

The drawing is a detailed cross-section of a bridge pier and its foundation. It shows the pier structure with reinforcement bars (N6, N7, N2) and concrete dimensions. The drawing is divided into sections with dimensions and reinforcement details.

Key features and labels include:

- PILULA DE FUNDAÇÃO**: Foundation cap.
- VIGAS ARMS PILULA DE FUNDAÇÃO**: Foundation cap reinforcement bars.
- VIGAS ARMS REFORÇO DA MURTEIRA**: Pier reinforcement bars.
- REINFORCEMENT BARS**: N6, N7, N2.
- CONCRETE DIMENSIONS**: Various dimensions are provided for different parts of the structure, such as 17.0, 17.5, 18.0, 18.5, 19.0, 19.5, 20.0, 20.5, 21.0, 21.5, 22.0, 22.5, 23.0, 23.5, 24.0, 24.5, 25.0, 25.5, 26.0, 26.5, 27.0, 27.5, 28.0, 28.5, 29.0, 29.5, 30.0, 30.5, 31.0, 31.5, 32.0, 32.5, 33.0, 33.5, 34.0, 34.5, 35.0, 35.5, 36.0, 36.5, 37.0, 37.5, 38.0, 38.5, 39.0, 39.5, 40.0, 40.5, 41.0, 41.5, 42.0, 42.5, 43.0, 43.5, 44.0, 44.5, 45.0, 45.5, 46.0, 46.5, 47.0, 47.5, 48.0, 48.5, 49.0, 49.5, 50.0, 50.5, 51.0, 51.5, 52.0, 52.5, 53.0, 53.5, 54.0, 54.5, 55.0, 55.5, 56.0, 56.5, 57.0, 57.5, 58.0, 58.5, 59.0, 59.5, 60.0, 60.5, 61.0, 61.5, 62.0, 62.5, 63.0, 63.5, 64.0, 64.5, 65.0, 65.5, 66.0, 66.5, 67.0, 67.5, 68.0, 68.5, 69.0, 69.5, 70.0, 70.5, 71.0, 71.5, 72.0, 72.5, 73.0, 73.5, 74.0, 74.5, 75.0, 75.5, 76.0, 76.5, 77.0, 77.5, 78.0, 78.5, 79.0, 79.5, 80.0, 80.5, 81.0, 81.5, 82.0, 82.5, 83.0, 83.5, 84.0, 84.5, 85.0, 85.5, 86.0, 86.5, 87.0, 87.5, 88.0, 88.5, 89.0, 89.5, 90.0, 90.5, 91.0, 91.5, 92.0, 92.5, 93.0, 93.5, 94.0, 94.5, 95.0, 95.5, 96.0, 96.5, 97.0, 97.5, 98.0, 98.5, 99.0, 99.5, 100.0, 100.5, 101.0, 101.5, 102.0, 102.5, 103.0, 103.5, 104.0, 104.5, 105.0, 105.5, 106.0, 106.5, 107.0, 107.5, 108.0, 108.5, 109.0, 109.5, 110.0, 110.5, 111.0, 111.5, 112.0, 112.5, 113.0, 113.5, 114.0, 114.5, 115.0, 115.5, 116.0, 116.5, 117.0, 117.5, 118.0, 118.5, 119.0, 119.5, 120.0, 120.5, 121.0, 121.5, 122.0, 122.5, 123.0, 123.5, 124.0, 124.5, 125.0, 125.5, 126.0, 126.5, 127.0, 127.5, 128.0, 128.5, 129.0, 129.5, 130.0, 130.5, 131.0, 131.5, 132.0, 132.5, 133.0, 133.5, 134.0, 134.5, 135.0, 135.5, 136.0, 136.5, 137.0, 137.5, 138.0, 138.5, 139.0, 139.5, 140.0, 140.5, 141.0, 141.5, 142.0, 142.5, 143.0, 143.5, 144.0, 144.5, 145.0, 145.5, 146.0, 146.5, 147.0, 147.5, 148.0, 148.5, 149.0, 149.5, 150.0, 150.5, 151.0, 151.5, 152.0, 152.5, 153.0, 153.5, 154.0, 154.5, 155.0, 155.5, 156.0, 156.5, 157.0, 157.5, 158.0, 158.5, 159.0, 159.5, 160.0, 160.5, 161.0, 161.5, 162.0, 162.5, 163.0, 163.5, 164.0, 164.5, 165.0, 165.5, 166.0, 166.5, 167.0, 167.5, 168.0, 168.5, 169.0, 169.5, 170.0, 170.5, 171.0, 171.5, 172.0, 172.5, 173.0, 173.5, 174.0, 174.5, 175.0, 175.5, 176.0, 176.5, 177.0, 177.5, 178.0, 178.5, 179.0, 179.5, 180.0, 180.5, 181.0, 181.5, 182.0, 182.5, 183.0, 183.5, 184.0, 184.5, 185.0, 185.5, 186.0, 186.5, 187.0, 187.5, 188.0, 188.5, 189.0, 189.5, 190.0, 190.5, 191.0, 191.5, 192.0, 192.5, 193.0, 193.5, 194.0, 194.5, 195.0, 195.5, 196.0, 196.5, 197.0, 197.5, 198.0, 198.5, 199.0, 199.5, 200.0, 200.5, 201.0, 201.5, 202.0, 202.5, 203.0, 203.5, 204.0, 204.5, 205.0, 205.5, 206.0, 206.5, 207.0, 207.5, 208.0, 208.5, 209.0, 209.5, 210.0, 210.5, 211.0, 211.5, 212.0, 212.5, 213.0, 213.5, 214.0, 214.5, 215.0, 215.5, 216.0, 216.5, 217.0, 217.5, 218.0, 218.5, 219.0, 219.5, 220.0, 220.5, 221.0, 221.5, 222.0, 222.5, 223.0, 223.5, 224.0, 224.5, 225.0, 225.5, 226.0, 226.5, 227.0, 227.5, 228.0, 228.5, 229.0, 229.5, 230.0, 230.5, 231.0, 231.5, 232.0, 232.5, 233.0, 233.5, 234.0, 234.5, 235.0, 235.5, 236.0, 236.5, 237.0, 237.5, 238.0, 238.5, 239.0, 239.5, 240.0, 240.5, 241.0, 241.5, 242.0, 242.5, 243.0, 243.5, 244.0, 244.5, 245.0, 245.5, 246.0, 246.5, 247.0, 247.5, 248.0, 248.5, 249.0, 249.5, 250.0, 250.5, 251.0, 251.5, 252.0, 252.5, 253.0, 253.5, 254.0, 254.5, 255.0, 255.5, 256.0, 256.5, 257.0, 257.5, 258.0, 258.5, 259.0, 259.5, 260.0, 260.5, 261.0, 261.5, 262.0, 262.5, 263.0, 263.5, 264.0, 264.5, 265.0, 265.5, 266.0, 266.5, 267.0, 267.5, 268.0, 268.5, 269.0, 269.5, 270.0, 270.5, 271.0, 271.5, 272.0, 272.5, 273.0, 273.5, 274.0, 274.5, 275.0, 275.5, 276.0, 276.5, 277.0, 277.5, 278.0, 278.5, 279.0, 279.5, 280.0, 280.5, 281.0, 281.5, 282.0, 282.5, 283.0, 283.5, 284.0, 284.5, 285.0, 285.5, 286.0, 286.5, 287.0, 287.5, 288.0, 288.5, 289.0, 289.5, 290.0, 290.5, 291.0, 291.5, 292.0, 292.5, 293.0, 293.5, 294.0, 294.5, 295.0, 295.5, 296.0, 296.5, 297.0, 297.5, 298.0, 298.5, 299.0, 299.5, 300.0, 300.5, 301.

