

## PRE-STRESSED CONCRETE SUPERSTRUCTURE

### I. General

#### 1. Outline

The "Drawings" may be used in the case that the budgeting for an implementation plan be required by the Ministry of Public Works in Chile, or as a kind of the data in preliminary design for engineers. So it must be recognized that they are not considered as a detailed design.

#### 2. Specifications

The design is based on the following specifications.

- 1) "Standard Specifications for Highway Bridges" adopted 1992 and published by the American Association of State Highway and Transportation Officials 444 North Capitol Street, N. W. ,Suite 249 Washington, D.C. 20001.
- 2) " Specifications for Highway Bridges " adopted 1994 and published by Japan Road Association.

#### 3. Contents

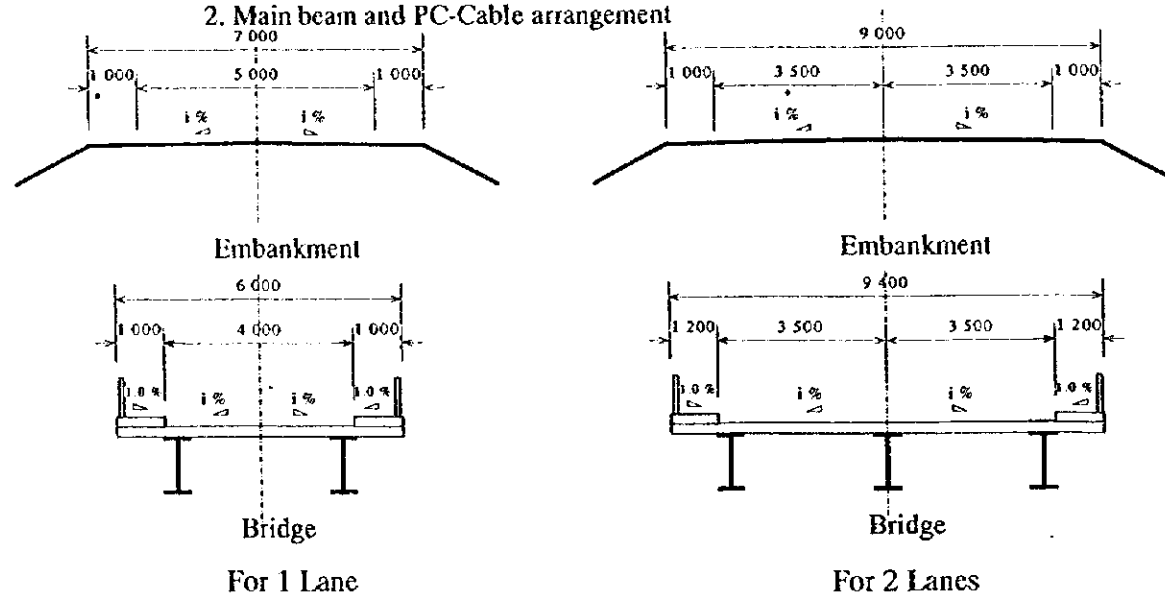
This set of the part for the steel superstructure constitutes of the following chapters.

- I. General
- II. Design Conditions
- III. Table of Design Variables
- IV. Drawings
- V. Calculation report (Input and Generalization table)
- VI. Material List

#### 4. Composition of the Drawings

Each set of drawings for a steel superstructure consists of ;

1. Concrete deck slab and general cross-section
2. Main beam and PC-Cable arrangement



#### 5. Instruction

- 1) The standard bridges dealt here are straight and right-angled only, hence some modifications and consideration should be added to the standard design, when applied to skewed or curved bridges.
- 2) All dimensions on the drawings are in "mm" unless otherwise stated.
- 3) The standard bridges are intended to be used for rural bridges.
- 4) The number of lanes are available for one or two, and the width for these lane numbers are shown at below-left.
- 5) Cross-fall on the road-way is 1.5 % and on the side-walk is 1.0 %.
- 6) Curb height and width are 250 mm and 200 mm respectively.
- 7) Railings are 1100 mm high.
- 8) The minimum thickness of pavement is 50 mm at both sides of the road-way, and it is thickest at the center according to the cross-fall.
- 9) All the drawings of the standard bridges are made by use of CADD System program separately worked out for the project.
- 10) Combinations of span lengths and number of lanes are shown below.

| Span Length (m) | PC     |      |        |      |
|-----------------|--------|------|--------|------|
|                 | 1 Lane |      | 2 Lane |      |
|                 | PRE    | POST | PRE    | POST |
| 14              | ●      | —    | ●      | —    |
| 16              | ●      | —    | ●      | —    |
| 18              | ●      | —    | ●      | —    |
| 20              | ●      | —    | ●      | —    |
| 22              | ●      | —    | ●      | —    |
| 24              | ●      | ●    | ●      | ●    |
| 26              | —      | ●    | —      | ●    |
| 28              | —      | ●    | —      | ●    |
| 30              | —      | ●    | —      | ●    |
| 32              | —      | ●    | —      | ●    |
| 34              | —      | ●    | —      | ●    |
| 36              | —      | ●    | —      | ●    |

- 11) Structures of which applicable span length are not in the drawings can be designed using the CADD system program.
- 12) Anchorage for PC tendon and drainage device are not included in the drawings, because anchoring system shall be determined by client and contractor

**II. Design Condition**

1. Design Method : Allowable Stress

2. Loading

1) Dead Loads

- Plane Concrete :  $W_c = 2.30 \text{ t/m}^3$
- Reinforced Concrete :  $\gamma_c = 2.50 \text{ t/m}^3$
- Steel :  $\gamma = 7.85 \text{ t/m}^3$
- Pavement :  $\gamma = 2.30 \text{ t/m}^3$
- Soil :  $\gamma_s = 1.80 \text{ t/m}^3$

2) Horizontal Force of Railing :  $W_B = 0.050 \text{ t/m}$ ,  $W_L = 0.020 \text{ t/m}$ ,  $h = 1.100 \text{ m}$

3) Sidewalk Live Load

- $L_c \leq 7.6 \text{ m}$  →  $W_p = 0.415 \text{ t/m}^2$   $L_c$  ; Span Length
- $7.6 \text{ m} < L_c \leq 30.5 \text{ m}$  →  $W_p = 0.293 \text{ t/m}^2$
- $30.5 \text{ m} < L_c$

$$W_p = \left( 147 + \frac{4464}{L_c} \right) \times \left( \frac{16.76 - (S_w - 0.25)}{15.24} \right) \times \frac{1}{1000}$$

※ In case of  $W_p > 0.293 \rightarrow W_p = 0.293 \text{ t/m}^2$   $S_w$  ; Sidewalk width

4) Live Load : HS20-44(100%)

5) Wind :  $W_v = 0.244 \text{ t/m}^2$

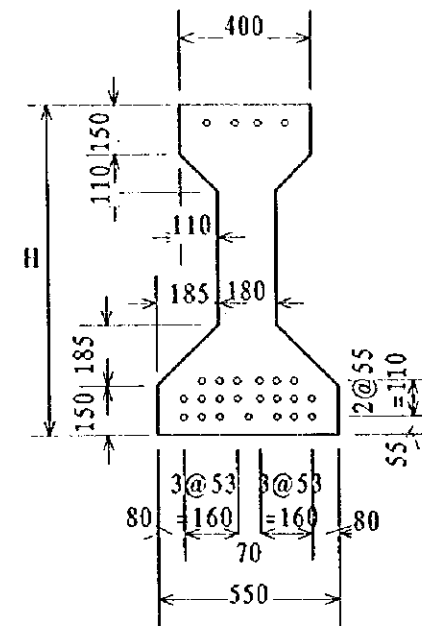
6) Earthquake :  $A = 0.15$ , Category B

3. Materials

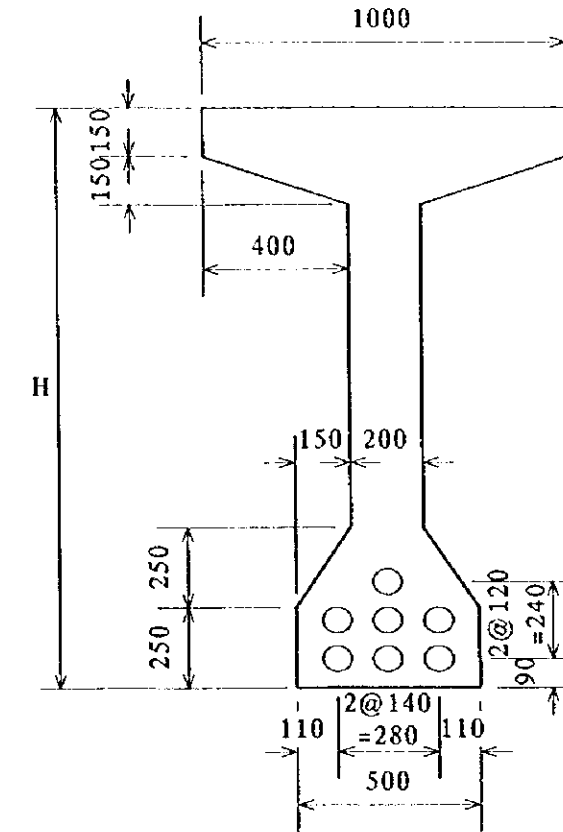
- Slab Concrete : H-30,  $f'_c = 250 \text{ kg/cm}^2$ ,  $E_c = 2.50 \times 10^5 \text{ kg/cm}^2$
- Beam Concrete : H-40,  $f'_c = 350 \text{ kg/cm}^2$ ,  $E_c = 3.01 \times 10^5 \text{ kg/cm}^2$
- Reinforcing Bar : A63-42H,  $f_y = 4200 \text{ kg/cm}^2$ ,  $f_u = 1690 \text{ kg/cm}^2$ ,  $E_s = 2.10 \times 10^6 \text{ kg/cm}^2$
- Concrete Cover : 3.0 cm (Lateral Beam 2.5cm)
- Anchor Bar : A44-28H,  $f_y = 2800 \text{ kg/cm}^2$ ,  $f_s = 1400 \text{ kg/cm}^2$
- PC Cable : 1-12.7 (Pre-tensioned), 7-12.7 (Post-tensioned)  
 $f_{pu} = 18980 \text{ kg/cm}^2$ ,  $f_{py} = 16100 \text{ kg/cm}^2$ ,  $E_s = 1.97 \times 10^6 \text{ kg/cm}^2$

**4. Beam Type**

1) Beam Configuration and dimensions



Pre-tensioned PC beam



Post-tensioned PC beam

2) The distance from end of girder to center of bearing shoe

Standardized that distance are as follows.

| Span : $L_c$ (m) | $L_c < 20$ | $20 \leq L_c < 30$ | $30 \leq L_c$ |
|------------------|------------|--------------------|---------------|
| Distance (mm)    | 300        | 350                | 400           |

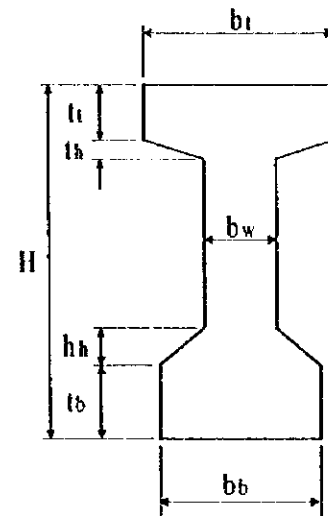
3) Concept for beam derivation

Pre-tension PC girder : It is considered that would be available to suit for variable width of bridge then decided 1.5m distance from center to center on economical competition which are 1.0m, 1.5m and 1.8m.

Post-tensioned PC girder : They were decided by economical reason with considering beam height.

### III. Table of Design Variables

1.  $L_c$  ; Span Length (m)
2.  $L_v$  ; Girder Length (m) , Lower is the distance from end of girder to center of bearing shoe (m)
3.  $E_L$  ; Thickness of the deck slab (mm)
1. R.Bar ; Diameter and Pitch of Main Reinforcement Bar for Concrete Deck Slab (mm) [Upper row]  
Diameter and Pitch of Distribution Reinforcement Bar for Deck Slab (mm) [Lower row]
4. Main Gird. ; Number of Main Beam
5. Main Gird. ; Spacing of Main Beam (m)
6.  $H$  ; Beam Height (m)
7.  $b_t$  ; Width of Top Flange (mm)
8.  $t_t$  ; Thickness of Top Flange (mm)
9.  $t_h$  ; Hunch height of Top Flange (mm)
10.  $b_w$  ; Web Thickness (mm)
11.  $h_b$  ; Hunch height of Bottom Flange (mm)
12.  $t_b$  ; Thickness of Bottom Flange (mm)
13.  $b_b$  ; Width of Bottom Flange (mm)
14.  $N_T$  ; Number of Cross beam
15.  $ST$  ; Distance of Cross beam (m)
16.  $N_d$  ; Number of PC-cable (Pre-tensioned) or Duct (Post-tensioned)
17.  $XB$  ; Distance of Bond Control point for Pre-tensioned Beam (m)
18.  $NB$  ; Number of Bond Control for Pre-tensioned Beam
19.  $N1$  ; Number of PC-cable at Top Flange
20.  $N5, N6, N7$  ; Number of PC-cable at Bottom Flange
21.  $CS$  ; Diameter of PC-cable or Duct (mm)
22.  $RB3$  ; Diameter of reinforcement Bar for Cross Beam side (mm)
23.  $RB4$  ; Diameter of reinforcement Bar for Cross Beam bottom (mm)
24.  $RB6$  ; Diameter(mm) and Number of reinforcement Bar for Main Beam side
25. A.S.B. ; Diameter(mm) and Number of Anti-seismic Bars
26.  $V_c$  ; Concrete Volume( $m^3$ ) of Cast-in-place Member ( Deck-slab and Cross-flame )
27.  $W_c$  ; Weight of Reinforcement Bar at Deck-slab and Cross-flame (kg)
28.  $W_r/V_c$  ; Unit Weight of R.Bar for Unit concrete volume ( $kg/m^3$ )
29.  $V_B$  ; Concrete Volume( $m^3$ ) of Main Beam ( Pre-stressed Member )
30.  $W_R$  ; Weight of Reinforcement Bar (kg) [Upper row]  
 $W_P$  ; Weight of PC-cable (kg) [Lower row]
31.  $W_R/V_c$  ; Weight of Reinforcement Bar for Unit concrete volume ( $kg/m^3$ )
32.  $Rd(t)$  ; Dead Load Reaction Force per Each Girder at One Bearing, (ton) [Upper row]  
 $RL(t)$  ; Live Load Reaction Force per Each Girder at One Bearing, (ton) [Lower row]



| 1-Lane       |                    |                    |     |          |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                |        |        |        |
|--------------|--------------------|--------------------|-----|----------|----------|-------|-------|------|-----|-----|-----|-----|-----|----------------|----|--------|----|-------|----|----|----|----|----|-----|------|------|--------|--------|------|-------|----------------|----------------|--------------------------------|----------------|--------|--------|--------|
| INDEX        | L <sub>c</sub> (m) | L <sub>v</sub> (m) | EL  | R. Bar   | Main Gir | H(m)  | bt    | tt   | th  | bw  | hh  | tb  | bb  | N <sub>y</sub> | ST | Nd     | XB | NB    | NI | NS | NG | N7 | CS | RB3 | RB4  | RB6  | A.S.B. | Vc     | Wc   | Wc/Vc | V <sub>B</sub> | W <sub>R</sub> | W <sub>R</sub> /V <sub>B</sub> | Rd(0)<br>RL(0) |        |        |        |
|              | 1                  | 2                  | 3   | 4        | 5        | 6     | 7     | 8    | 9   | 10  | 11  | 12  | 13  | 14             | 15 | 16     | 17 | 18    | 19 | 20 | 21 | 22 | 23 | 24  | 25   | 26   | 27     | 28     | 29   | 30    | 31             | 32             | 33                             |                |        |        |        |
| 1-PRE-L14_n4 | 14.000             | 14.600             | 170 | φ 12@125 | 4        | 1.500 | 0.700 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 7.000  | 17 | 2.100 | 9  | 2  | 0  | 8  | 7  | 70  | φ 12 | φ 22 | φ 12n2 | φ 22n2 | 29.1 | 4444  | 152.9          | 15.2           | 1935                           | 127.1          | 13.150 |        |        |
|              |                    | 0.300              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                | 769                            | 50.5           | 15.021 |        |        |
| 1-PRE-L16_n4 | 16.000             | 16.600             | 170 | φ 12@125 | 4        | 1.500 | 0.800 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 8.000  | 19 | 2.800 | 11 | 2  | 2  | 8  | 7  | 70  | φ 12 | φ 22 | φ 12n2 | φ 22n2 | 33.0 | 4995  | 151.6          | 18.5           | 2202                           | 119.0          | 15.337 |        |        |
|              |                    | 0.300              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                | 978            | 52.8   | 15.370 |        |
| 1-PRE-L18_n4 | 18.000             | 18.600             | 170 | φ 12@125 | 4        | 1.500 | 0.900 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 9.000  | 21 | 3.500 | 13 | 2  | 4  | 8  | 7  | 70  | φ 12 | φ 22 | φ 12n3 | φ 22n2 | 36.8 | 5563  | 151.0          | 22.1           | 2631                           | 119.2          | 17.588 |        |        |
|              |                    | 0.300              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 1211   | 54.8   | 15.616 |
| 1-PRE-L20_n4 | 20.000             | 20.700             | 170 | φ 12@125 | 4        | 1.500 | 1.000 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 10.000 | 23 | 4.100 | 13 | 2  | 6  | 8  | 7  | 70  | φ 12 | φ 22 | φ 12n3 | φ 22n2 | 40.9 | 6146  | 150.2          | 26.1           | 2949                           | 113.1          | 20.047 |        |        |
|              |                    | 0.350              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 1476   | 56.6   | 15.792 |
| 1-PRE-L22_n4 | 22.000             | 22.700             | 170 | φ 12@125 | 4        | 1.500 | 1.100 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 11.000 | 23 | 4.600 | 13 | 2  | 6  | 8  | 7  | 70  | φ 12 | φ 22 | φ 12n4 | φ 22n2 | 44.8 | 6714  | 149.8          | 30.2           | 3436                           | 113.7          | 22.503 |        |        |
|              |                    | 0.350              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 1619   | 53.6   | 15.919 |
| 1-PRE-L24_n4 | 24.000             | 24.700             | 170 | φ 12@125 | 4        | 1.500 | 1.200 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 12.000 | 25 | 5.100 | 13 | 2  | 8  | 8  | 7  | 70  | φ 12 | φ 22 | φ 12n4 | φ 22n2 | 52.7 | 9833  | 186.4          | 32.3           | 3136                           | 97.0           | 25.049 |        |        |
|              |                    | 0.350              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 152    | 4.7    | 16.011 |
| 1-PST-L24_n2 | 24.000             | 24.700             | 200 | φ 16@150 | 2        | 3.000 | 1.600 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 1  | 12.000 | 4  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n5 | φ 25n5 | 48.7 | 7264  | 149.2          | 34.7           | 3760                           | 108.5          | 50.134 |        |        |
|              |                    | 0.350              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 1914   | 55.2   | 23.617 |
| 1-PST-L26_n2 | 26.000             | 26.700             | 200 | φ 16@150 | 2        | 3.000 | 1.700 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 8.667  | 5  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n5 | φ 25n5 | 57.8 | 10704 | 185.1          | 36.1           | 3425                           | 95.0           | 55.150 |        |        |
|              |                    | 0.350              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 1444   | 40.0   | 23.715 |
| 1-PST-L28_n2 | 28.000             | 28.700             | 200 | φ 16@150 | 2        | 3.000 | 1.800 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 9.333  | 5  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n6 | φ 25n5 | 62.0 | 11459 | 184.7          | 39.9           | 3827                           | 95.8           | 59.987 |        |        |
|              |                    | 0.350              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 1552   | 38.9   | 23.784 |
| 1-PST-L30_n2 | 30.000             | 30.800             | 200 | φ 16@150 | 2        | 3.000 | 2.000 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 10.000 | 5  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n7 | φ 28n5 | 66.7 | 12315 | 184.5          | 45.6           | 4300                           | 94.3           | 65.996 |        |        |
|              |                    | 0.400              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 1667   | 36.6   | 23.831 |
| 1-PST-L32_n2 | 32.000             | 32.800             | 200 | φ 16@150 | 2        | 3.000 | 2.100 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 10.666 | 6  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n7 | φ 28n5 | 70.9 | 13094 | 184.6          | 49.9           | 4588                           | 92.0           | 70.842 |        |        |
|              |                    | 0.400              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 2131   | 42.7   | 23.862 |
| 1-PST-L34_n2 | 34.000             | 34.800             | 200 | φ 16@150 | 2        | 3.000 | 2.200 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 11.333 | 6  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n8 | φ 28n5 | 75.2 | 13851 | 184.3          | 54.3           | 5038                           | 92.7           | 76.276 |        |        |
|              |                    | 0.400              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 2262   | 41.6   | 23.880 |
| 1-PST-L36_n2 | 36.000             | 36.800             | 200 | φ 16@150 | 2        | 3.000 | 2.400 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 12.000 | 7  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n9 | φ 32n5 | 79.6 | 14684 | 184.4          | 60.6           | 5547                           | 91.5           | 82.924 |        |        |
|              |                    | 0.400              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |        |      |       |                |                |                                |                | 2792   | 46.0   | 23.888 |

