	4.02 2.78	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P17 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	152.24 89.78	0.67 0.38	4.15 2.85	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P18 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	187.88 110.87	0.31 0.28	3.70 2.62	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P19 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	182.78 107.89	0.28 0.26	3.77 2.64	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P20 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	131.05 76.99	4.34 3.01	5.08 4.15	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P21 1:20	40.00 X 40.00	20.00 150.00	150.00 RR 150.00 RR	135.52 90.38	0.89 2.28	18.17 10.03	4.02 2 ø 16.0 4.02 2 ø 16.0 0.5 4 ø 16.0	ø 8.0 c/19 ø 8.0 c/19 0	12.97 12.97
P22 1:20	30.00 X 30.00	20.00 150.00	300.00 EL 150.00 RR	41.32 26.07	0.08 0.80	2.27 2.06	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	34.60 17.30
P23 1:20	40.00 X	20.00 150.00	150.00 RR	134.44 89.61	0.88 2.03	21.49 7.82	4.02 2 ø 16.0 4.02 2 ø 16.0	ø 8.0 c/19	12.97 12.97

	40.00		150.00 RR				0.5 4 ø 16.0	ø 8.0 c/19 0	
P24 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	222.75 143.30	12.48 6.11	6.19 3.40	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P25 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	222.69 138.18	3.95 2.18	8.05 4.65	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P26 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	127.05 74.31	1.79 1.08	4.17 2.82	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P27 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	160.92 96.50	0.42 0.36	3.27 1.94	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P28 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	200.94 119.30	1.87 1.19	3.10 1.95	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P29 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	159.26 95.57	1.08 0.67	5.46 2.84	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P30 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	151.65 91.82	1.02 1.10	10.76 5.46	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P31 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	113.30 69.27	4.07 2.11	1.07 1.05	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P32 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	154.80 91.67	0.90 1.06	8.35 4.72	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P33 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	160.46 98.90	0.23 0.24	9.98 5.38	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P34 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	177.72 102.02	2.52 2.25	8.92 5.08	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P35 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	198.66 107.04	5.97 2.79	4.35 2.72	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P36 1:20	15.00 X	20.00 150.00	150.00 RR	190.35 106.04	1.26 0.84	3.56 2.17	1.57 2 ø 10.0 1.57 2 ø 10.0	ø 5.0 c/12	34.60 17.30

	30.00		150.00 RR				0.7 4 ø 10.0		
P37 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	172.14 95.49	0.57 0.28	3.74 2.25	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P38 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	217.46 120.47	0.44 0.43	3.27 2.04	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P39 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	213.89 118.75	0.53 0.47	3.38 2.12	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P40 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	167.92 100.87	3.92 3.47	3.23 2.48	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P41 1:20	40.00 X 40.00	20.00 150.00	150.00 RR 150.00 RR	135.52 90.38	0.89 2.28	18.17 10.03	4.02 2 ø 16.0 4.02 2 ø 16.0 0.5 4 ø 16.0	ø 8.0 c/19 ø 8.0 c/19 0	12.97 12.97
P42 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 300.00 EL	41.32 26.07	2.27 2.06	0.08 0.80	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 34.60
P43 1:20	40.00 X 40.00	20.00 150.00	150.00 RR 150.00 RR	134.44 89.61	0.88 2.03	21.49 7.82	4.02 2 ø 16.0 4.02 2 ø 16.0 0.5 4 ø 16.0	ø 8.0 c/19 ø 8.0 c/19 0	12.97 12.97
P44 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	152.45 95.31	1.89 1.96	9.93 7.13	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P45 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	259.69 151.55	6.89 3.72	6.14 3.59	1.57 2 ø 10.0 3.14 4 ø 10.0 1.4 8 ø 10.0	ø 5.0 c/12	34.60 17.30
P46 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	367.71 217.75	12.34 7.31	7.38 3.80	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P47 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	166.73 102.82	1.48 0.90	13.16 7.25	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P48 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 575.00 RR	348.29 203.29	9.80 4.97	4.50 7.80	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 66.32
P49 1:20	30.00 X	15.00 150.00	150.00 RR	331.11 192.36	4.13 2.88	8.70 4.52	2.45 2 ø 12.5 2.45 2 ø 12.5	ø 5.0 c/15	17.30 17.30