Technical drawing of a circular structure, showing a plan view (top) and a cross-section view (bottom).

Plan View (Top):

- Overall diameter: 740 mm.
- Radial segments: 6 segments, each 60°.
- Labels: PAREDE (Wall), ESTACA (Pile).
- Dimensions: 150 mm (radius), 400 mm (inner diameter), 60.00 mm (segment width), 60.00 mm (segment width), 60.00 mm (segment width), 60.00 mm (segment width), 60.00 mm (segment width), 60.00 mm (segment width).

Corte D-D (Bottom):

- Section line: D-D.
- Labels: PAREDE (Wall), ESTACA (Pile).
- Dimensions: 150 mm (radius), 400 mm (inner diameter), 60.00 mm (segment width), 60.00 mm (segment width), 60.00 mm (segment width), 60.00 mm (segment width), 60.00 mm (segment width), 60.00 mm (segment width).

Legend:

- σ SOLO ≥ 1,50 kg/cm²

ESC 1:30

200

80

2 x 2 N37.8 16 C=220

2 x 2 N37.8 16 C=220

ESC 1:30

Ø 218

80

Ø 164

CORTE L-L

ESC 1:30

30

15

15

4 x Ø 15 40 6.3 Ø 15 C+ 74

Obs:

- Estaca tipo raiz.
- Resistência característica da argamassa é de 25 MPa.
- Consumo mínimo de cimento da argamassa é de 600 kg/m³, conforme NBR 6122.