PRE : Pre-tensioned

PST : Post-tensioned

| 2-Lane       |                    |                    |     |          |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        |        |        |        |
|--------------|--------------------|--------------------|-----|----------|----------|-------|-------|------|-----|-----|-----|-----|-----|----------------|----|--------|----|-------|----|----|----|----|----|-----|------|------|--------|----------------|----------------|--------------------------------|----------------|----------------------------------|--|-----------------|--------|--------|--------|--------|--------|
| INDEX        | L <sub>c</sub> (m) | L <sub>v</sub> (m) | EL  | R. Bar   | Main Gir | H(m)  | bt    | ft   | th  | bw  | hh  | tb  | bb  | N <sub>1</sub> | ST | Nd     | XB | NB    | N1 | N5 | N6 | N7 | CS | RB3 | RB4  | RB6  | A.S.B. | V <sub>c</sub> | W <sub>c</sub> | W <sub>c</sub> /V <sub>c</sub> | V <sub>B</sub> | W <sub>R</sub><br>W <sub>P</sub> | W <sub>R</sub> /V <sub>B</sub><br>W <sub>P</sub> /V <sub>B</sub> | Rd(I)<br>RI.(t) |        |        |        |        |        |
|              | 1                  | 2                  | 3   | 4        | 5        | 6     | 7     | 8    | 9   | 10  | 11  | 12  | 13  | 14             | 15 | 16     | 17 | 18    | 19 | 20 | 21 | 22 | 23 | 24  | 25   | 26   | 27     | 28             | 29             | 30                             | 31             | 32                               | 33   |                 |        |        |        |        |        |
| 2-PRE-L14_n6 | 14.000             | 14.600             | 170 | φ 12@125 | 6        | 1.500 | 0.700 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 7.000  | 17 | 2.100 | 9  | 2  | 0  | 8  | 7  | 70  | φ 18 | φ 25 | φ 12n2 | φ 22n2         | 44.9           | 6752                           | 150.4          | 22.9                             | 3215   | 140.7           | 13.278 |        |        |        |        |
|              |                    | 0.300              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  | 1154   | 50.5            | 15.021 |        |        |        |        |
| 2-PRE-L16_n6 | 16.000             | 16.600             | 170 | φ 12@125 | 6        | 1.500 | 0.800 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 8.000  | 19 | 3.100 | 11 | 2  | 2  | 8  | 7  | 70  | φ 16 | φ 25 | φ 12n2 | φ 22n2         | 50.9           | 7530                           | 148.0          | 27.8                             | 3532   | 127.2           | 15.337 |        |        |        |        |
|              |                    | 0.300              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  | 1467            | 52.8   | 15.370 |        |        |        |
| 2-PRE-L18_n6 | 18.000             | 18.600             | 170 | φ 12@125 | 6        | 1.500 | 0.900 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 9.000  | 21 | 4.100 | 13 | 2  | 4  | 8  | 7  | 70  | φ 16 | φ 25 | φ 12n3 | φ 22n2         | 56.9           | 8397                           | 147.5          | 33.1                             | 4222   | 127.4           | 17.588 |        |        |        |        |
|              |                    | 0.300              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 | 1816   | 54.8   | 15.616 |        |        |
| 2-PRE-L20_n6 | 20.000             | 20.700             | 170 | φ 12@125 | 6        | 1.500 | 1.000 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 10.000 | 23 | 5.100 | 13 | 2  | 6  | 8  | 7  | 70  | φ 16 | φ 22 | φ 12n3 | φ 22n2         | 63.2           | 9230                           | 146.0          | 39.1                             | 4614   | 118.0           | 20.047 |        |        |        |        |
|              |                    | 0.350              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        | 2214   | 56.6   | 15.792 |        |
| 2-PRE-L22_n6 | 22.000             | 22.700             | 170 | φ 12@125 | 6        | 1.500 | 1.100 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 11.000 | 25 | 5.600 | 13 | 2  | 8  | 8  | 7  | 70  | φ 16 | φ 22 | φ 12n4 | φ 22n2         | 69.2           | 10097                          | 145.9          | 45.3                             | 5391   | 118.9           | 22.737 |        |        |        |        |
|              |                    | 0.350              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        | 2639   | 58.2   | 15.919 |
| 2-PRE-L24_n6 | 24.000             | 24.700             | 170 | φ 12@125 | 6        | 1.500 | 1.200 | 400  | 150 | 110 | 180 | 185 | 150 | 550            | 1  | 12.000 | 27 | 6.300 | 15 | 2  | 8  | 8  | 7  | 70  | φ 16 | φ 22 | φ 12n4 | φ 22n2         | 75.2           | 10912                          | 145.1          | 52.0                             | 5877   | 113.0           | 25.305 |        |        |        |        |
|              |                    | 0.350              |     | φ 12@175 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        | 3101   | 59.6   | 16.011 |
| 2-PST-L24_n4 | 24.000             | 24.700             | 170 | φ 16@150 | 4        | 2.250 | 1.600 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 1  | 12.000 | 4  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n5 | φ 25n3         | 75.6           | 14907                          | 197.2          | 64.6                             | 6298   | 97.5            | 41.964 |        |        |        |        |
|              |                    | 0.350              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        | 2136   | 33.0   | 24.017 |
| 2-PST-L26_n4 | 26.000             | 26.700             | 170 | φ 16@150 | 4        | 2.250 | 1.700 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 8.667  | 4  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n5 | φ 25n3         | 83.6           | 16276                          | 194.7          | 72.1                             | 6898   | 95.7            | 46.654 |        |        |        |        |
|              |                    | 0.350              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        | 2310   | 32.0   | 24.116 |
| 2-PST-L28_n4 | 28.000             | 28.700             | 170 | φ 16@150 | 4        | 2.250 | 1.800 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 9.333  | 4  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n6 | φ 25n3         | 90.0           | 17442                          | 193.9          | 81.3                             | 7741   | 95.3            | 51.311 |        |        |        |        |
|              |                    | 0.350              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        | 2484   | 30.6   | 24.186 |
| 2-PST-L30_n4 | 30.000             | 30.800             | 170 | φ 16@150 | 4        | 2.250 | 2.000 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 10.000 | 5  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n7 | φ 28n3         | 96.6           | 18748                          | 194.0          | 91.2                             | 8659   | 95.0            | 56.289 |        |        |        |        |
|              |                    | 0.400              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        | 3335   | 36.6   | 24.234 |
| 2-PST-L32_n4 | 32.000             | 32.800             | 170 | φ 16@150 | 4        | 2.250 | 2.100 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 10.666 | 5  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n7 | φ 28n4         | 102.7          | 19926                          | 194.0          | 99.8                             | 9231   | 92.5            | 60.733 |        |        |        |        |
|              |                    | 0.400              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        | 3552   | 35.6   | 24.266 |
| 2-PST-L34_n4 | 34.000             | 34.800             | 170 | φ 16@150 | 4        | 2.250 | 2.200 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 11.333 | 5  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n8 | φ 28n5         | 108.8          | 21080                          | 193.8          | 108.7                            | 10135  | 93.3            | 65.278 |        |        |        |        |
|              |                    | 0.400              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        | 3770   | 34.7   | 24.284 |
| 2-PST-L36_n4 | 36.000             | 36.800             | 170 | φ 16@150 | 4        | 2.250 | 2.300 | 1000 | 150 | 150 | 200 | 250 | 250 | 500            | 2  | 12.000 | 6  |       |    |    |    |    |    | 140 | φ 12 | φ 22 | φ 12n8 | φ 32n3         | 114.9          | 22305                          | 194.2          | 117.9                            | 10736  | 91.1            | 69.923 |        |        |        |        |
|              |                    | 0.400              |     | φ 12@125 |          |       |       |      |     |     |     |     |     |                |    |        |    |       |    |    |    |    |    |     |      |      |        |                |                |                                |                |                                  |  |                 |        |        | 4785   | 40.6   | 24.292 |

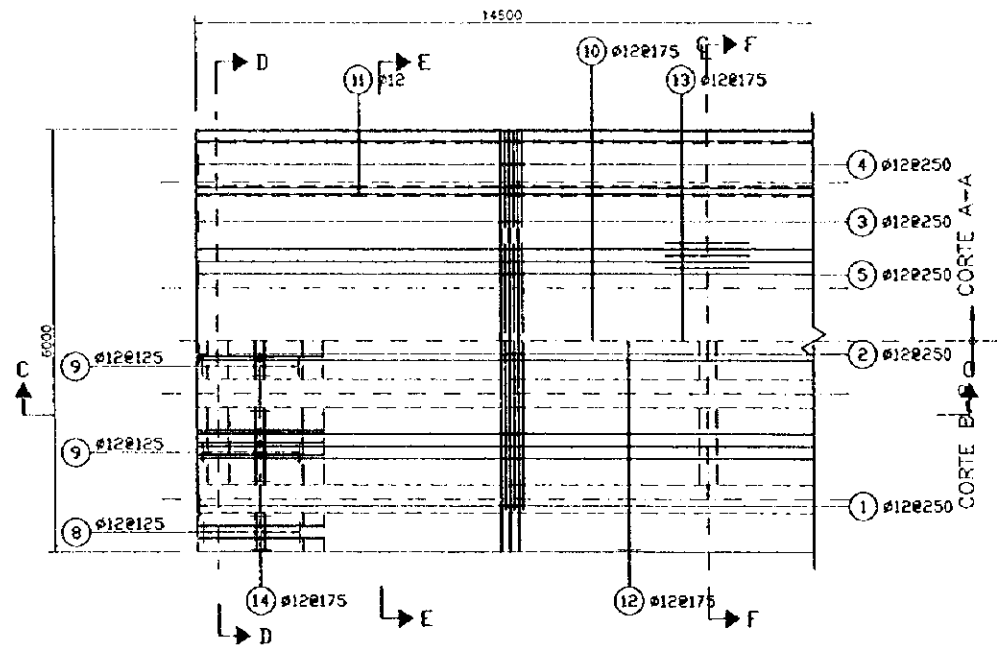
PRE : Pre-tensioned

PST : Post-tensioned

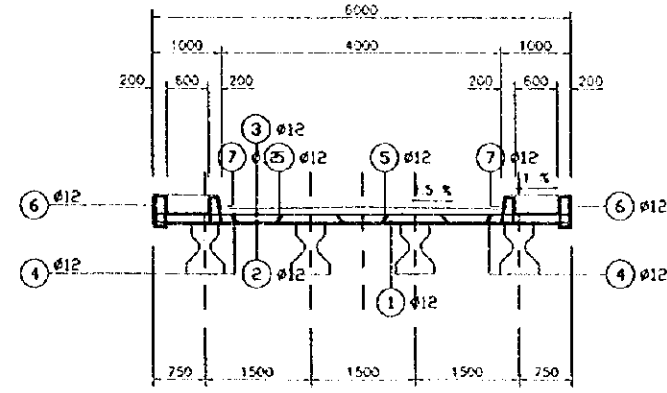
#### IV. Drawings

1. 1-PRE-L14-n4\_1 (Deck slab and general cross-section)
2. 1-PRE-L14-n4\_1 (Main beam and PC-Cable arrangement)
3. 1-PRE-L16-n4\_1 (Deck slab and general cross-section)
4. 1-PRE-L16-n4\_1 (Main beam and PC-Cable arrangement)
5. 1-PRE-L18-n4\_1 (Deck slab and general cross-section)
6. 1-PRE-L18-n4\_1 (Main beam and PC-Cable arrangement)
7. 1-PRE-L20-n4\_1 (Deck slab and general cross-section)
8. 1-PRE-L20-n4\_1 (Main beam and PC-Cable arrangement)
9. 1-PRE-L22-n4\_1 (Deck slab and general cross-section)
10. 1-PRE-L22-n4\_1 (Main beam and PC-Cable arrangement)
11. 1-PRE-L24-n4\_1 (Deck slab and general cross-section)
12. 1-PRE-L24-n4\_1 (Main beam and PC-Cable arrangement)
  
13. 1-PST-L24-n2\_1 (Deck slab and general cross-section)
14. 1-PST-L24-n2\_1 (Main beam and PC-Cable arrangement)
15. 1-PST-L26-n2\_1 (Deck slab and general cross-section)
16. 1-PST-L26-n2\_1 (Main beam and PC-Cable arrangement)
17. 1-PST-L28-n2\_1 (Deck slab and general cross-section)
18. 1-PST-L28-n2\_1 (Main beam and PC-Cable arrangement)
19. 1-PST-L30-n2\_1 (Deck slab and general cross-section)
20. 1-PST-L30-n2\_1 (Main beam and PC-Cable arrangement)
21. 1-PST-L32-n2\_1 (Deck slab and general cross-section)
22. 1-PST-L32-n2\_1 (Main beam and PC-Cable arrangement)
23. 1-PST-L34-n2\_1 (Deck slab and general cross-section)
24. 1-PST-L34-n2\_1 (Main beam and PC-Cable arrangement)
25. 1-PST-L36-n2\_1 (Deck slab and general cross-section)
26. 1-PST-L36-n2\_1 (Main beam and PC-Cable arrangement)
  
27. 2-PRE-L14-n6\_1 (Deck slab and general cross-section)
28. 2-PRE-L14-n6\_1 (Main beam and PC-Cable arrangement)
29. 2-PRE-L16-n6\_1 (Deck slab and general cross-section)
30. 2-PRE-L16-n6\_1 (Main beam and PC-Cable arrangement)
31. 2-PRE-L18-n6\_1 (Deck slab and general cross-section)
32. 2-PRE-L18-n6\_1 (Main beam and PC-Cable arrangement)
33. 2-PRE-L20-n6\_1 (Deck slab and general cross-section)
34. 2-PRE-L20-n6\_1 (Main beam and PC-Cable arrangement)
35. 2-PRE-L22-n6\_1 (Deck slab and general cross-section)
36. 2-PRE-L22-n6\_1 (Main beam and PC-Cable arrangement)
37. 2-PRE-L24-n6\_1 (Deck slab and general cross-section)
38. 2-PRE-L24-n6\_1 (Main beam and PC-Cable arrangement)
  
39. 2-PST-L24-n4\_1 (Deck slab and general cross-section)
40. 2-PST-L24-n4\_1 (Main beam and PC-Cable arrangement)
41. 2-PST-L26-n4\_1 (Deck slab and general cross-section)
42. 2-PST-L26-n4\_1 (Main beam and PC-Cable arrangement)
43. 1-PST-L28-n4\_1 (Deck slab and general cross-section)
44. 1-PST-L28-n4\_1 (Main beam and PC-Cable arrangement)
45. 1-PST-L30-n4\_1 (Deck slab and general cross-section)
46. 1-PST-L30-n4\_1 (Main beam and PC-Cable arrangement)
47. 1-PST-L32-n4\_1 (Deck slab and general cross-section)
48. 1-PST-L32-n4\_1 (Main beam and PC-Cable arrangement)
49. 1-PST-L34-n4\_1 (Deck slab and general cross-section)
50. 1-PST-L34-n4\_1 (Main beam and PC-Cable arrangement)
51. 1-PST-L36-n4\_1 (Deck slab and general cross-section)
52. 1-PST-L36-n4\_1 (Main beam and PC-Cable arrangement)

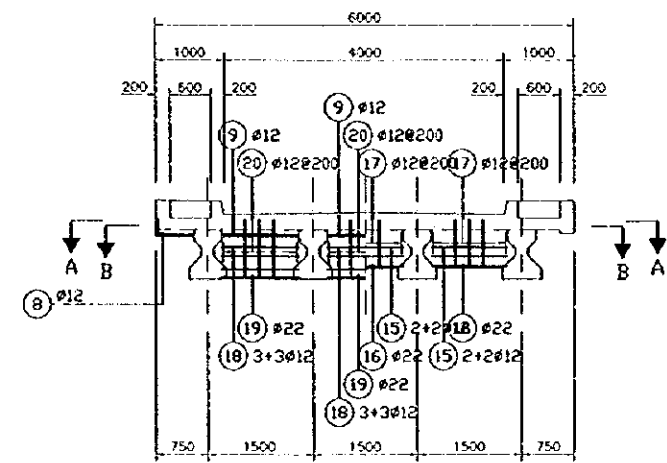
PLANTA DE LOSA  
ESC. 1:50



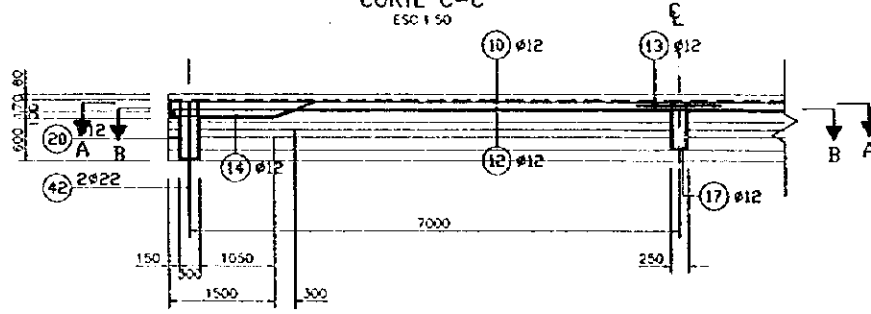
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CORTE E-E  
ESC. 1:50



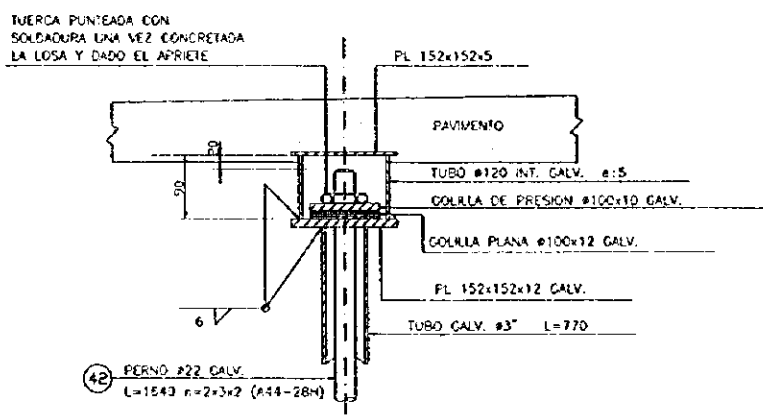
TRAVESAÑOS EXTREMOS  
CORTE D-D CORTE F-F  
ESC. 1:50