	30.00		150.00 RR				0.5 4 ø 12.5		
P50 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 575.00 RR	209.56 122.70	1.49 1.21	3.74 8.24	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 66.32
P51 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 575.00 RR	258.89 151.13	1.93 2.00	3.69 8.19	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 66.32
P52 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	250.14 143.54	2.38 1.62	11.48 5.64	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P53 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	247.83 132.21	2.07 2.00	10.74 6.73	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P54 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	293.60 158.62	11.58 5.99	2.40 2.38	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P55 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	328.07 181.11	4.98 3.69	1.60 1.94	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P56 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	250.04 148.25	7.32 4.68	7.98 5.69	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P57 1:20	15.00 X 30.00	20.00 150.00	570.00 RR 150.00 RR	241.11 126.73	0.11 0.26	1.40 1.35	2.45 2 ø 12.5 7.36 6 ø 12.5 3.3 12 ø 12.5	ø 5.0 c/15	131.48 17.30
P58 1:20	15.00 X 30.00	20.00 150.00	570.00 RR 150.00 RR	237.85 125.05	0.05 0.15	1.48 1.37	4.02 2 ø 16.0 8.04 4 ø 16.0 3.6 8 ø 16.0	ø 5.0 c/15	131.48 17.30
P59 1:20	40.00 X 40.00	20.00 150.00	150.00 RR 150.00 RR	138.48 90.39	10.60 6.59	13.31 4.46	4.02 2 ø 16.0 4.02 2 ø 16.0 0.5 4 ø 16.0	ø 5.0 c/19	12.97 12.97
P60 1:20	40.00 X 40.00	20.00 150.00	150.00 RR 1472.00 EL	142.22 95.27	0.19 2.26	12.42 12.91	4.02 2 ø 16.0 4.02 2 ø 16.0 0.5 4 ø 16.0	ø 5.0 c/19	12.97 127.33
P61 1:20	40.00 X 40.00	20.00 150.00	150.00 RR 150.00 RR	139.87 91.38	10.63 6.94	12.73 5.74	4.02 2 ø 16.0 4.02 2 ø 16.0 0.5 4 ø 16.0	ø 5.0 c/19	12.97 12.97
P62 1:20	30.00 X	20.00 150.00	150.00 RR	111.73 69.11	1.36 1.26	12.54 6.02	2.45 2 ø 12.5 2.45 2 ø 12.5	ø 5.0 c/15	17.30 17.30

	30.00		150.00 RR				0.5 4 ø 12.5		
P63 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	198.56 128.66	6.61 3.32	5.54 3.04	1.57 2 ø 10.0 2.36 3 ø 10.0 1.0 6 ø 10.0	ø 5.0 c/12	34.60 17.30
P64 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	234.94 151.53	12.57 7.81	7.45 4.11	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P65 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	141.11 94.34	1.22 0.71	12.81 6.90	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P66 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	321.55 203.52	0.60 0.77	3.52 2.81	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P67 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	360.36 231.31	6.54 3.64	4.19 3.06	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P68 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	258.31 163.52	0.33 0.64	12.13 5.09	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P69 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	272.48 172.32	11.77 4.94	0.95 0.97	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P70 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	277.18 166.59	1.93 1.15	5.92 3.89	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P71 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	297.99 171.84	8.28 4.33	5.19 3.62	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P72 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	265.16 157.39	3.74 2.31	1.89 2.25	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P73 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	261.24 154.42	3.59 2.64	1.74 2.14	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P74 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	191.92 115.01	9.60 5.36	10.98 5.92	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P75 1:20	Circ 0.00	20.00 150.00	150.00 RR	195.50 120.86	2.68 1.34	1.54 1.45	4.71 6 ø 10.0	ø 5.0 c/12	20.00