400

4200

8 Ø 32 C=C=115

Estaca		
Simbologia	de (Ø)	Quantidade
	400	7

Diagrama de uma parede de concreto armado com duas faces de vergalhões. A seção transversal mostra a face externa com vergalhões de topo e a face interna com vergalhões de base. As distâncias entre os vergalhões são indicadas como 15 cm e 13 cm. O diagrama também mostra a disposição dos vergalhões e a localização das armaduras verticais.

Diagrama de uma fundação para uma parede com laje externa e pastilha de 50 cm.

Technical drawing of a square plate with a trapezoidal hole. The plate has a side length of 100. The hole has a top width of 50, a bottom width of 50N41, and a height of 50. The hole is positioned 5 units from the top and 5 units from the left side. A curved line with a radius of 95 is shown on the right side, centered at the bottom right corner of the plate. The drawing includes dimension lines and labels for various parts and tolerances.

Dimensions and Tolerances:

- Top width of hole: 50
- Bottom width of hole: 50N41
- Height of hole: 50
- Distance from top edge to hole top: 5
- Distance from left edge to hole left: 5
- Radius of curved line: 95
- Plate side length: 100

Labels and Tolerances:

- Top left: ESC 1.30
- Top right: 2 x N28 Ø 10 C=200
- Bottom left: 2 x N28 Ø 10 C=170
- Bottom center: 4 x 1 N27 Ø 6.3 C=115

[illegible]

The drawing shows two cross-sections of a bridge structure.
CORTE I-I (EBC 1:80) shows a cross-section with a central pier and two side piers. The main span is 186m long. The side spans are 25m and 80m. The total length is 291m. The structure is labeled with dimensions: 25, 186, 80, 291. The pier is labeled with dimensions: 25, 80, 291. The structure is labeled with dimensions: 25, 186, 80, 291. The structure is labeled with dimensions: 25, 186, 80, 291.
CORTE J-J (EBC 1:50) shows a cross-section of the bridge deck. The main span is 186m long. The side spans are 25m and 80m. The total length is 291m. The structure is labeled with dimensions: 25, 186, 80, 291. The structure is labeled with dimensions: 25, 186, 80, 291. The structure is labeled with dimensions: 25, 186, 80, 291.

AÇO	N	DIAM	Q	UNIT (cm)	C.TOTAL (cm)
CA50	46	6.3	115	400	16100
	47	16.0	35		14000

Resumo do aço

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	6.3	161	43.3
	16.0	140	243.1
PESO TOTAL			
CA50	288.4		

Vol. de Argamassa total (C-25) = 3.57 m³

AÇO	DIAM	C.TOTAL (m)	PESO + 10 % (kg)
CA50	8.3 16.0	161 140	43.3 243.1
PESO TOTAL			

RESUMO AÇO CA-50		
Ø	COMPRIMENTO (m)	PESO (Kg)
6,3	4.827,99	1.207,00
8	626,60	250,64
10	5.391,25	3.396,49
12,5	929,51	929,51
16	785,98	1.257,57
20	1.266,17	3.165,43
TOTAL		10.206,63

CONCRETO FCK=25 MPA	132,19 m³
FORMA FUNDAÇÃO	34,29 m²
FORMA CONC. APARENTE	710,45 m²
ESCAVAÇÃO	107,47 m³
REATERRO	37,92 m³

Concreto a usar: $f_{ck} = 25 \text{ MPa}$.
Medidas expressas em centímetros. Escalas indicadas no desenho.
Não tomar medidas do desenho com régua (escala).
Observar comprimentos mínimos de traspasse (emendas e esperras) exigidos.
Obedecer cobrimentos das armaduras segundo as normas da ABNT e o projeto.
Disponer armaduras de pele (costela) quando se indicar no desenho da ferragem.
Jamais alterar a distribuição das armaduras nas respectivas seções.
Taxa admissível do terreno informada: $0,20 \text{ MPa}$.
No caso de dúvidas, ou na suspeita de engano no desenho, consultar o calculista.

00	EMISSÃO INICIAL			Microssis	25/08/2016
REVISÃO	DESCRIÇÃO			VISTO	DATA
 <div style="text-align: center;">UNIVERSIDADE FEDERAL DO AMAZONAS PREFEITURA DO CAMPUS</div>					
<p>DATA: _____</p> <p>CAMPUS UNIVERSITÁRIO HUMAITÁ RESERVATÓRIO CAP. 85,45 M³</p>					
<p>TÍTULO: ESTRUCTURA DE CONCRETO DETALHES DAS PAREDES, LAJES, PORTAS ALÇAPÕES E FUNDAÇÃO.</p>					
ESCALA	DATA:	PROJETO	MODIFICAÇÃO	REVISO	REVISÃO
1:50	24/08/2016	WANDERLEI L. MELO	ART. 02/04/2015	01	24/08/2016

PRANCHA