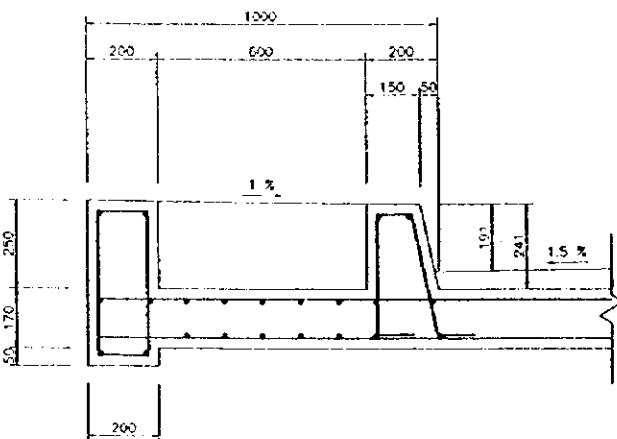
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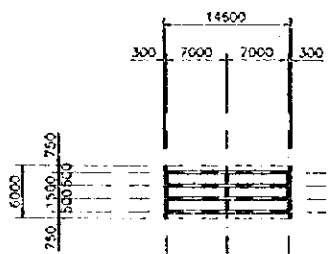
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ESC. 1:5



DETALLE DE PASILLO  
ESC. 1:10

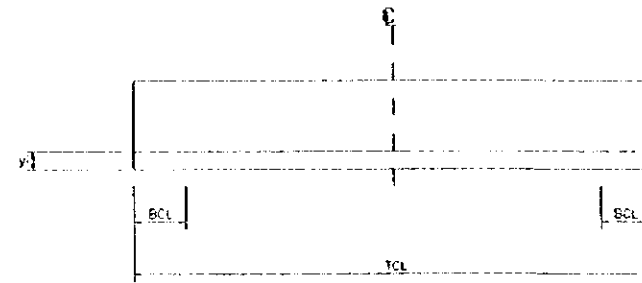
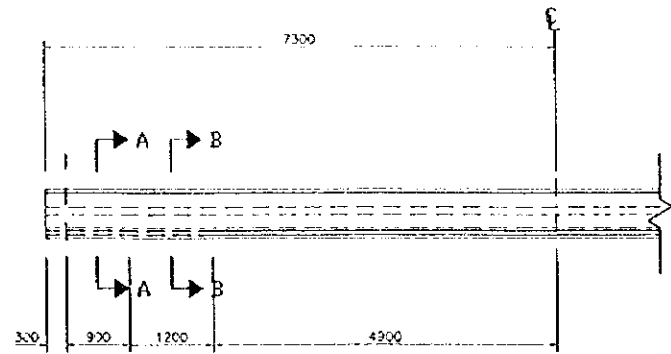


PLANTA DE DISPOSICION



|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puente: 1-PRE-L14_n4                                     |                      |
| Camino:  |                      |
| Provincia:   | Region:              |
| Projecto   | Reviso               |
| Vo Bo Ing. Jefe Depto. Puentes                           | Director de Vialidad |
| Diseño   | Fecha:               |

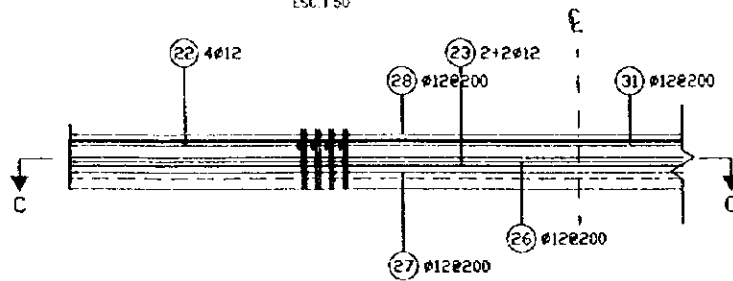
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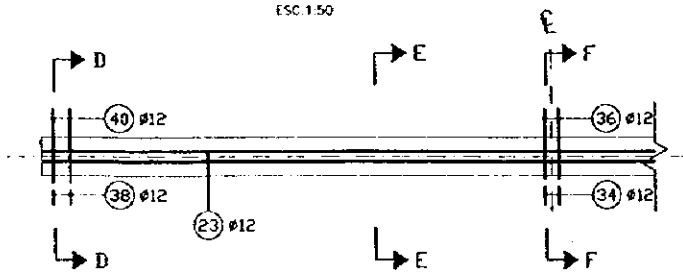
TCL = 14.6 m

| No    | y (cm) | NB | NBC | BCL (mm) | NBC | BCL (mm) | N  | Total (mm) |
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| 1     | 64.5   | 2  | 0   | 1200     | 0   | 2400     | 2  | 0          |
| 2     | 11.0   | 2  | 2   | 1200     | 4   | 2400     | 8  | 24000      |
| 3     | 5.5    | 4  | 0   | 1200     | 3   | 2400     | 7  | 14400      |
| Total |        | 8  | 2   | 2400     | 7   | 16800    | 17 | 38400      |

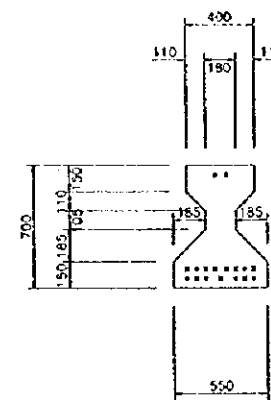
1/2 ENFIERRADURA VIGA PRETENSADO  
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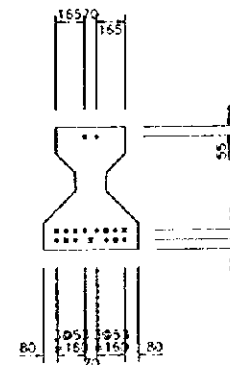
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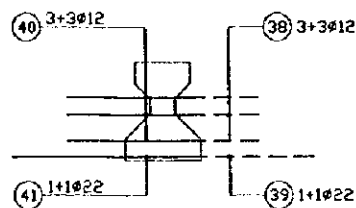
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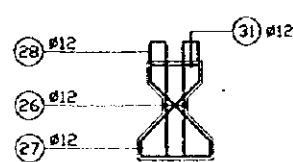
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ESC. 1:20



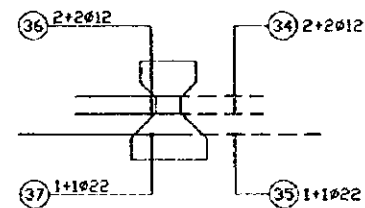
CORTE D-D  
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CORTE E-E  
ESC. 1:25



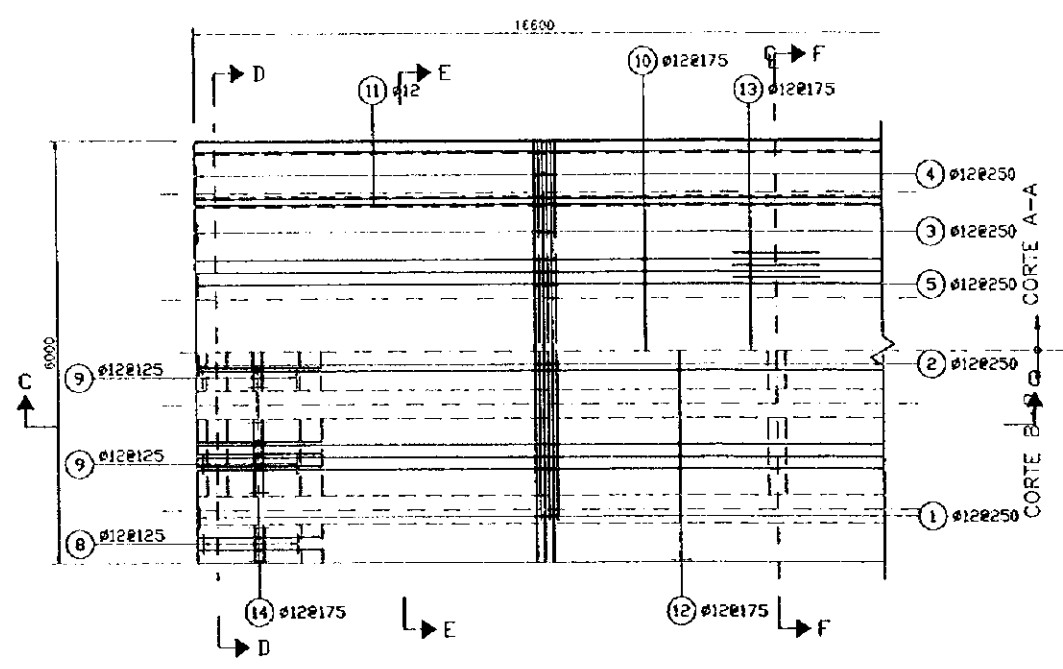
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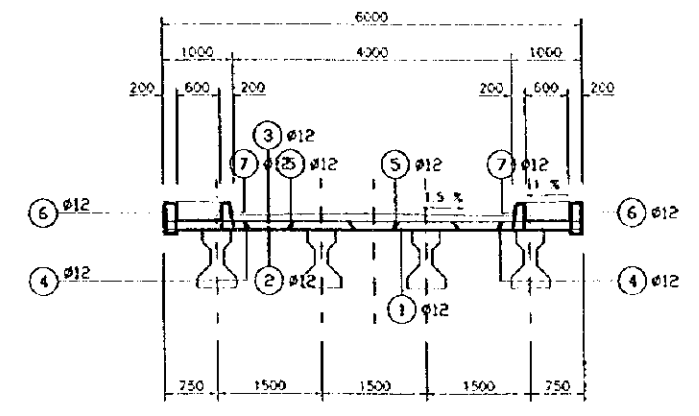
|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puente: 1-PRE-L14_n4                                     |                      |
| Comino:  |                      |
| Provincia:   | Region:              |
| Projecto   | Reviso               |
| Va Bo Ing. Jefe Depto. Puentes                           | Director de Vialidad |
| Dibujo   | Fecha                |



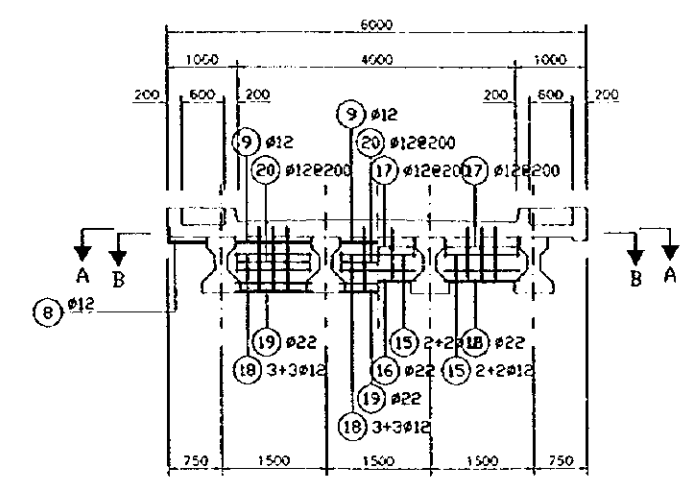
PLANTA DE LOSA  
ESC. 1:50



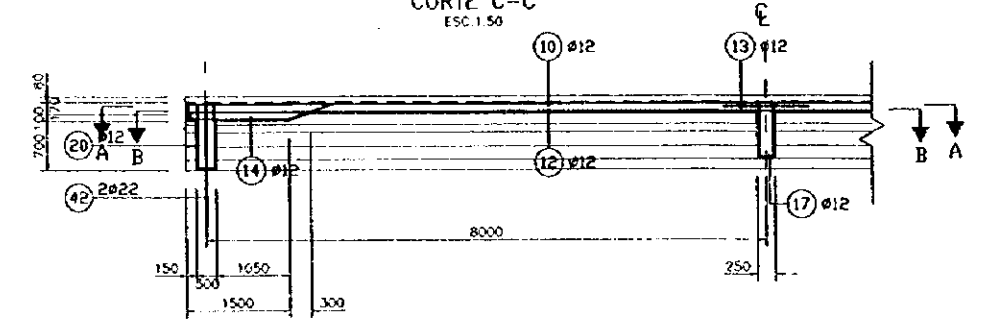
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



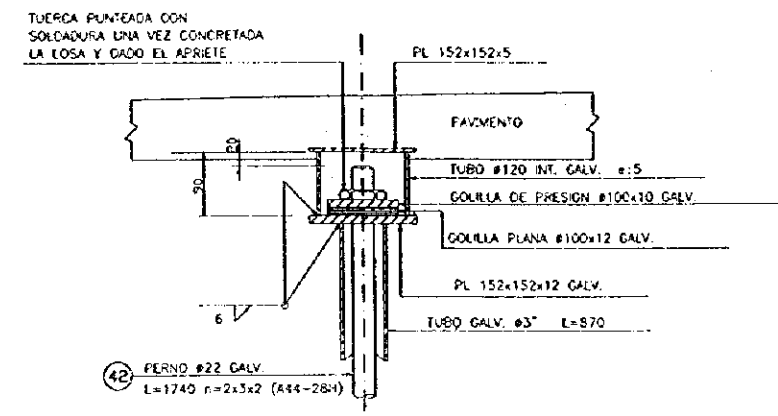
TRAVESAOS EXTREMOS  
CORTE D-D CORTE F-F  
ESC. 1:50



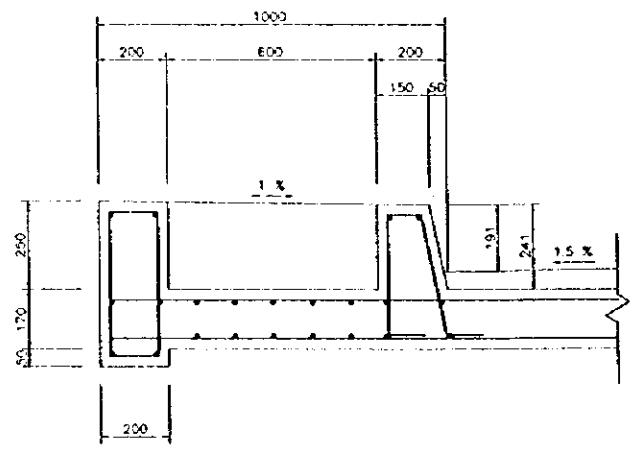
CORTE C-C  
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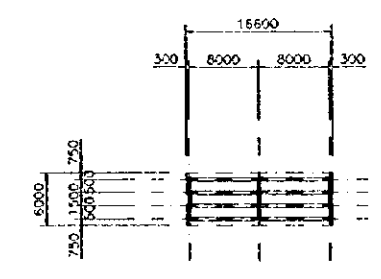
DETALLE BARRAS ANTISISMICAS  
ESC. 1:5



DETALLE DE PASILLO  
ESC. 1:10

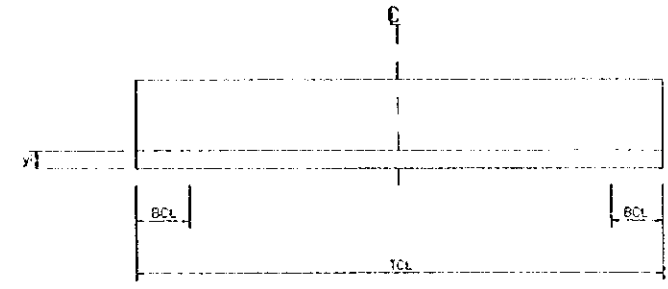
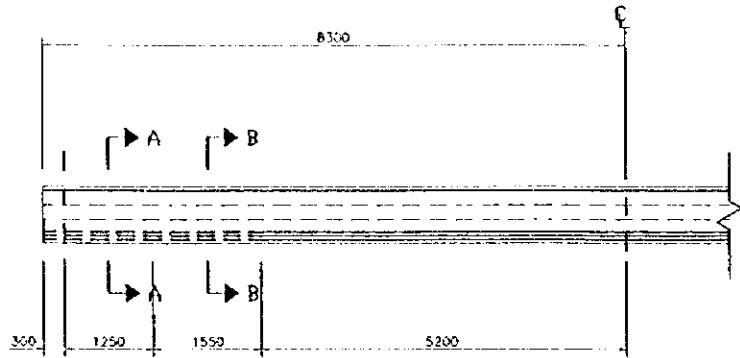


PLANTA DE DISPOSICION



|  |                       |
|--|-----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                       |
| Puente: 1-PRE-L16_n4                                     |                       |
| Camino:  |                       |
| Provincia:   | Region:               |
| Proyecto:  | Reviso:               |
| Vo.Bo Ing. Jefe Depto. Puentes:                          | Director de Vialidad: |
| Dibujo:  | Fecha:                |

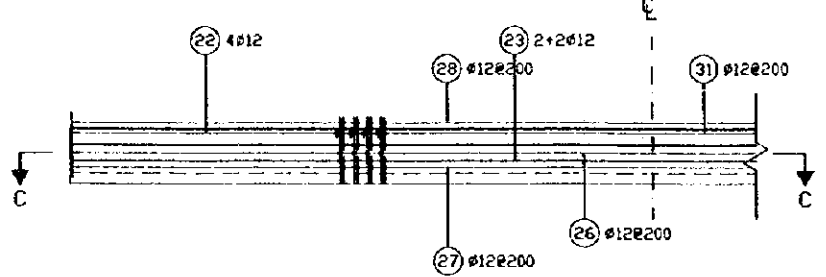
1/2 ELEVACION DE VIGA PRETENSADO  
ESC. 1:50



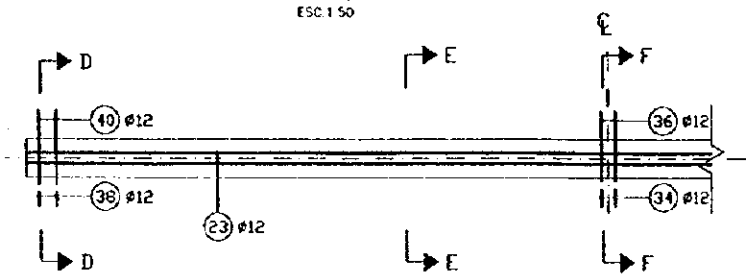
TCL = 16.6 m

| No    | y(cm) | NB | NBC | BCL(mm) | NBC | BCL(mm) | N  | Total(mm) |
|-------|-------|----|-----|---------|-----|---------|----|-----------|
| 1     | 74.5  | 2  | 0   | 1550    | 0   | 3100    | 2  | 0         |
| 2     | 16.5  | 0  | 0   | 1550    | 2   | 3100    | 2  | 12400     |
| 3     | 11.0  | 2  | 2   | 1550    | 4   | 3100    | 8  | 31000     |
| 4     | 5.5   | 4  | 1   | 1550    | 2   | 3100    | 7  | 15500     |
| Total |       | 8  | 3   | 4550    | 8   | 24500   | 19 | 58900     |

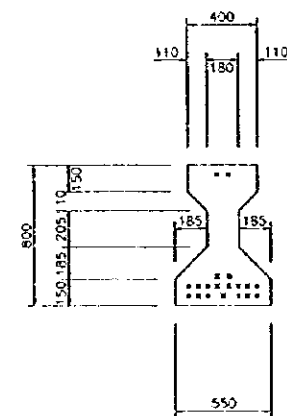
1/2 ENFIERRADURA VIGA PRETENSADO  
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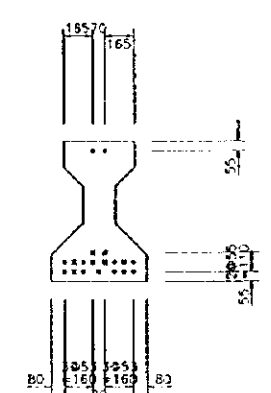
CORTE C-C  
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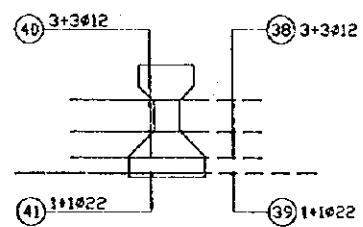
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ESC. 1:20