	30.00						0.7		
P76 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	10.75 4.82	0.17 0.46	0.91 1.19	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P77 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	15.25 7.86	0.09 0.40	2.02 2.01	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P78 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	10.75 4.82	0.17 0.46	0.91 1.19	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P79 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	10.75 4.82	0.17 0.46	0.91 1.19	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P80 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	15.25 7.86	0.09 0.40	2.02 2.01	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P81 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	10.75 4.82	0.17 0.46	0.91 1.19	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P82 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	337.10 213.31	3.76 1.56	1.12 1.29	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P89 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	292.70 178.07	1.46 0.33	2.17 1.88	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P90 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	312.17 178.54	6.45 3.52	6.62 5.28	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P91 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	285.49 166.98	3.12 2.77	10.09 8.93	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P92 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	241.39 141.72	0.39 0.28	9.72 6.44	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P93 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	173.70 102.83	6.08 4.05	13.16 8.10	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P100 1:20	14.00 X	20.00 150.00	194.00 RR	10.75 4.82	0.17 0.46	0.91 1.19	1.57 2 ø 10.0 1.57 2 ø 10.0	ø 5.0 c/12	47.95 22.37

	30.00		194.00 RR				0.7 4 ø 10.0		
P101 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	15.25 7.86	0.09 0.40	2.02 2.01	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P102 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	10.75 4.82	0.17 0.46	0.91 1.19	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P103 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	10.75 4.82	0.17 0.46	0.91 1.19	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P104 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	15.25 7.86	0.09 0.40	2.02 2.01	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P105 1:20	14.00 X 30.00	20.00 150.00	194.00 RR 194.00 RR	10.75 4.82	0.17 0.46	0.91 1.19	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	47.95 22.37
P108 1:20	Circ 0.00 30.00	20.00 150.00	150.00 RR	222.49 139.60	2.94 1.48	0.66 1.05	4.71 6 ø 10.0 0.7	ø 5.0 c/12	20.00
P111 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	98.38 57.15	4.59 2.47	2.15 3.33	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P112 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	154.61 96.36	1.58 1.85	1.43 2.14	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P113 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	167.12 106.18	4.48 2.42	2.20 2.81	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P114 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	162.89 103.34	5.90 3.88	3.27 3.77	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P115 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	172.51 110.01	8.47 4.48	1.95 2.66	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P116 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	133.27 81.99	11.27 6.22	1.41 2.10	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P117 1:20	30.00 X	15.00 150.00	150.00 RR	180.87 116.43	11.07 5.92	1.13 2.06	2.45 2 ø 12.5 2.45 2 ø 12.5	ø 5.0 c/15	17.30 17.30

	30.00		150.00 RR				0.5 4 ø 12.5		
P118 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	306.98 195.48	7.11 4.27	8.15 4.54	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P122 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	212.17 134.07	0.43 0.66	6.07 2.34	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P123 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	222.36 140.80	1.06 1.02	5.21 2.48	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P127 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	203.48 124.95	3.70 2.11	7.40 4.23	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P128 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	260.97 142.94	6.28 3.11	12.36 6.53	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P129 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	328.25 181.06	3.18 2.96	10.19 4.09	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P130 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	328.39 179.86	0.32 0.34	8.11 3.71	1.57 2 ø 10.0 3.14 4 ø 10.0 1.4 8 ø 10.0	ø 5.0 c/12	34.60 17.30
P131 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	215.08 125.20	4.89 3.74	10.56 5.74	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P132 1:20	30.00 X 30.00	15.00 150.00	575.00 RR 150.00 RR	169.60 105.52	2.66 3.87	8.94 6.67	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	66.32 17.30
P133 1:20	30.00 X 30.00	15.00 150.00	575.00 RR 150.00 RR	204.79 121.99	1.75 1.70	3.31 3.15	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	66.32 17.30
P134 1:20	30.00 X 30.00	15.00 150.00	575.00 RR 150.00 RR	289.04 170.28	1.62 3.36	6.49 5.23	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	66.32 17.30
P135 1:20	30.00 X 30.00	15.00 150.00	575.00 RR 150.00 RR	282.28 165.39	2.67 3.80	7.64 6.14	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	66.32 17.30
P136 1:20	30.00 X	15.00 150.00	575.00 RR	323.09 189.28	1.37 4.60	6.62 5.27	2.45 2 ø 12.5 2.45 2 ø 12.5	ø 5.0 c/15	66.32 17.30

	30.00		150.00 RR				0.5 4 ø 12.5		
P137 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	292.26 171.97	1.79 0.90	7.40 4.99	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P138 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	340.69 216.84	17.20 8.65	7.55 5.41	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P139 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	335.80 215.68	17.06 9.03	19.14 11.48	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P140 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 575.00 RR	138.44 86.33	0.85 1.12	3.87 2.54	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 66.32
P141 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	230.37 138.16	1.71 1.45	5.11 2.53	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P142 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	235.76 141.60	1.53 1.34	9.65 6.01	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P143 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	296.79 167.79	2.80 2.13	11.53 2.39	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P144 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	320.15 178.55	1.17 1.23	7.24 4.33	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P145 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	179.75 104.97	0.60 0.38	1.29 1.47	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P146 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	228.83 140.30	6.71 3.90	16.99 10.51	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P147 1:20	15.00 X 25.00	20.00 150.00	150.00 RR 150.00 RR	195.35 116.04	0.86 0.75	5.43 2.03	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	34.60 20.76
P148 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	223.97 123.66	0.66 0.38	10.79 1.87	1.57 2 ø 10.0 2.36 3 ø 10.0 1.0 6 ø 10.0	ø 5.0 c/12	34.60 17.30
P149 1:20	15.00 X	20.00 150.00	150.00 RR	115.65 67.17	1.19 0.75	3.99 2.41	1.57 2 ø 10.0 1.57 2 ø 10.0	ø 5.0 c/12	34.60 17.30

	30.00		150.00 RR				0.7 4 ø 10.0		
P150 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	165.45 93.58	0.85 0.58	3.38 1.87	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P151 1:20	15.00 X 25.00	20.00 150.00	300.00 EL 150.00 RR	12.88 7.71	0.13 0.34	2.46 0.74	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	69.20 20.76
P152 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	313.54 192.03	3.83 1.76	3.29 1.14	1.57 2 ø 10.0 3.14 4 ø 10.0 1.4 8 ø 10.0	ø 5.0 c/12	34.60 17.30
P153 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	185.90 115.20	5.00 3.19	6.95 3.22	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P154 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 575.00 RR	169.01 104.83	1.66 1.58	2.64 1.85	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 66.32
P155 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	348.72 207.03	4.05 2.87	7.78 4.19	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P156 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	359.56 212.30	3.49 2.18	9.17 4.28	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P157 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	383.21 226.21	8.79 5.50	7.60 4.19	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P158 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	295.43 172.72	14.71 7.22	10.65 6.21	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P159 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	227.25 143.55	3.16 1.29	1.69 1.59	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P160 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	280.25 170.12	15.25 9.55	18.93 10.16	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P161 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 575.00 RR	358.68 209.43	15.25 6.47	2.31 2.55	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 66.32
P162 1:20	30.00 X	15.00 150.00	150.00 RR	432.82 261.90	15.18 5.42	7.63 5.00	2.45 2 ø 12.5 2.45 2 ø 12.5	ø 5.0 c/15	17.30 17.30