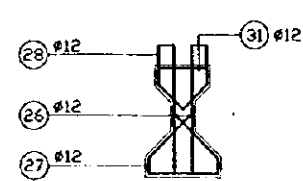
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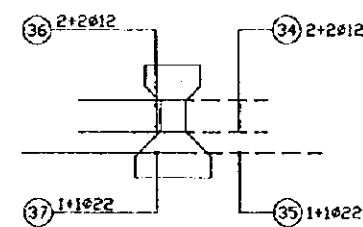
CORTE D-D  
ESC. 1:25



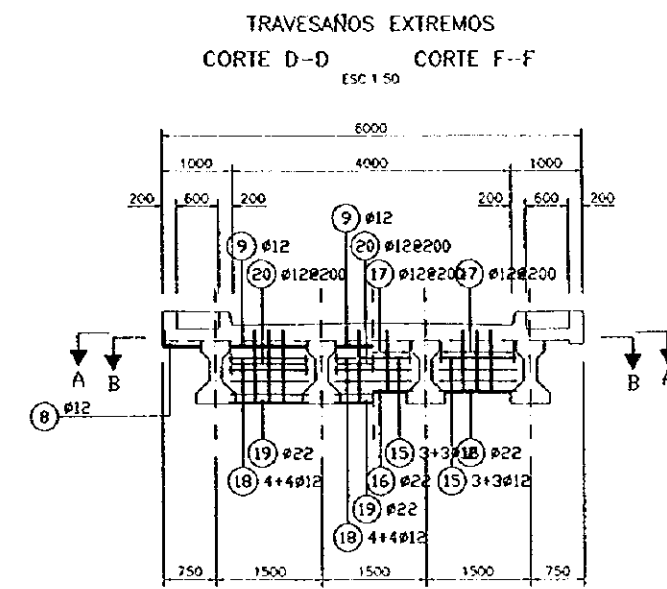
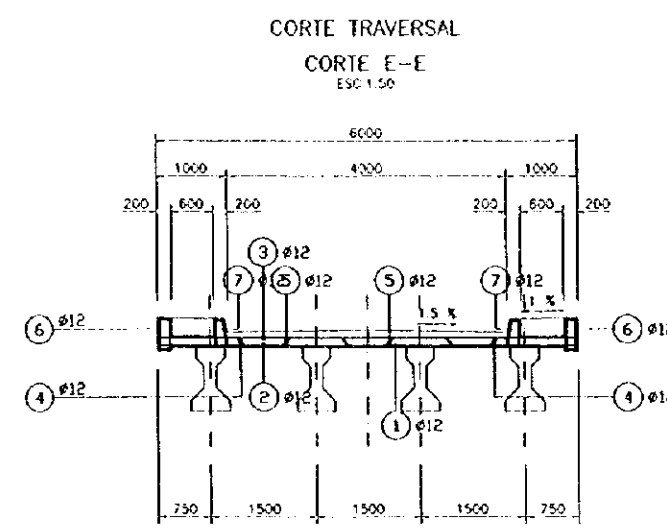
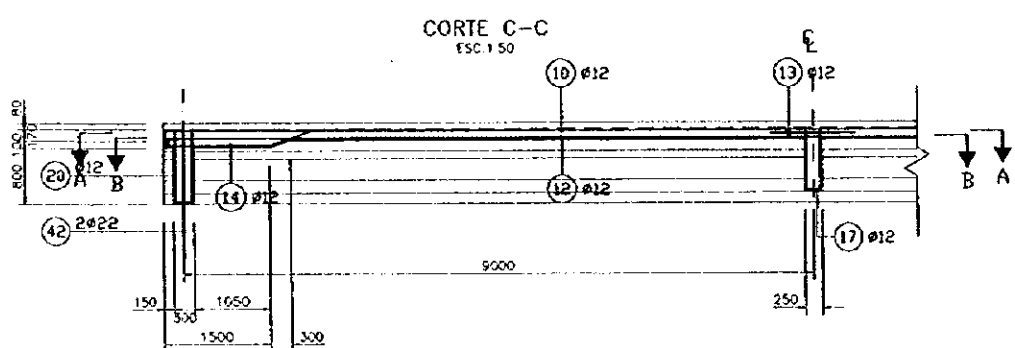
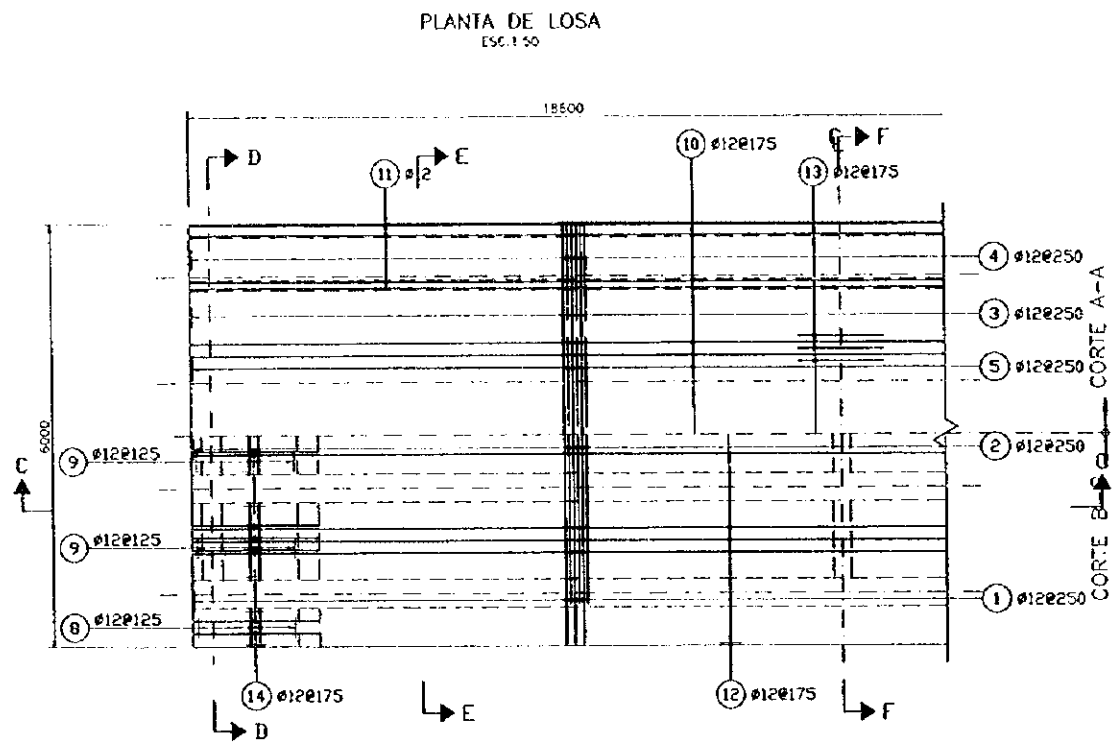
CORTE E-E  
ESC. 1:25



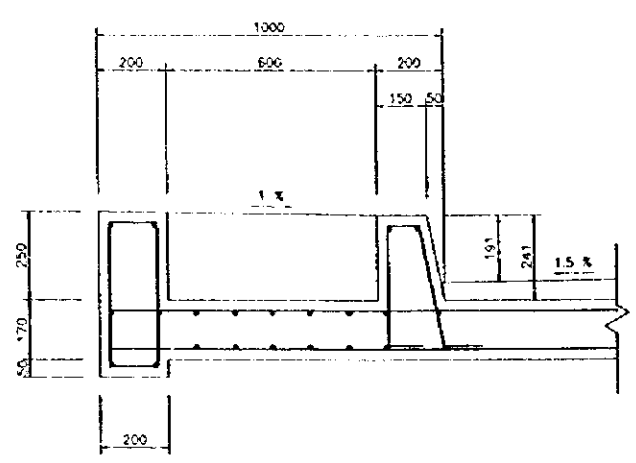
CORTE F-F  
ESC. 1:25



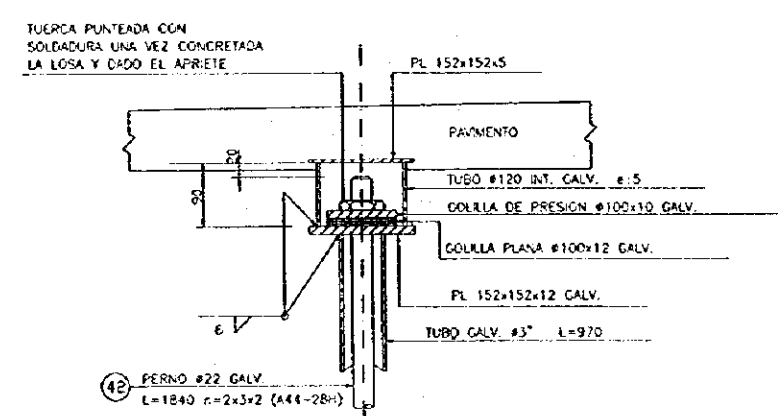
| DIRECCION DE VIALIDAD<br>DEPARTAMENTO DE PUENTES |                     |
|--|---------------------|
| Puente: 1-PRE-L16_n4                             |                     |
| Camino:  |                     |
| Provincia:                                       | Region:             |
| _____ Proyecto _____                             | _____ Reviso _____  |
| Vo Bo Ing. Jefe Depto. Puentes                   | Director de Validad |
| Dibujo<br>Fecha:                                 |                     |



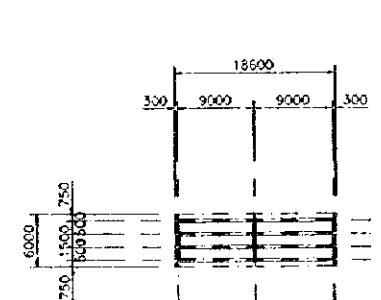
DETALLE DE PASILLO ESC. 1:10



DETALLE BARRAS ANTISMICAS ESC. 1:5

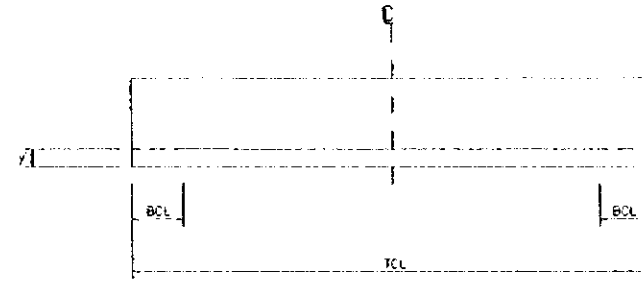
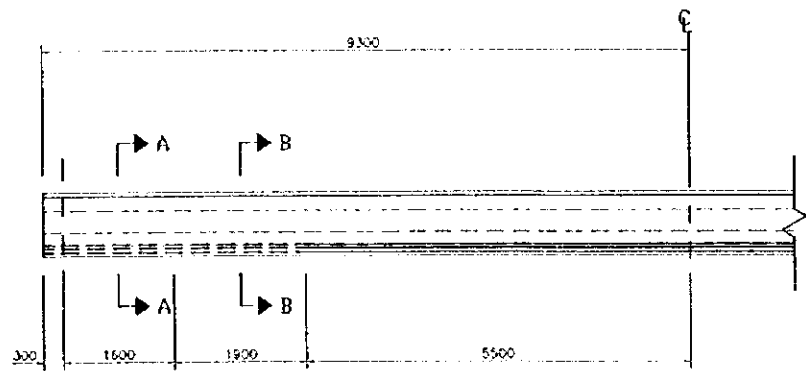


PLANTA DE DISPOSICION



| DIRECCION DE VIALIDAD<br>DEPARTAMENTO DE PUENTES |                      |
|--|----------------------|
| Puente: 1-PRE-L18_n4                             |                      |
| Camino:  |                      |
| Provincia:                                       | Region:              |
| Projecto   | Reviso               |
| Va Ba Ing. Jefe Depto Puentes                    | Director de Vialidad |
| Diseño<br>Fecha:                                 |                      |

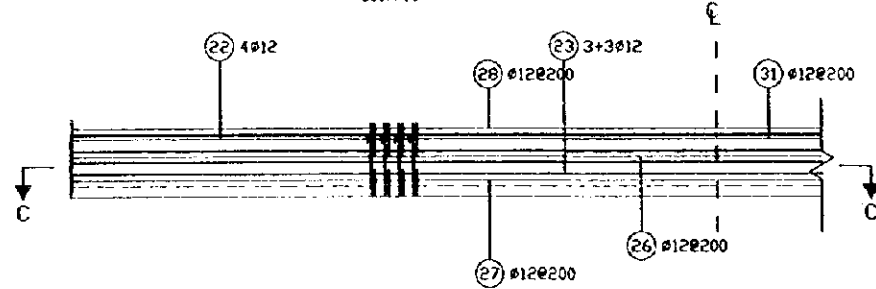
1/2 ELEVACION DE VIGA PRETENSADO  
ESC. 1:50



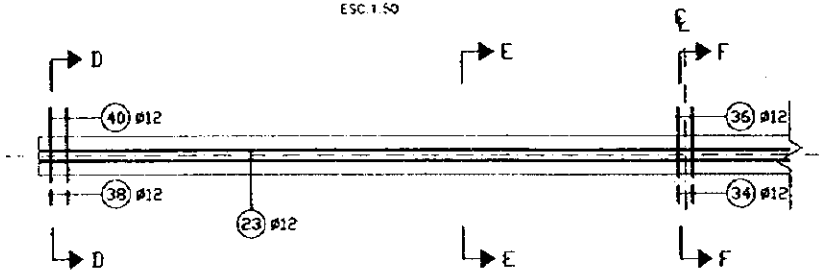
TCL = 18.6 m

| No    | y(cm) | NS | NBC | BCL(mm) | NSC | BCL(mm) | N  | Total(mm) |
|-------|-------|----|-----|---------|-----|---------|----|-----------|
| 1     | 84.5  | 2  | 0   | 1900    | 0   | 3800    | 2  | 0         |
| 2     | 16.5  | 0  | 2   | 1900    | 2   | 3800    | 4  | 22800     |
| 3     | 11.0  | 2  | 2   | 1900    | 4   | 3800    | 8  | 38000     |
| 4     | 5.5   | 4  | 0   | 1900    | 3   | 3800    | 7  | 22800     |
| Total |       | 8  | 4   | 7600    | 9   | 34200   | 21 | 83600     |

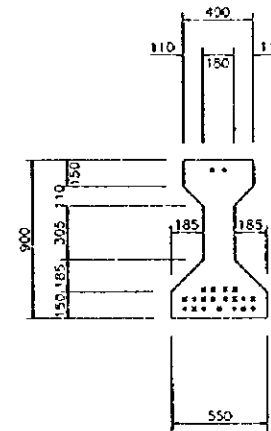
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC. 1:50



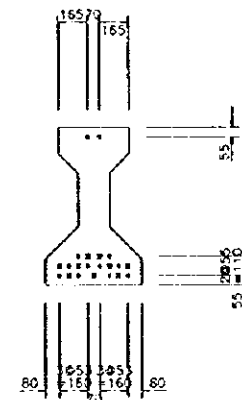
CORTE C-C  
ESC. 1:50



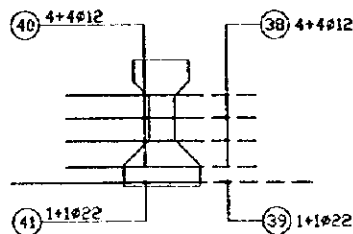
CORTE A-A  
ESC. 1:20



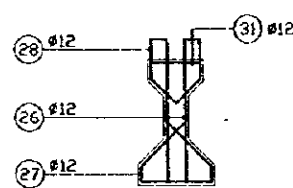
CORTE B-B  
ESC. 1:20



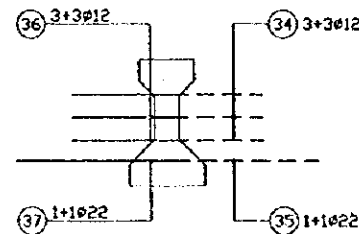
CORTE D-D  
ESC. 1:25



CORTE E-E  
ESC. 1:25

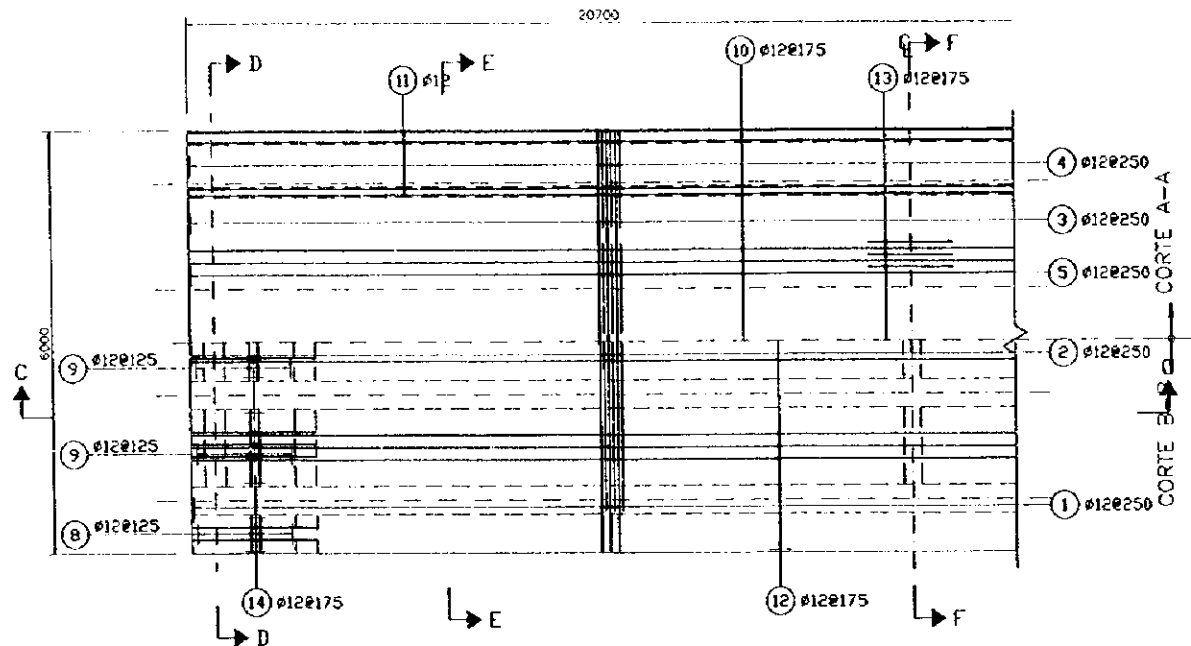


CORTE F-F  
ESC. 1:25

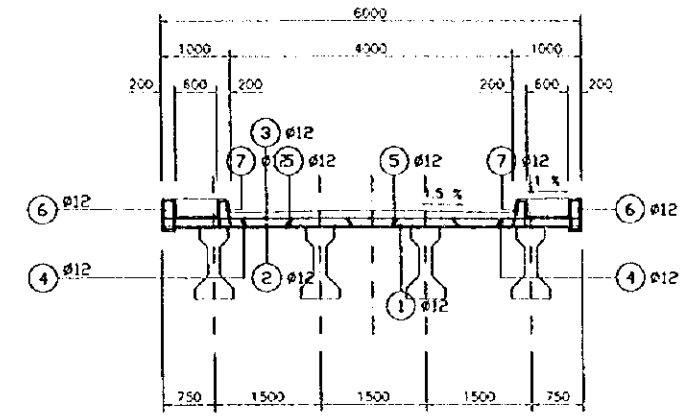


|  |                               |
|--|-------------------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                               |
| Puente: 1-PRE-L18_n4                                     |                               |
| Carino:  |                               |
| Provincia:   | Region:                       |
| _____<br>Proyecto  | _____<br>Reviso               |
| _____<br>Va. Sr. Ing. Jefe Depto. Puentes                | _____<br>Director de Vialidad |
| Dibujo:<br>Fecha:  |                               |