	30.00		150.00 RR				0.5 4 ø 12.5		
P163 1:20	30.00 X 30.00	20.00 150.00	570.00 RR 150.00 RR	221.94 130.73	5.30 11.68	14.71 10.05	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	65.74 17.30
P164 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	280.21 164.34	7.65 2.63	8.47 6.39	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P165 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	214.85 130.87	2.92 1.77	6.23 2.05	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P166 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	118.53 71.25	1.54 3.33	19.34 9.29	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P167 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	159.16 104.11	6.26 3.30	11.16 8.18	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P168 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	217.86 139.21	4.63 3.36	16.74 9.80	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P169 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	182.88 116.81	2.49 1.53	8.34 6.31	2.36 3 ø 10.0 2.36 3 ø 10.0 0.7 8 ø 10.0	ø 5.0 c/12	17.30 17.30
P170 1:20	20.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	258.87 167.71	6.37 3.14	3.95 2.22	1.57 2 ø 10.0 1.57 2 ø 10.0 0.5 4 ø 10.0	ø 5.0 c/12	25.95 17.30
P171 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	244.04 158.28	6.89 5.35	8.13 4.81	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P172 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	174.45 113.09	4.60 2.30	2.05 1.25	1.57 2 ø 10.0 2.36 3 ø 10.0 1.0 6 ø 10.0	ø 5.0 c/12	34.60 17.30
P173 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	270.41 172.97	11.43 6.70	0.52 1.01	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P174 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	177.70 112.47	1.51 0.93	0.74 0.81	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P175 1:20	15.00 X	20.00 150.00	150.00 RR	115.18 75.82	1.93 0.92	2.34 1.34	1.57 2 ø 10.0 1.57 2 ø 10.0	ø 5.0 c/12	34.60 17.30

	30.00		150.00 RR				0.7 4 ø 10.0		
P176 1:20	15.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	130.76 82.62	2.37 0.49	2.52 0.97	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	34.60 17.30
P177 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	242.80 157.05	4.89 3.00	1.63 1.37	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P178 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	184.12 121.63	8.66 2.94	4.57 2.93	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P179 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	171.00 110.76	3.61 2.47	3.55 2.24	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P180 1:20	30.00 X 30.00	20.00 150.00	570.00 RR 150.00 RR	138.05 88.70	2.36 4.62	2.07 1.64	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	65.74 17.30
P181 1:20	30.00 X 30.00	20.00 150.00	570.00 RR 150.00 RR	130.78 84.22	1.30 3.35	1.12 1.33	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	65.74 17.30
P182 1:20	30.00 X 35.00	20.00 150.00	150.00 RR 150.00 RR	107.11 66.81	2.54 3.12	1.01 1.18	1.57 2 ø 10.0 2.36 3 ø 10.0 0.4 6 ø 10.0	ø 5.0 c/12	17.30 14.83
P183 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	133.27 86.30	4.66 2.88	13.17 5.61	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P184 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	183.17 118.83	2.91 2.32	16.44 8.97	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/10	17.30 17.30
P185 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	183.75 118.12	8.41 4.91	2.56 1.82	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P186 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	295.89 192.33	10.46 8.15	5.37 3.28	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P187 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	256.75 166.17	7.02 4.39	8.88 4.81	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P188 1:20	30.00 X	20.00 150.00	150.00 RR	220.50 143.43	12.69 9.70	3.81 2.74	2.45 2 ø 12.5 2.45 2 ø 12.5	ø 5.0 c/15	17.30 17.30

	30.00		150.00 RR				0.5 4 ø 12.5		
P189 1:20	30.00 X 30.00	20.00 150.00	150.00 RR 150.00 RR	211.75 137.66	12.36 7.84	3.63 2.00	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
P190 1:20	30.00 X 30.00	15.00 150.00	150.00 RR 150.00 RR	96.16 58.40	1.81 1.22	3.25 2.18	2.45 2 ø 12.5 2.45 2 ø 12.5 0.5 4 ø 12.5	ø 5.0 c/15	17.30 17.30
PM1 1:20	60.00 X 130.00	20.00 150.00	300.00 EL 300.00 EL	122.36 58.15	5.26 14.14	9.88 1.17	5.50 7 ø 10.0 11.78 15 ø 10.0 0.4 40 ø 10.0	ø 5.0 c/12	17.30 7.98
PM2 1:20	60.00 X 130.00	20.00 150.00	300.00 EL 300.00 EL	122.36 58.15	5.26 14.14	9.88 1.17	5.50 7 ø 10.0 11.78 15 ø 10.0 0.4 40 ø 10.0	ø 5.0 c/12	17.30 7.98

7. RESULTADOS DO RADIER DO EDIFÍCIO PRINCIPAL:

Nome	Espessura (cm)	Carga (kN/m²)	Mdx (kN.m/m)	Mdy (kN.m/m)	Asx	Asy
LA1	18	7.36	1.90	1.61	As = 2.16 cm²/m (ø8.0 c/10 - 5.03 cm²/m)	As = 2.30 cm²/m (ø8.0 c/10 - 5.03 cm²/m)

8. RESULTADOS DAS SAPATAS DA EDÍCULA:

Esforços e pressões

Nome	MB MH (kN.m)	FB FH (kN)	Carga Carga total (kN)	Pressão Sig1 (kN/m²)	Pressão Sig2 (kN/m²)	Pressão Sig3 (kN/m²)	Pressão Sig4 (kN/m²)
S1	0.85 0.80	0.99 1.41	24.31 34.00	90.15 (lim = 240.00)	49.83 (lim = 240.00)	84.21 (lim = 240.00)	124.54 (lim = 240.00)
S2	0.88 0.50	1.04 0.81	24.08 33.77	116.11 (lim = 240.00)	74.49 (lim = 240.00)	57.09 (lim = 240.00)	98.71 (lim = 240.00)
S3	1.13 0.64	1.14 0.99	50.28 61.37	145.10 (lim = 240.00)	109.30 (lim = 240.00)	127.66 (lim = 240.00)	163.46 (lim = 240.00)
S4	1.21 0.53	1.22 0.79	52.99 64.08	119.44 (lim = 240.00)	152.82 (lim = 240.00)	165.38 (lim = 240.00)	132.00 (lim = 240.00)
S5	0.91 1.11	1.01 2.17	28.23 37.92	50.63 (lim = 240.00)	93.47 (lim = 240.00)	143.85 (lim = 240.00)	101.00 (lim = 240.00)
S6	0.84	1.03	22.84	75.76	115.72	91.06	51.10

	0.60	1.14	32.53	(lim = 240.00)	(lim = 240.00)	(lim = 240.00)	(lim = 240.00)

Estabilidade

Nome	Tombamento B		Tombamento H		Deslizamento		Arrancamento	
	Mrd Msd (kN.m)	Mrd / Msd	Mrd Msd (kN.m)	Mrd / Msd	Frd Fsd (kN)	Frd / Fsd	Nt (kN)	Ns (kN)
S1	11.05 0.85	12.97 (lim = 1.50)	9.44 0.80	11.76 (lim = 1.50)	10.41 1.36	7.68 lim = (1.50)		
S2	10.98 0.88	12.48 (lim = 1.50)	9.41 0.50	18.95 (lim = 1.50)	12.36 1.21	10.19 lim = (1.50)		
S3	20.48 1.13	18.10 (lim = 1.50)	17.38 0.64	27.07 (lim = 1.50)	19.99 1.35	14.81 lim = (1.50)		
S4	21.50 1.21	17.72 (lim = 1.50)	18.18 0.53	34.27 (lim = 1.50)	20.98 1.30	16.12 lim = (1.50)		
S5	12.33 0.91	13.62 (lim = 1.50)	10.58 1.11	9.57 (lim = 1.50)	11.82 2.10	5.63 lim = (1.50)		
S6	10.57 0.84	12.52 (lim = 1.50)	8.99 0.60	15.02 (lim = 1.50)	11.90 1.45	8.18 lim = (1.50)		

Verificação de tensão em área reduzida

Nome	Interface pilar-fundação		
	Força solicitante (kN)	Força resistente (kN)	Condição
S1	34.03	2250.00	OK
S2	33.71	2250.00	OK
S3	70.39	2400.00	OK
S4	74.19	2400.00	OK
S5	39.52	2250.00	OK
S6	31.97	2250.00	OK