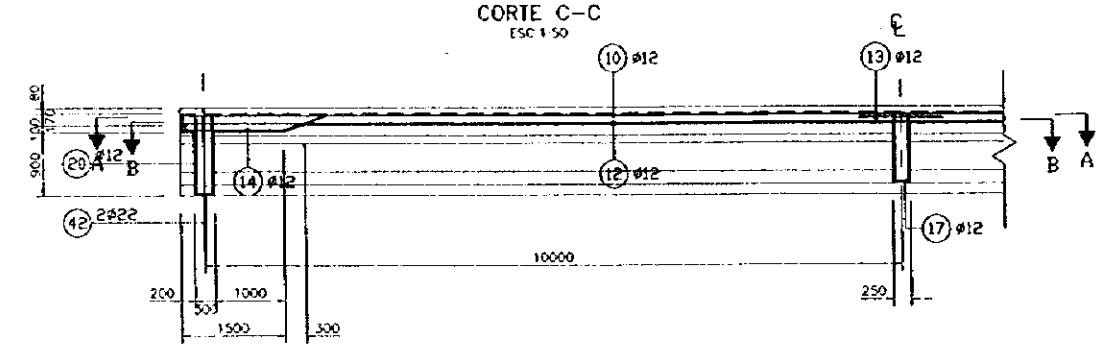
PLANTA DE LOSA  
ESC 1:50



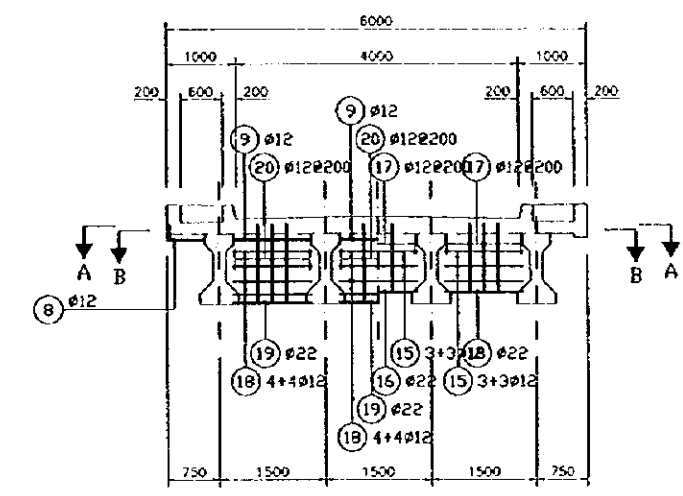
CORTE TRVERSAL  
CORTE E-E  
ESC 1:50



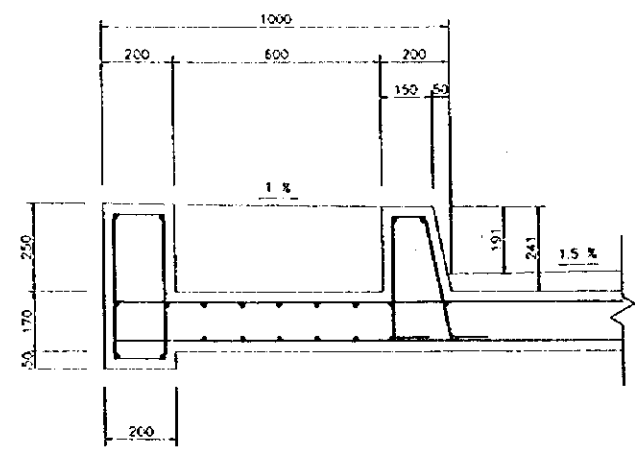
CORTE C-C  
ESC 1:50



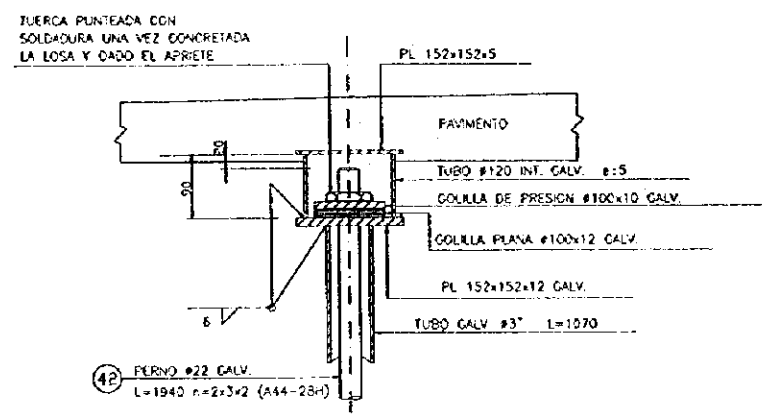
TRAVESAOS EXTREMOS  
CORTE D-D  
CORTE F-F  
ESC 1:50



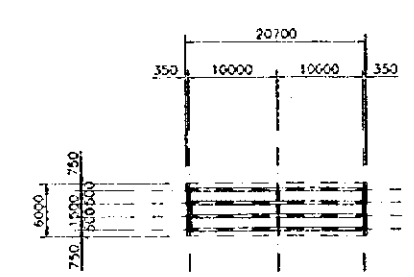
DETALLE DE PASILLO  
ESC 1:10



DETALLE BARRAS ANTISISMICAS  
ESC 1:5

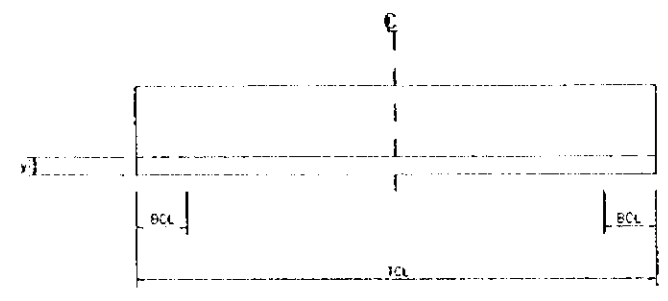
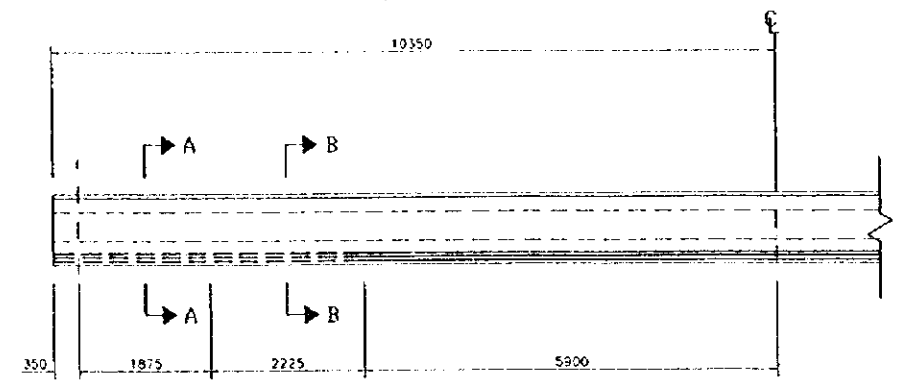


PLANTA DE DISPOSICION



|  |                       |
|--|-----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                       |
| Puente: 1-PRE-L20_n4                                     |                       |
| Cantón:  |                       |
| Provincia:   | Región:               |
| Proyecto:  | Revisó:               |
| Va. Ing. Jefe Depto. Puentes:                            | Director de Vialidad: |
| Dibujó:  | Fecha:                |

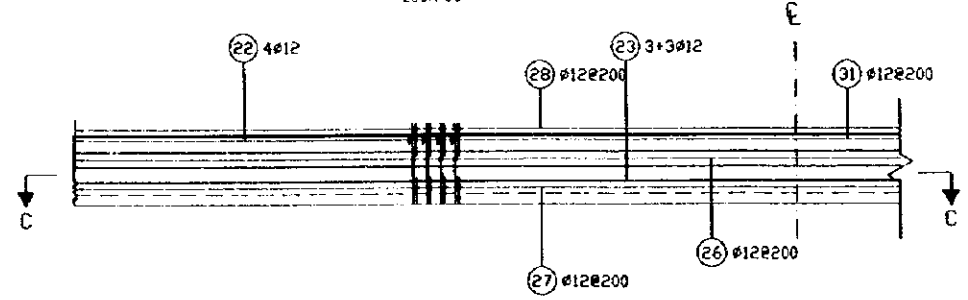
1/2 ELEVACION DE VIGA PRETENSADO  
ESC: 1/50



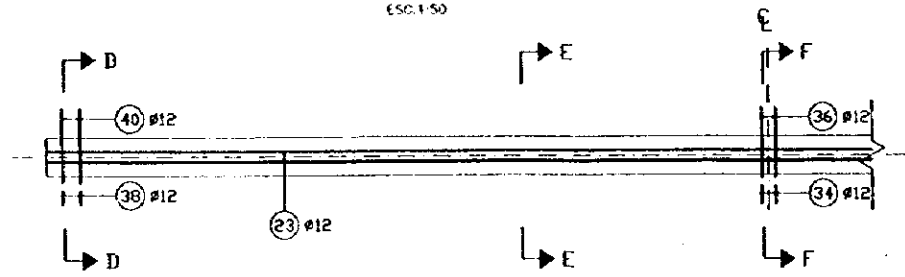
TCL = 20.7 m

| No    | y(cm) | NB | NBC | BCL(mm) | NBC | BCL(mm) | N  | Total(mm) |
|-------|-------|----|-----|---------|-----|---------|----|-----------|
| 1     | 94.5  | 2  | 0   | 2225    | 0   | 4450    | 2  | 0         |
| 2     | 16.5  | 2  | 0   | 2225    | 4   | 4450    | 6  | 35600     |
| 3     | 11.0  | 2  | 2   | 2225    | 4   | 4450    | 8  | 44500     |
| 4     | 5.5   | 4  | 1   | 2225    | 2   | 4450    | 7  | 22250     |
| Total |       | 10 | 3   | 6675    | 10  | 44500   | 23 | 102350    |

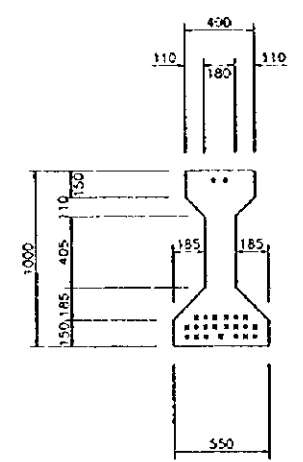
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC: 1/50



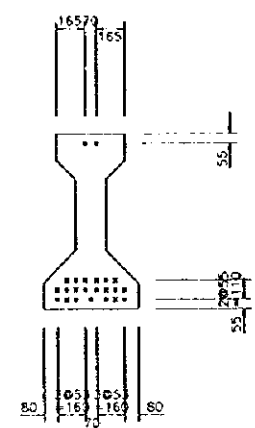
CORTE C-C  
ESC: 1/50



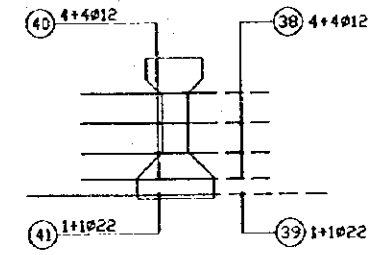
CORTE A-A  
ESC: 1/20



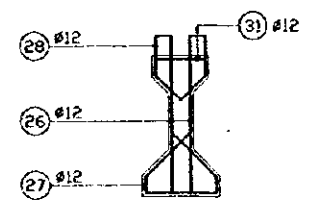
CORTE B-B  
ESC: 1/20



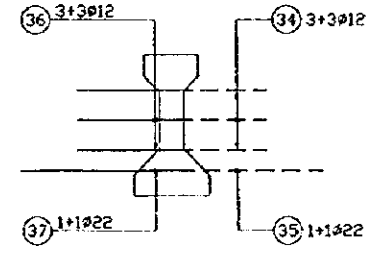
CORTE D-D  
ESC: 1/25



CORTE E-E  
ESC: 1/25



CORTE F-F  
ESC: 1/25



**DIRECCION DE VIALIDAD  
DEPARTAMENTO DE PUENTES**

Puente: 1-PRE-L20\_n4

Camino:

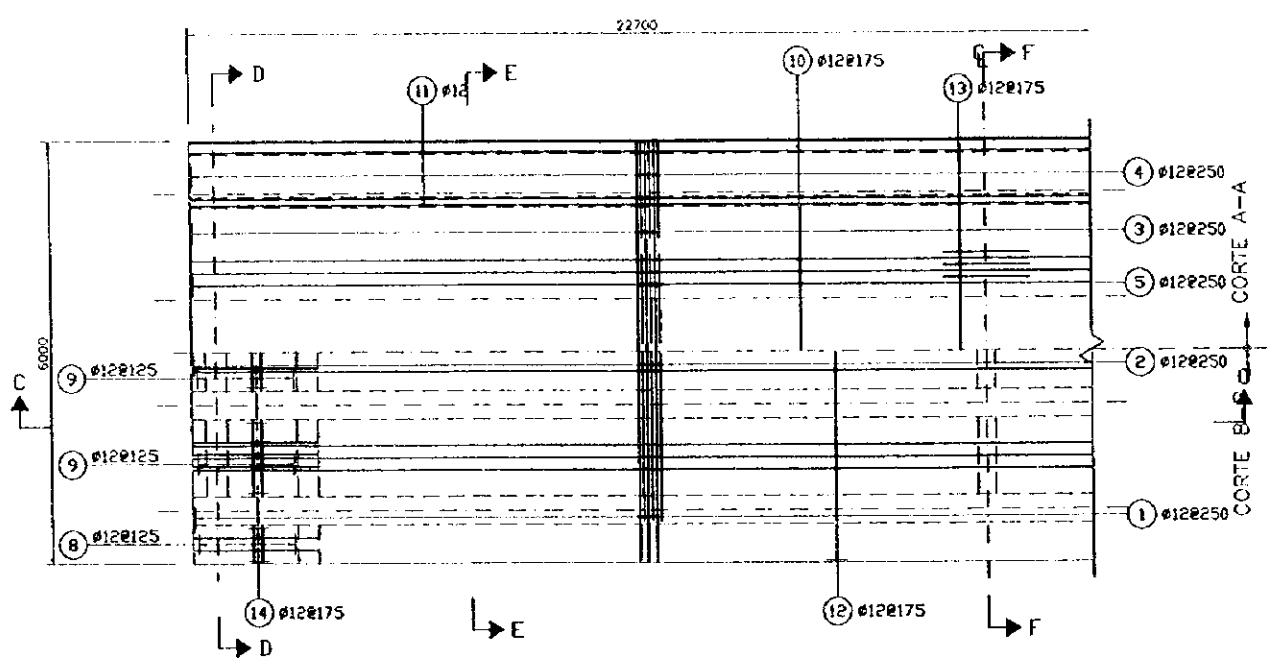
Provincia: \_\_\_\_\_ Region: \_\_\_\_\_

Proyecto: \_\_\_\_\_ Reviso: \_\_\_\_\_

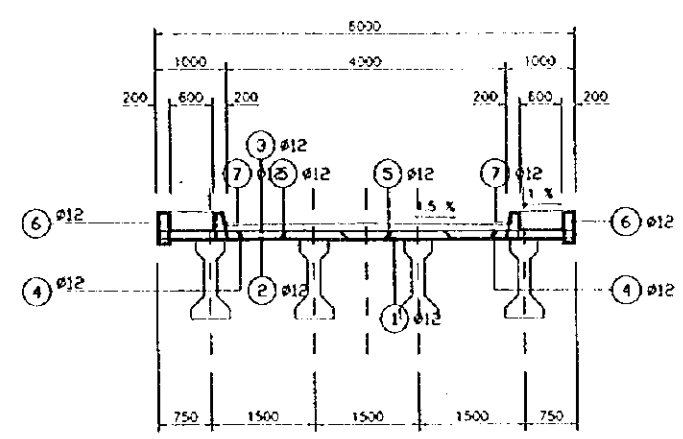
Va Ba Ing. Jefe Depto. Puentes Director de Validación

Escala: \_\_\_\_\_

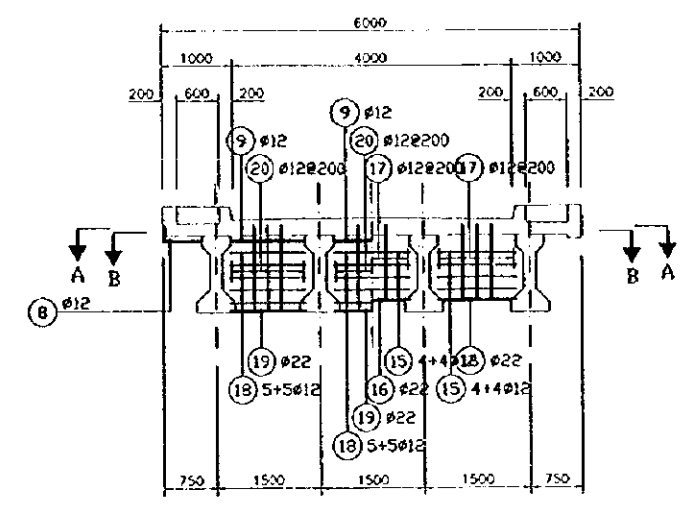
PLANTA DE LOSA  
ESC. 1:50



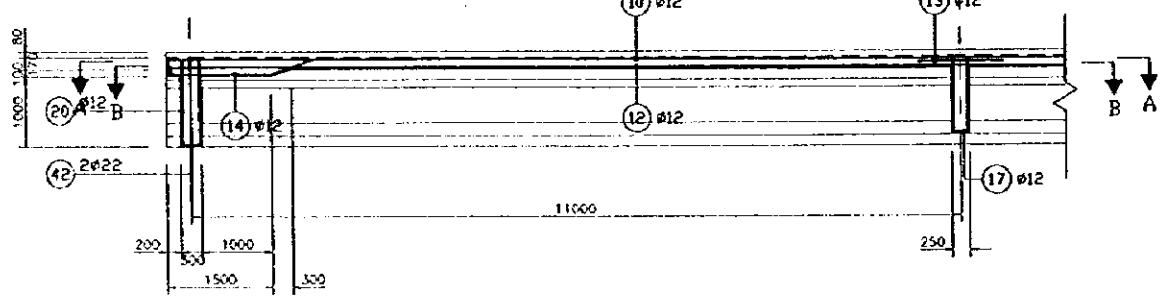
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



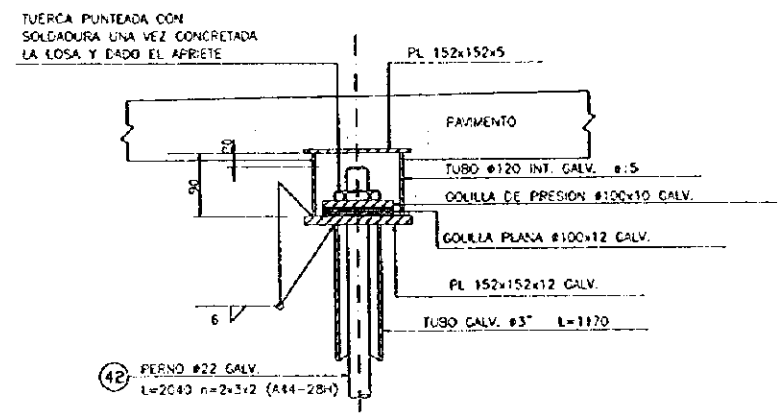
TRAVESANOS EXTREMOS  
CORTE D-D CORTE F-F  
ESC. 1:50



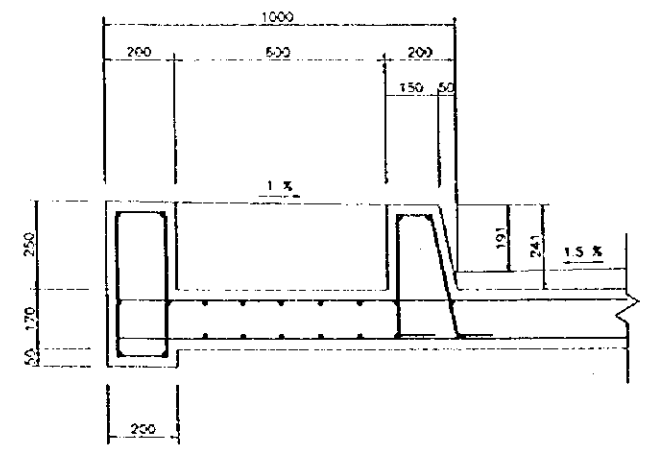
CORTE C-C  
ESC. 1:50



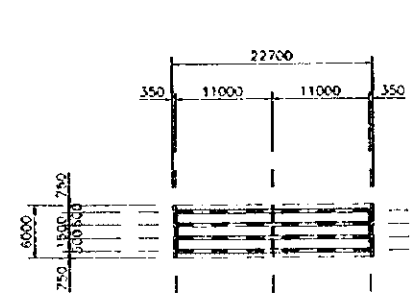
DETALLE BARRAS ANTISISMICAS  
ESC. 1:5



DETALLE DE PASILLO  
ESC. 1:10

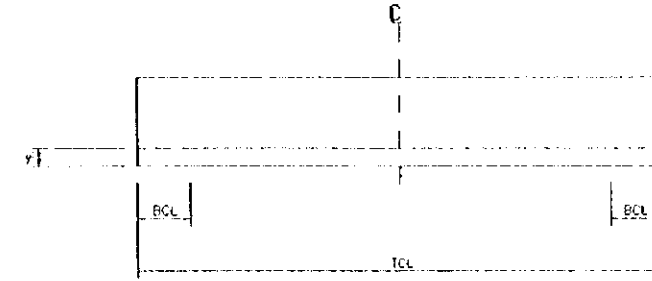
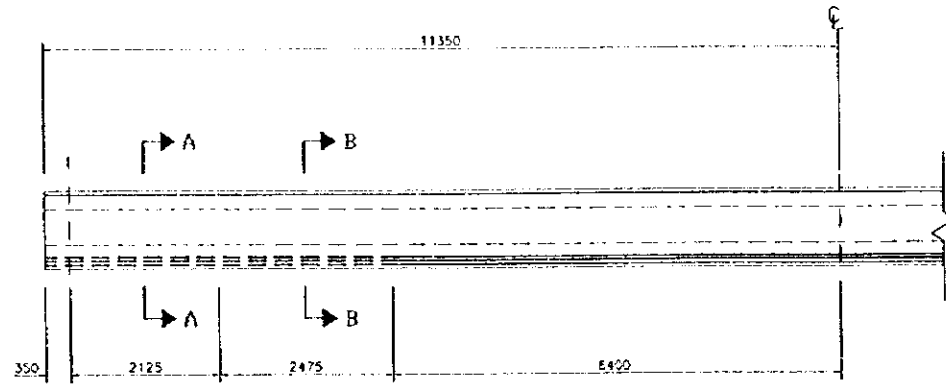


PLANTA DE DISPOSICION



|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puente: 1-PRE-L22_n4                                     |                      |
| Camino:  |                      |
| Provincia:   | Region:              |
| Proyecto:  | Reviso:              |
| Va Bo Ing. Jefe Depto. Puentes                           | Director de Vialidad |
| Escala:  | Fecha:               |

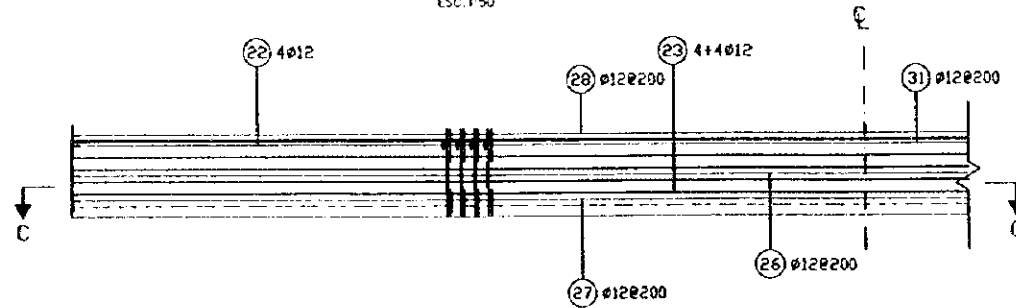
1/2 ELEVACION DE VIGA PRETENSADO  
ESC. 1:50



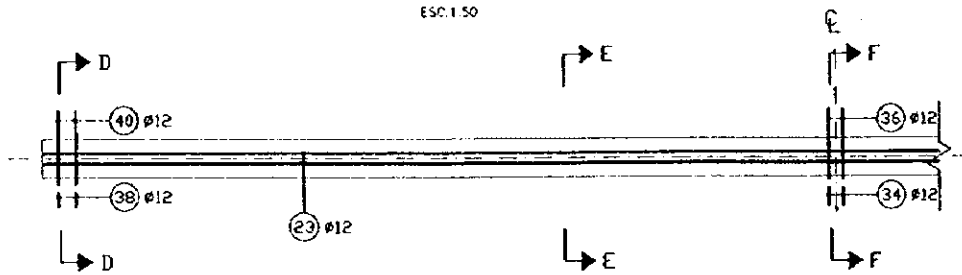
TCL = 22.7 m

| No    | y(cm) | NB | NBC | BCL(mm) | NBC | BCL(mm) | N  | Toto(mm) |
|-------|-------|----|-----|---------|-----|---------|----|----------|
| 1     | 104.5 | 2  | 0   | 2475    | 0   | 4950    | 2  | 0        |
| 2     | 16.5  | 0  | 2   | 2475    | 4   | 4950    | 6  | 49500    |
| 3     | 11.0  | 4  | 0   | 2475    | 4   | 4950    | 8  | 39600    |
| 4     | 5.5   | 4  | 1   | 2475    | 2   | 4950    | 7  | 24750    |
| Total |       | 10 | 3   | 7425    | 10  | 49500   | 23 | 113550   |

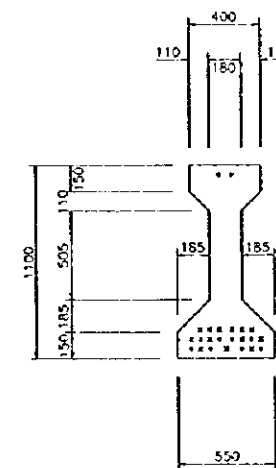
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC. 1:50



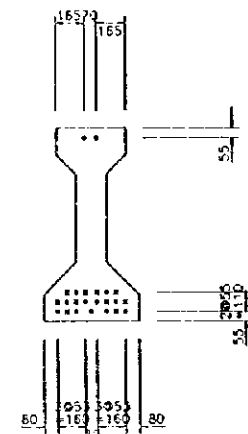
CORTE C-C  
ESC. 1:50



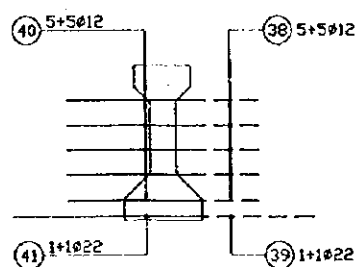
CORTE A-A  
ESC. 1:20



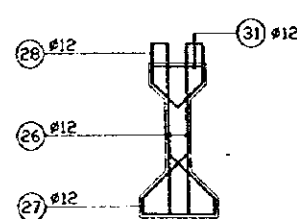
CORTE B-B  
ESC. 1:20



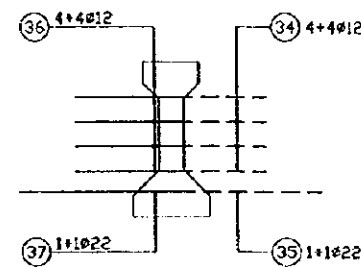
CORTE D-D  
ESC. 1:25



CORTE E-E  
ESC. 1:25



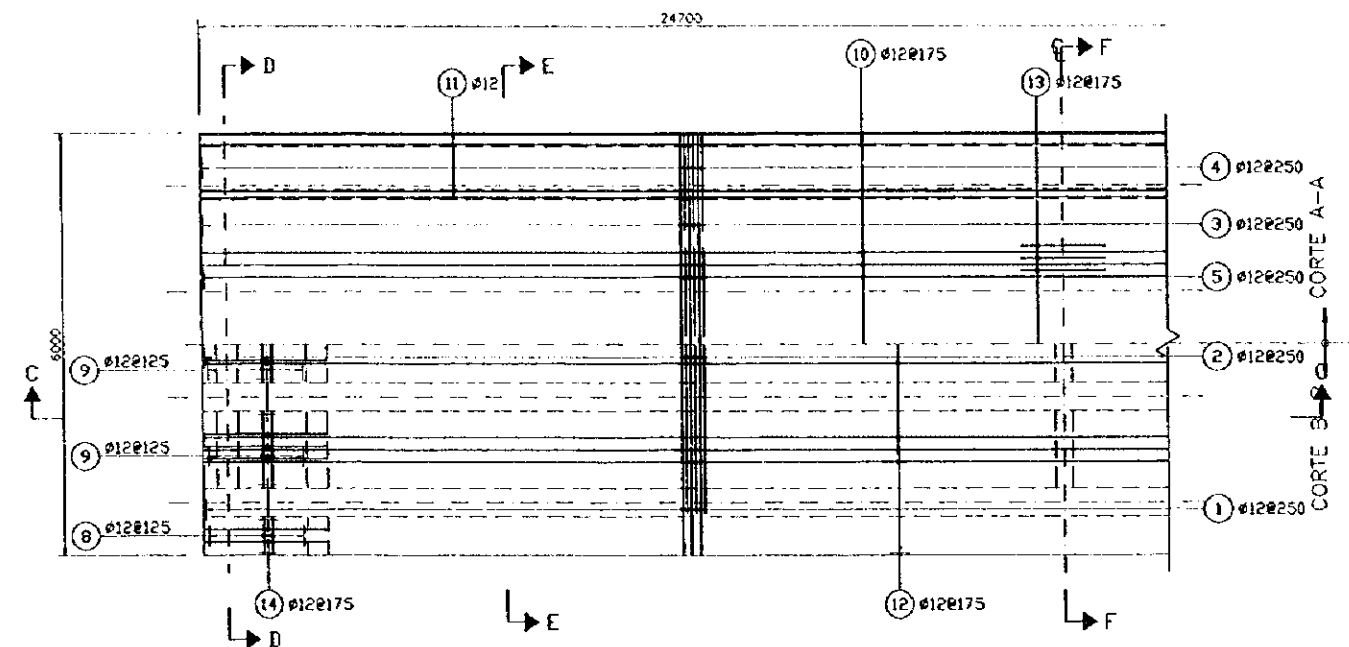
CORTE F-F  
ESC. 1:25



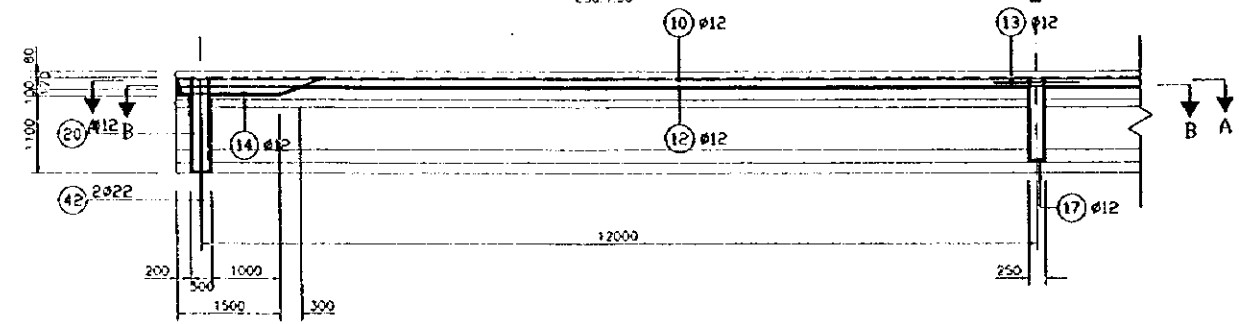
|  |                        |
|--|------------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                        |
| Puente: 1-PRE-L22_n4                                     |                        |
| Carino:  |                        |
| Provincia:   | Region:                |
| Proyecto:  | País:                  |
| Vs. Sr. Ing. Jefe Depto. Puentes                         | Director de Validación |
| Dibujo:  | Fecha:                 |



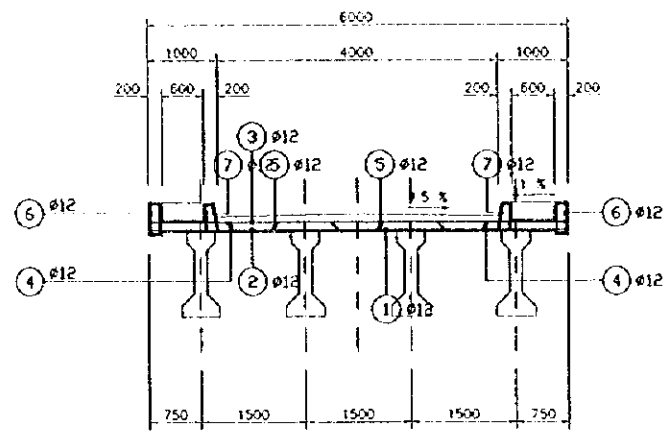
PLANTA DE LOSA  
ESC. 1:50



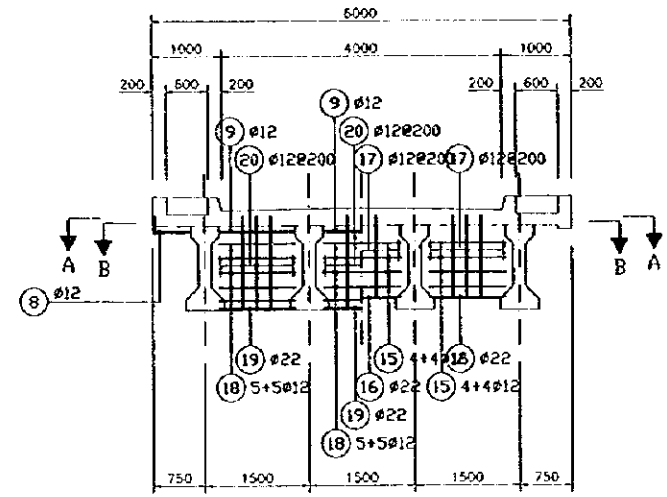
CORTE C-C  
ESC. 1:50



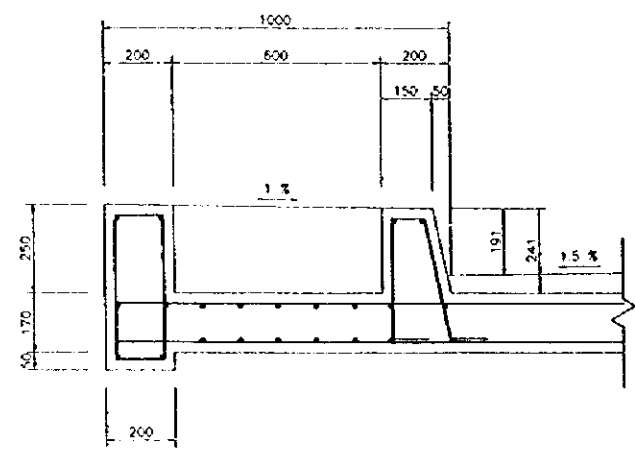
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



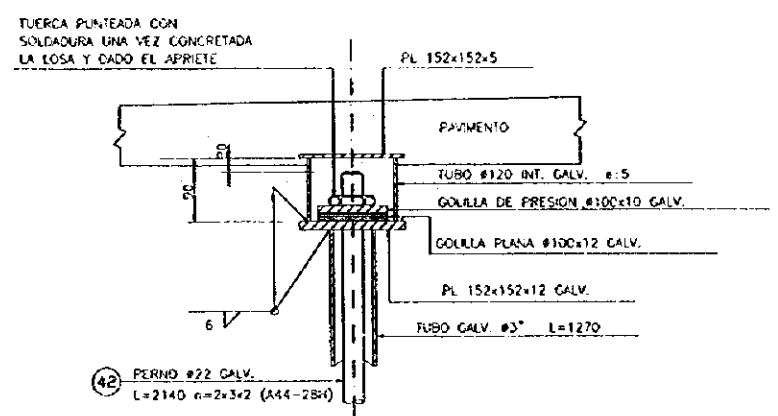
TRAVESAÑOS EXTREMOS  
CORTE D-D CORTE F-F  
ESC. 1:50



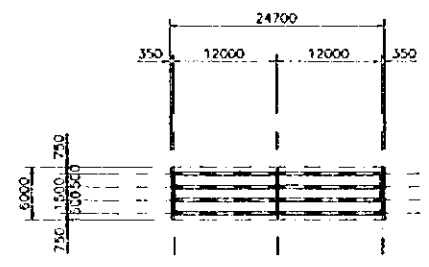
DETALLE DE PASILLO  
ESC. 1:10



DETALLE BARRAS ANTISISMICAS  
ESC. 1:5

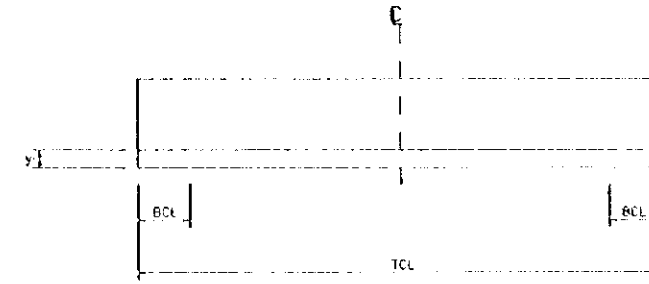
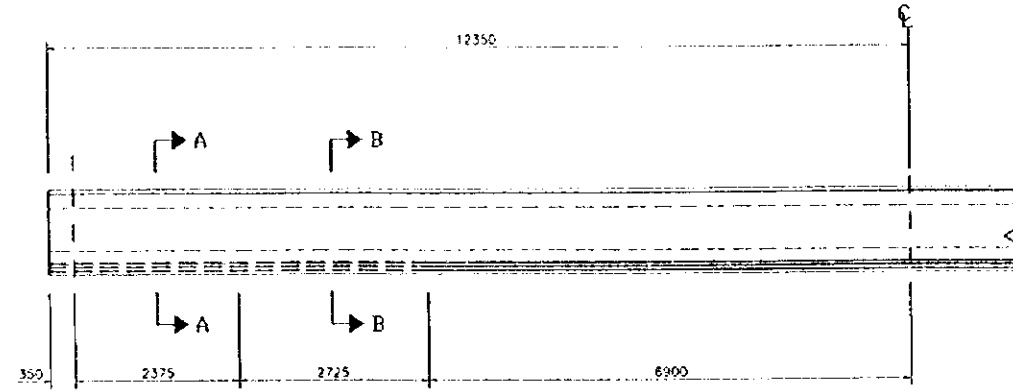