Dimensionamento

Nome	Armaduras inferiores		Armaduras superiores	
	Dir. B	Dir. H	Dir. B	Dir. H
	Md (kN.m/m) As (cm²/m)	Md (kN.m/m) As (cm²/m)	Md (kN.m/m) A's (cm²/m)	Md (kN.m/m) A's (cm²/m)
S1	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S2	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S3	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S4	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S5	35.77 5.76	35.77 5.76	0.00 0.00	0.00 0.00
S6	35.77	35.77	0.00	0.00

	5.76	5.76	0.00	0.00

9. RESULTADOS DOS PILARES DA EDÍCULA:

Dados				Resultados					
Pilar	**Seção (cm)**	**Nível Altura (cm)**	**leb vínc leh vínc (cm)**	**Nd máx Nd mín (kN)**	**MBd topo MBd base (kN.m)**	**MHd topo MHd base (kN.m)**	**As b Armaduras As h % armad total**	**Estribo Topo Base cota**	**Esb b Esb h**
P1 1:20	15.00 X 25.00	25.00 150.00	150.00 RR 150.00 RR	34.03 16.45	1.84 1.12	0.89 1.19	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	34.60 20.76
P2 1:20	15.00 X 25.00	25.00 150.00	150.00 RR 150.00 RR	33.71 16.23	1.01 0.69	0.97 1.23	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	34.60 20.76
P3 1:20	16.00 X 30.00	25.00 150.00	150.00 RR 150.00 RR	70.39 41.05	1.19 0.90	0.82 1.58	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	32.44 17.30
P4 1:20	16.00 X 30.00	25.00 150.00	150.00 RR 150.00 RR	74.19 43.75	0.93 0.74	0.86 1.70	1.57 2 ø 10.0 1.57 2 ø 10.0 0.7 4 ø 10.0	ø 5.0 c/12	32.44 17.30
P5 1:20	15.00 X 25.00	25.00 150.00	150.00 RR 150.00 RR	39.52 20.31	3.01 1.55	0.86 1.27	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	34.60 20.76
P6 1:20	15.00 X 25.00	25.00 150.00	150.00 RR 150.00 RR	31.97 14.92	1.57 0.84	0.98 1.18	1.57 2 ø 10.0 1.57 2 ø 10.0 0.8 4 ø 10.0	ø 5.0 c/12	34.60 20.76

10. RESULTADOS DO RADIER DA CASA DE GASES:

ARMADURAS (RADIER)						
Radier	**Seção**	**Direção**	**Flexão Positiva**		**Flexão Negativa**	
R1	h = 13 cm	X	Md = 1,03 kN.m/m	As = 0,29 cm¹/m As,min = 1,31 cm²/m	Md = 1,45 kN.m/m	As = 0,41 cm¹/m As,min = 1,31 cm²/m
		Y	Md = 1,38 kN.m/m	As = 0,39 cm¹/m As,min = 1,31 cm²/m	Md = 3,39 kN.m/m	As = 0,94 cm¹/m As,min = 1,31 cm²/m

11. RESULTADOS DO RESERVATÓRIO:

ARMADURAS (RADIER)					
Seção	**Direção**	**Flexão Positiva**		**Flexão Negativa**	
h = 60 cm	X	Md = 17,37 kN.m/m	As = 0,73 cm¹/m As,min = 6,03 cm²/m	Md = 0,66 kN.m/m	As = 0,03 cm¹/m As,min = 6,03 cm²/m
	Y	Md = 23,42 kN.m/m	As = 0,99 cm¹/m As,min = 6,03 cm²/m	Md = 0,70 kN.m/m	As = 0,03 cm¹/m As,min = 6,03 cm²/m

Pressão de contato mínima: 0,36 kgf/cm²

Pressão de contato máxima: 0,58 kgf/cm²