PLANTA DE DISPOSICION



|  |                       |
|--|-----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                       |
| Puente: 1-PRE-L24_n4                                     |                       |
| Camino:  |                       |
| Provincia:   | Region:               |
| Proyecto:  | Reviso:               |
| Va Bo. Ing. Jefe Depto. Puentes:                         | Director de Vialidad: |
| Dibujor:   | Fecha:                |

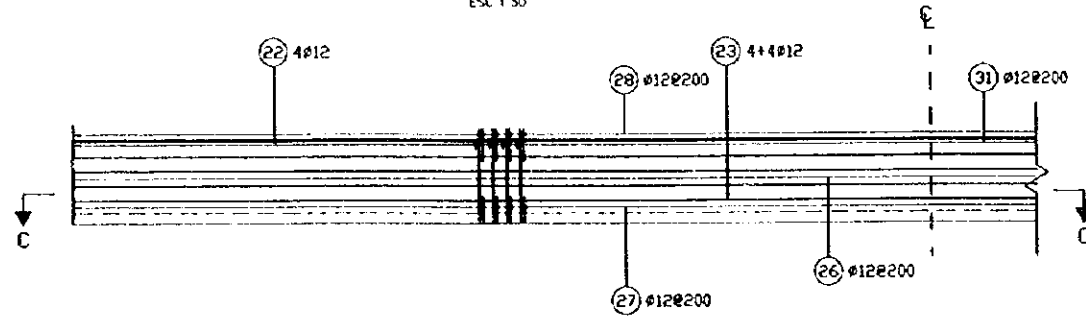
1/2 ELEVACION DE VIGA PRETENSADO  
ESC: 1/50



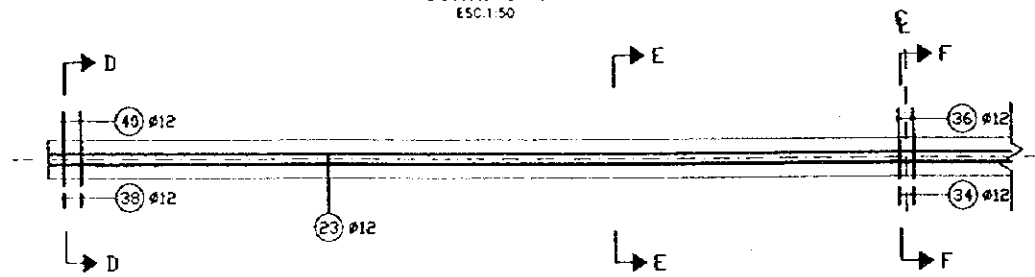
TCL = 24.7 m

| No    | y(cm) | NB | NBC | BCL(mm) | NSC | BCCL(mm) | N  | Total(mm) |
|-------|-------|----|-----|---------|-----|----------|----|-----------|
| 1     | 114.5 | 2  | 0   | 2725    | 0   | 5450     | 2  | 0         |
| 2     | 18.5  | 4  | 0   | 2725    | 4   | 5450     | 8  | 43600     |
| 3     | 110   | 2  | 2   | 2725    | 4   | 5450     | 8  | 54500     |
| 4     | 5.5   | 4  | 0   | 2725    | 3   | 5450     | 7  | 32700     |
| Total |       | 12 | 2   | 5450    | 11  | 59950    | 25 | 130800    |

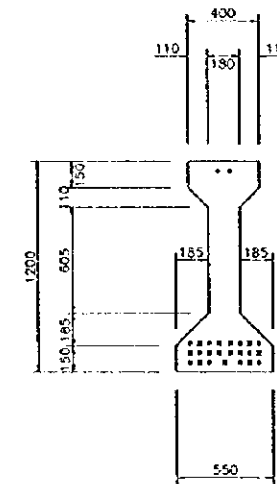
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC: 1/50



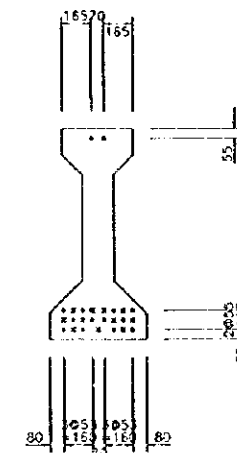
CORTE C-C  
ESC: 1/50



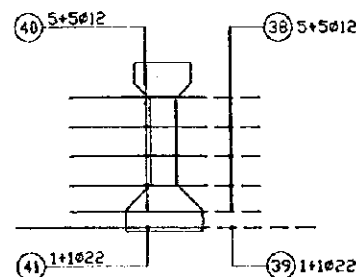
CORTE A-A  
ESC: 1/20



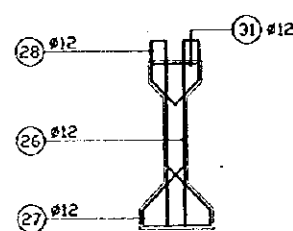
CORTE B-B  
ESC: 1/20



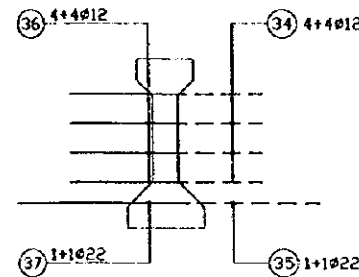
CORTE D-D  
ESC: 1/25



CORTE E-E  
ESC: 1/25

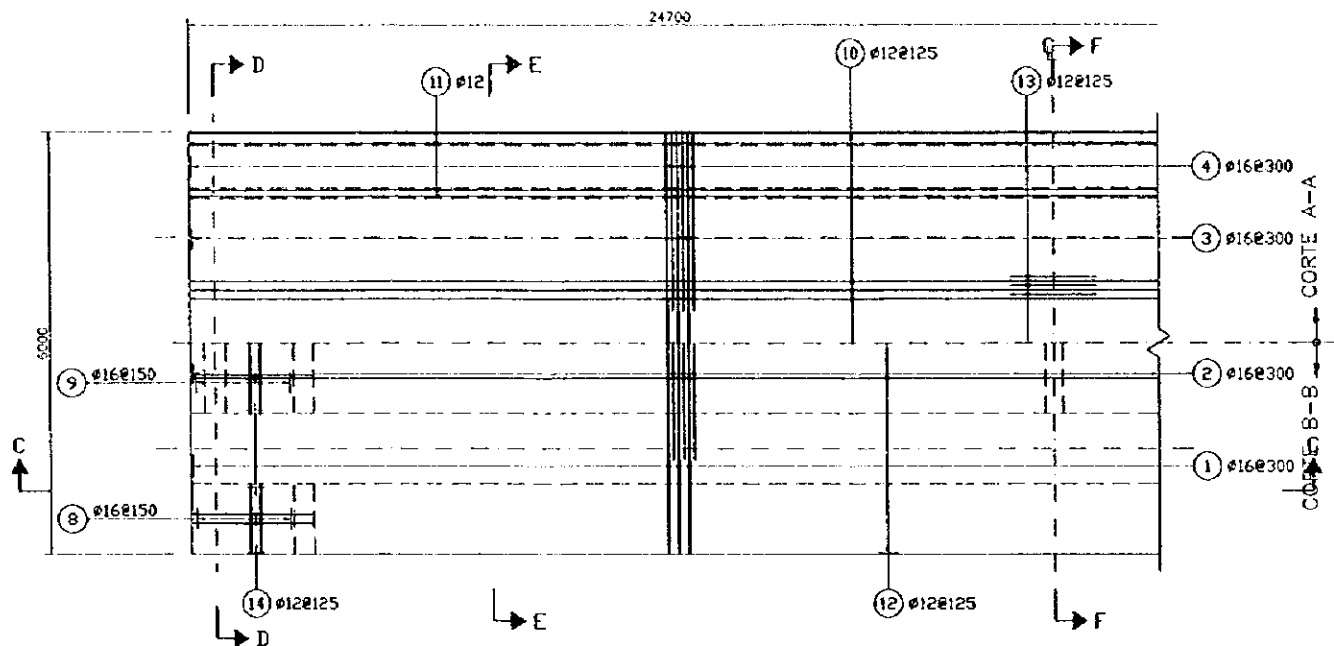


CORTE F-F  
ESC: 1/25

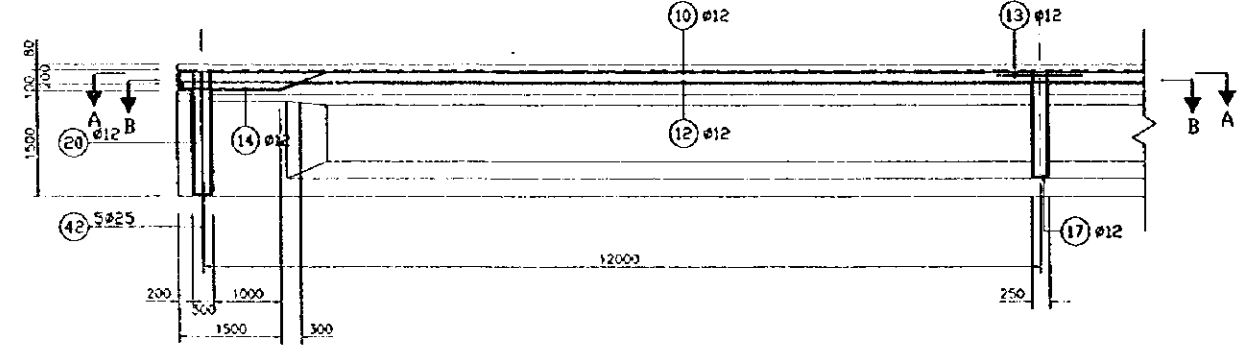


|  |          |
|--|----------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |          |
| Puente: 1-PRE-L24_n4                                     |          |
| Camino:  |          |
| Provincia:   | Region:  |
| Proyecto:  | Período: |
| Vía: Sr. Ing. Jefe Depto. Puentes                        |          |
| Director de Vialidad                                     |          |
| Fecha:   |          |

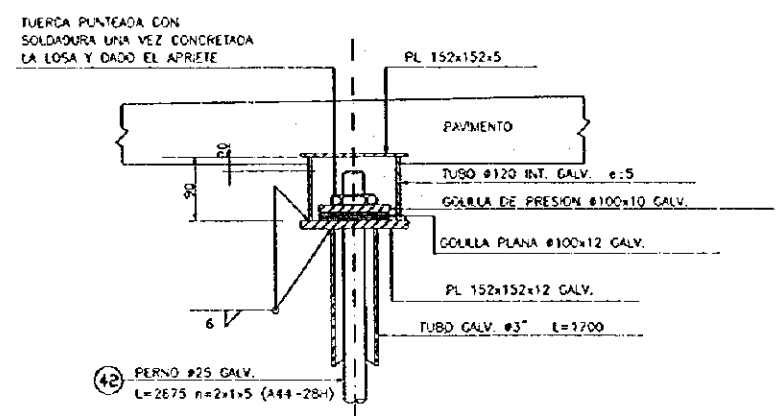
PLANTA DE LOSA  
ESC. 1:50



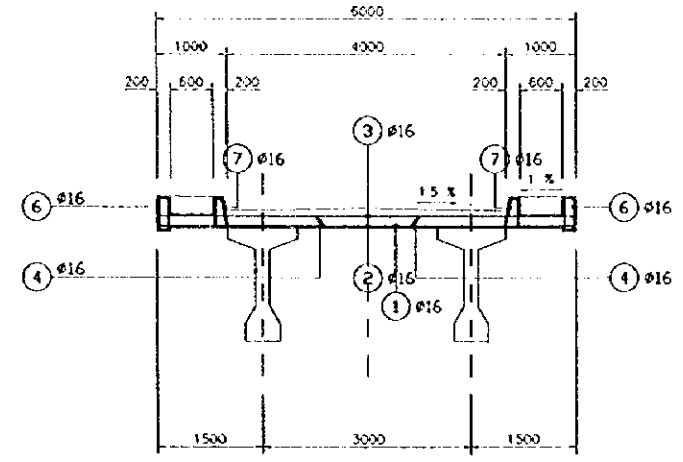
CORTE C-C  
ESC. 1:50



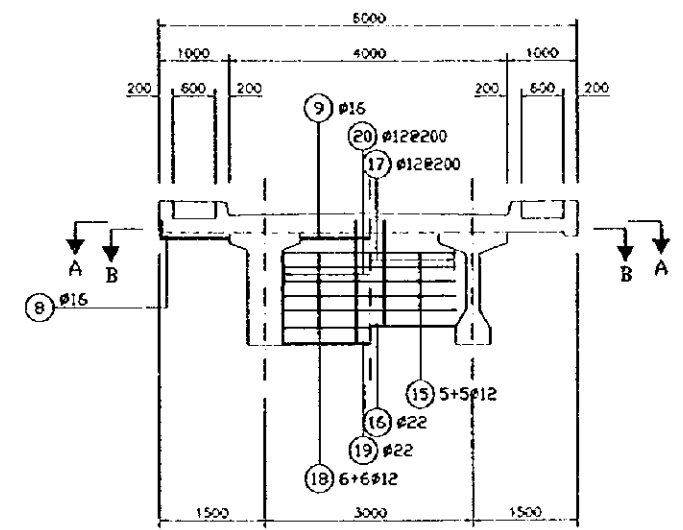
DETALLE BARRAS ANTISISMICAS  
ESC. 1:5



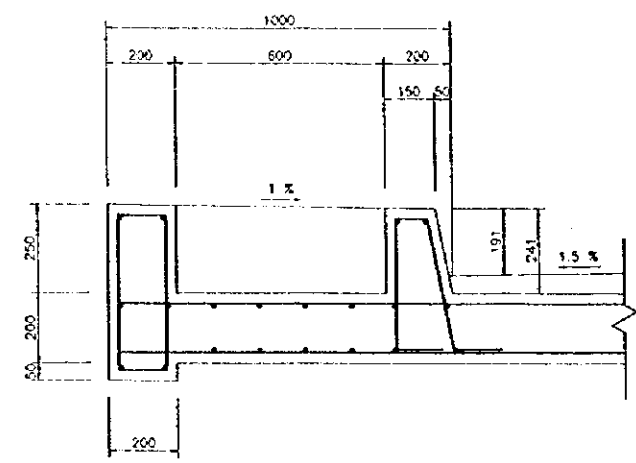
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



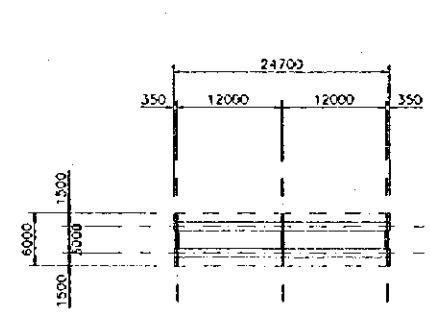
TRAVESAJOS EXTREMOS  
CORTE D-D CORTE F-F  
ESC. 1:50



DETALLE DE PASILLO  
ESC. 1:10

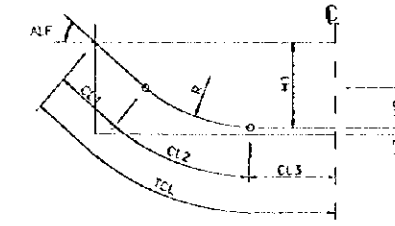
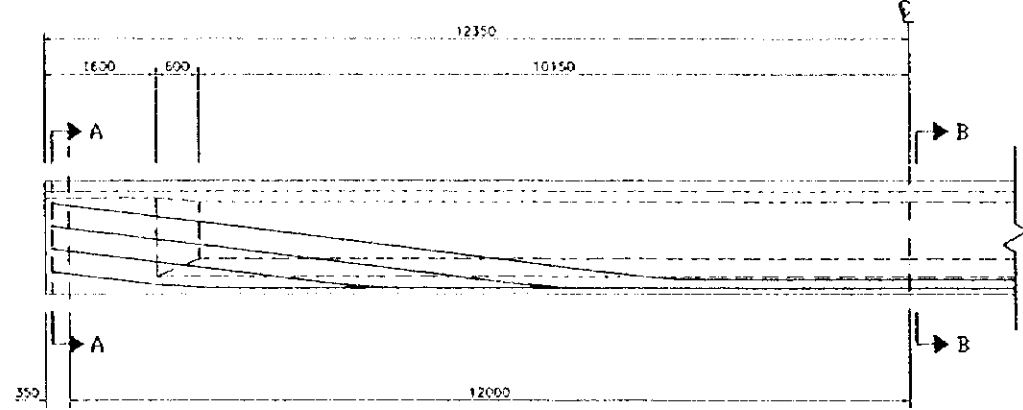


PLANTA DE DISPOSICION



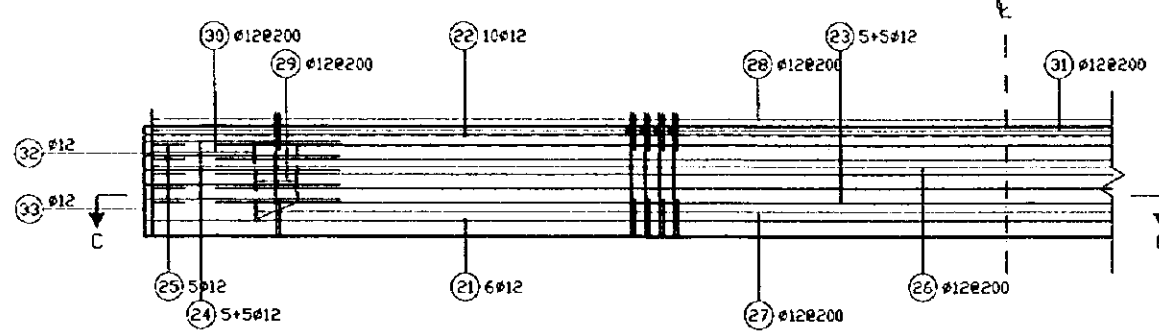
|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puente: 1-PST-L24_n2                                     |                      |
| Carino:  |                      |
| Provincia:   | Region:              |
| _____  | _____                |
| Yo Soy Jefe Depto. Puentes                               | Ejecutor de Vialidad |
| Dibujo   | Fecha:               |

1/2 ELEVACION DE VIGA POSTENSADO  
ESC. 1:50

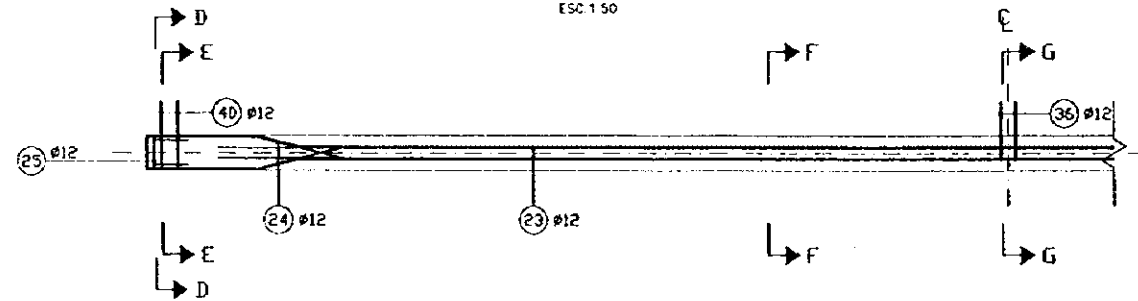


|    | ALF | R  | H1   | H2 | H3  | CL1  | CL2  | CL3  | TCL   |
|----|-----|----|------|----|-----|------|------|------|-------|
| D1 | 7   | 10 | 1070 | 75 | 210 | 8168 | 1222 | 2924 | 12314 |
| D2 | 7   | 10 | 870  | 75 | 90  | 6527 | 1222 | 4553 | 12302 |
| D3 | 7   | 10 | 550  | 75 | 90  | 3901 | 1222 | 7159 | 12282 |
| D4 | 7   | 10 | 230  | 75 | 90  | 1276 | 1222 | 9765 | 12263 |

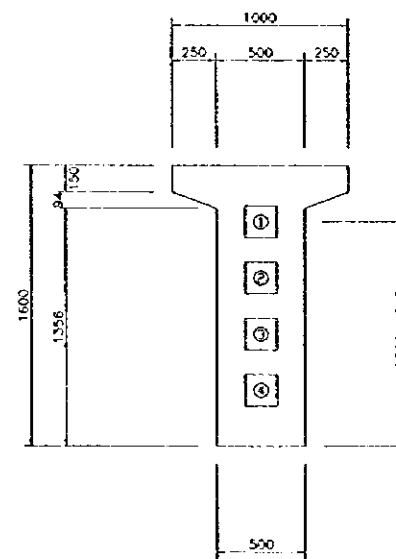
1/2 ENFIERRADURA VIGA POSTENSADO  
ESC. 1:50



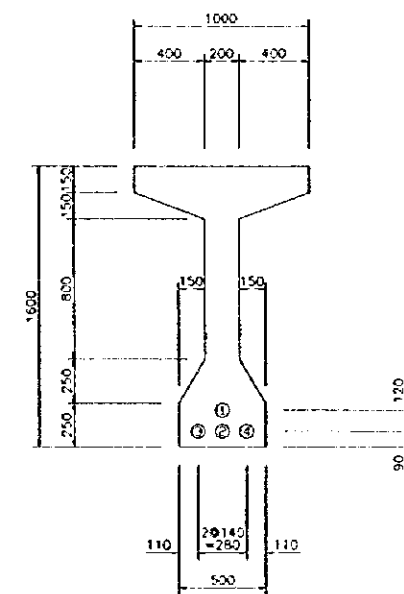
CORTE C-C  
ESC. 1:50



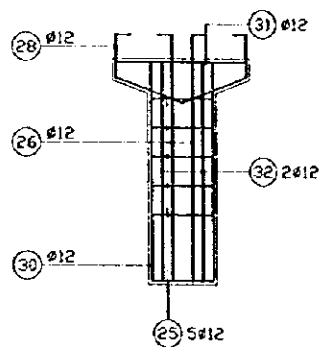
CORTE A-A  
ESC. 1:20



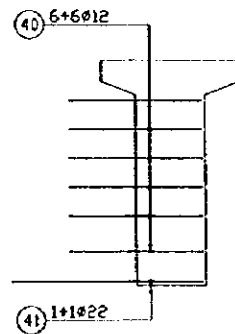
CORTE B-B  
ESC. 1:20



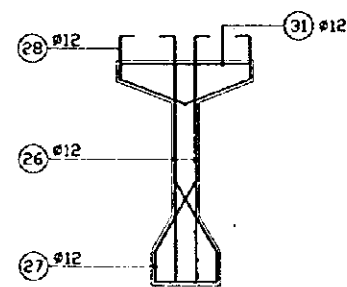
CORTE D-D  
ESC. 1:25



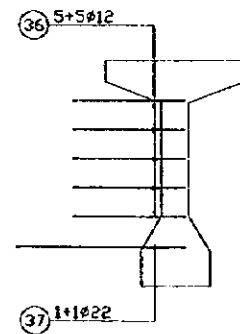
CORTE E-E  
ESC. 1:25



CORTE F-F  
ESC. 1:25



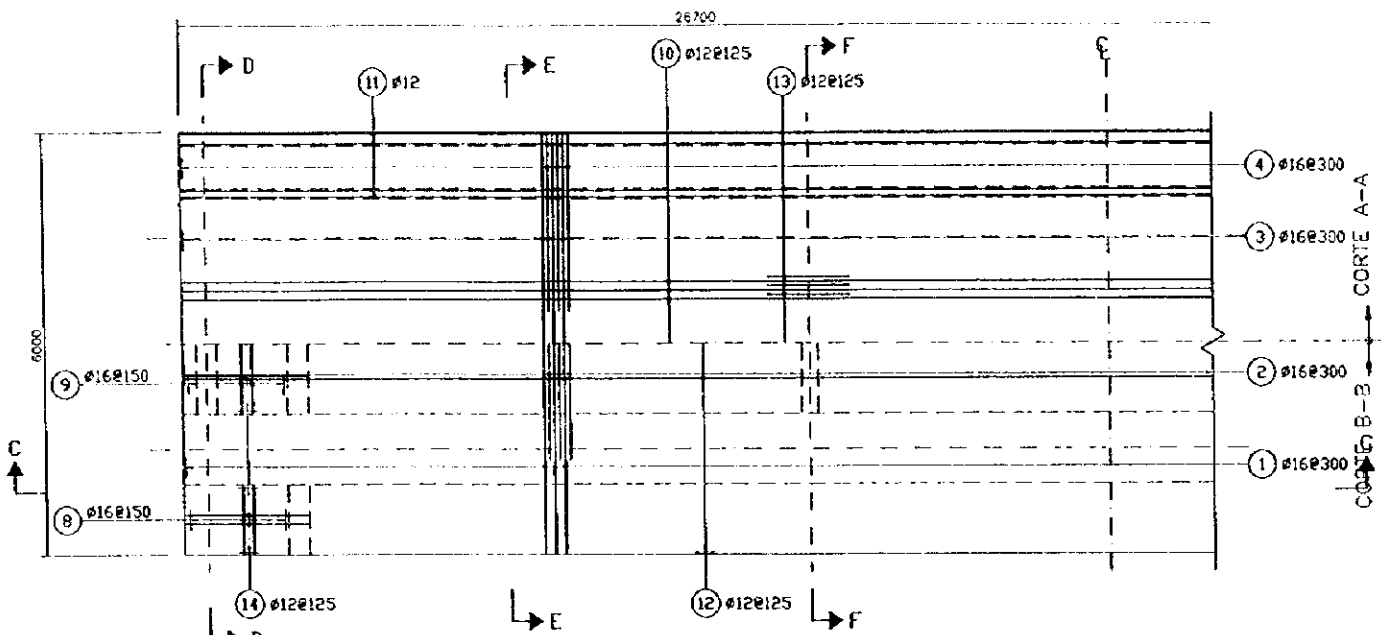
CORTE G-G  
ESC. 1:25



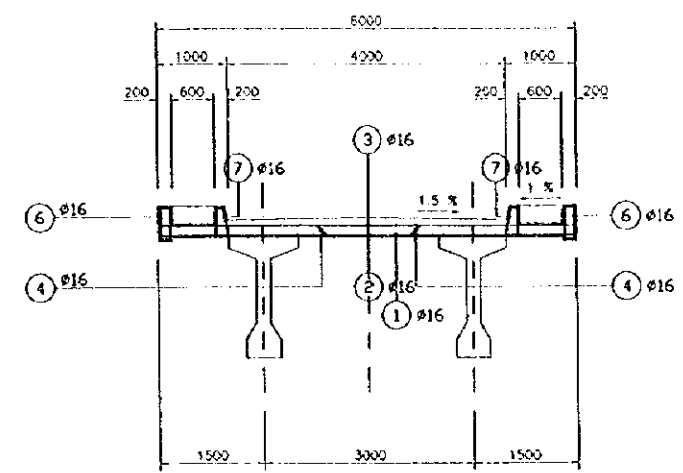
DIRECCION DE VIALIDAD  
DEPARTAMENTO DE PUENTES

Puente: 1-PST-L24\_n2  
 Camino:  
 Provincia: \_\_\_\_\_ Region: \_\_\_\_\_  
 Proyecto: \_\_\_\_\_ Reviso: \_\_\_\_\_  
 Va. By Ing. Jefe Depto. Puentes Director de Vialidad  
 Dibujo: \_\_\_\_\_ Fecha: \_\_\_\_\_

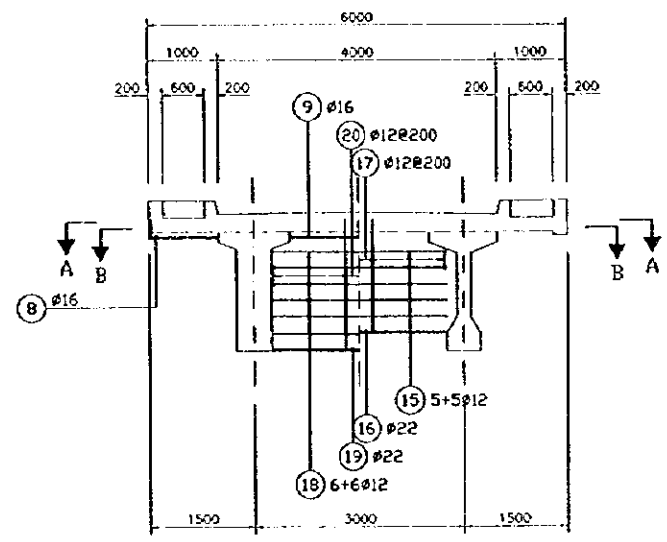
PLANTA DE LOSA  
ESC 1:50



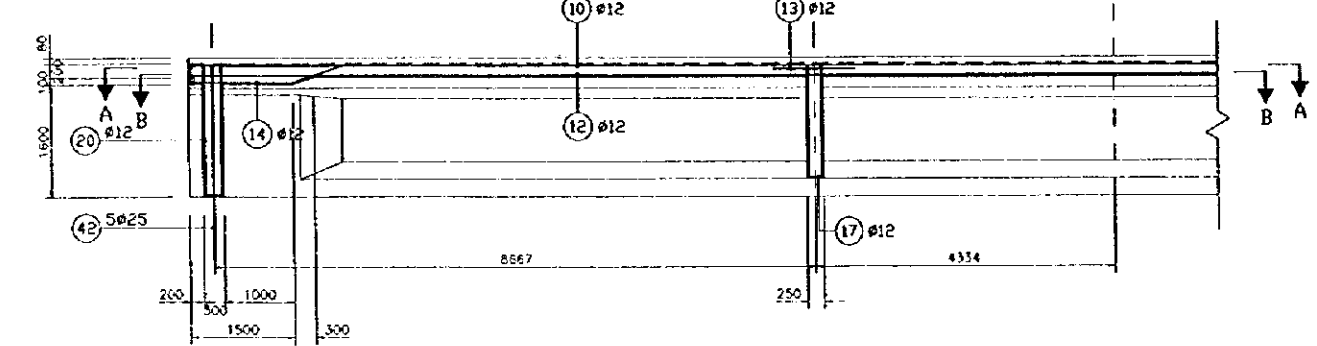
CORTE TRVERSAL  
CORTE E-E  
ESC 1:50



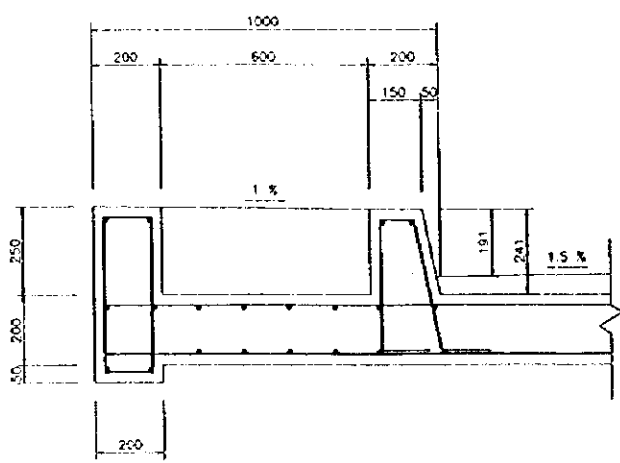
TRAVESANOS EXTREMOS  
CORTE D-D CORTE F-F  
ESC 1:50



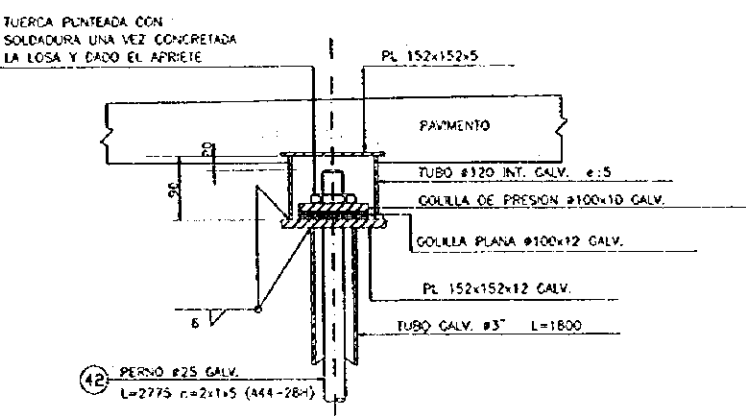
CORTE C-C  
ESC 1:50



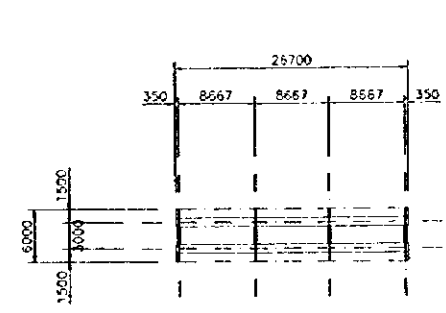
DETALLE DE PASILLO  
ESC 1:10



DETALLE BARRAS ANTISISMICAS  
ESC 1:5

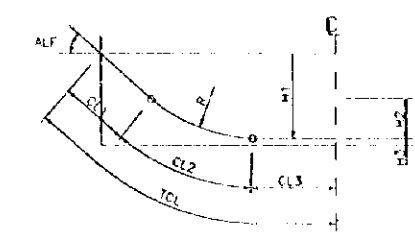
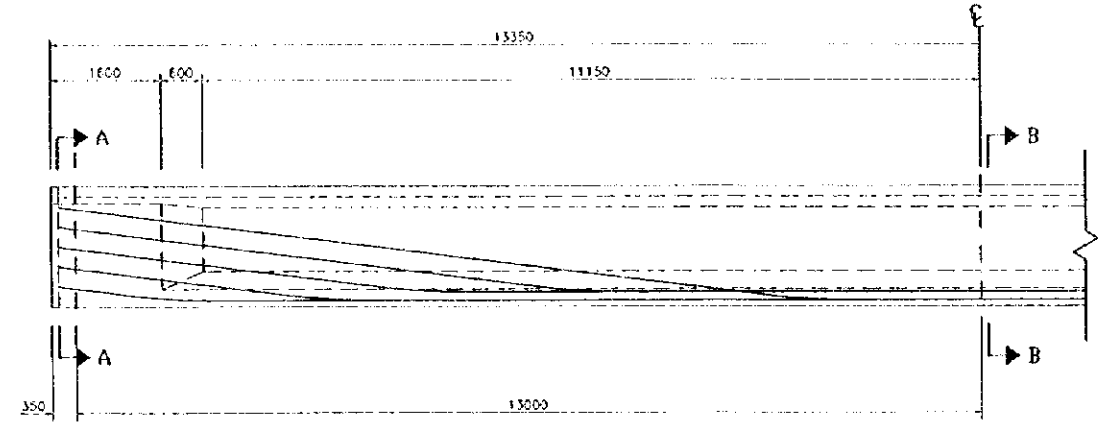


PLANTA DE DISPOSICION



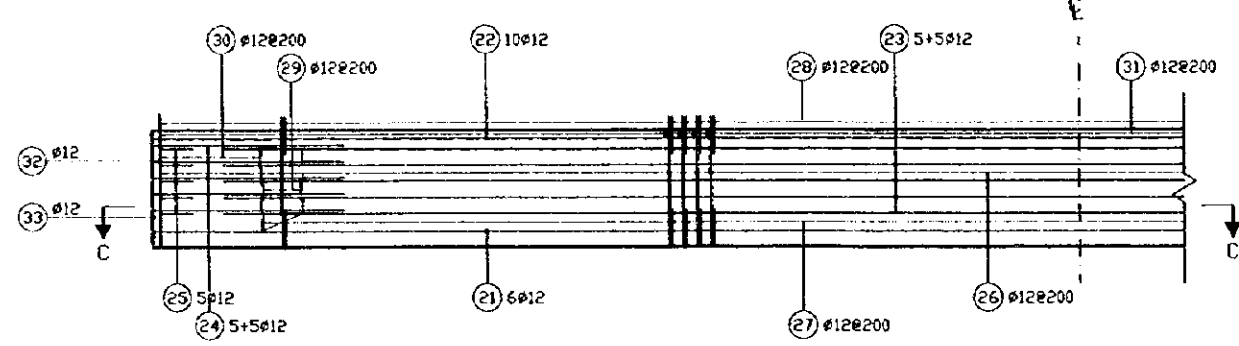
|  |                       |
|--|-----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                       |
| Puente: 1-PST-L26_n2                                     |                       |
| Camino:  |                       |
| Provincia:   | Region:               |
| Proyecto:  | Reviso:               |
| Vo Bo Ing. Jefe Depto. Puentes:                          | Director de Vialidad: |
| Dibujante:   | Fecha:                |

1/2 ELEVACION DE VIGA POSTENSADO  
ESC 1:50

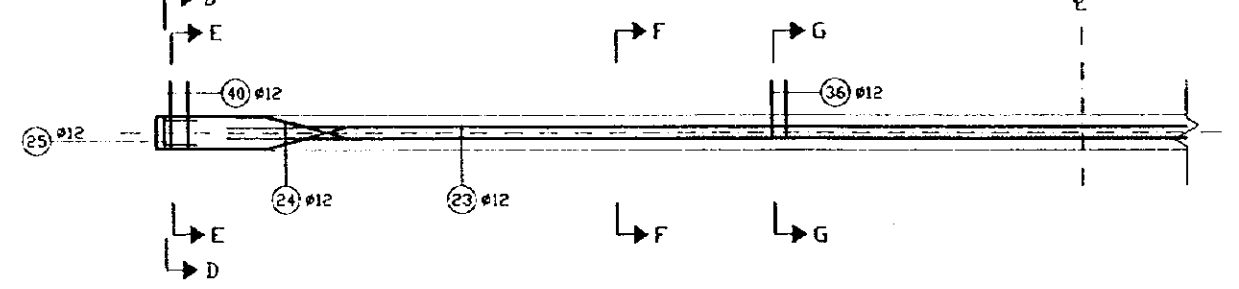


|    | ALF | R  | H1   | H2 | H3  | CL1   | CL2  | CL3   | TCL   |
|----|-----|----|------|----|-----|-------|------|-------|-------|
| D1 | 7   | 10 | 1320 | 75 | 90  | 10220 | 1222 | 1888  | 13329 |
| D2 | 7   | 10 | 920  | 75 | 210 | 6937  | 1222 | 5145  | 13305 |
| D3 | 7   | 10 | 640  | 75 | 210 | 4540  | 1222 | 7426  | 13288 |
| D4 | 7   | 10 | 480  | 75 | 90  | 3327  | 1222 | 8729  | 13278 |
| D5 | 7   | 10 | 200  | 75 | 90  | 1029  | 1222 | 11010 | 13261 |

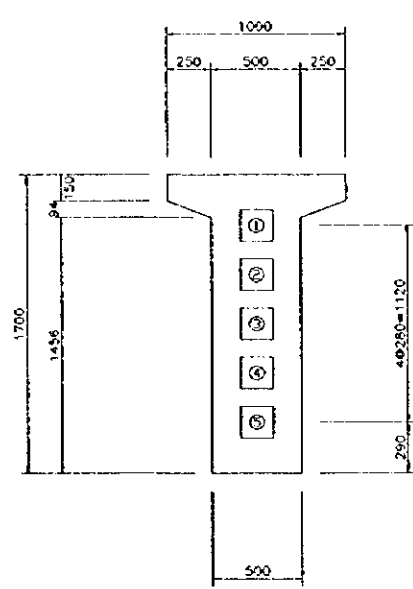
1/2 ENFIERRADURA VIGA POSTENSADO  
ESC 1:50



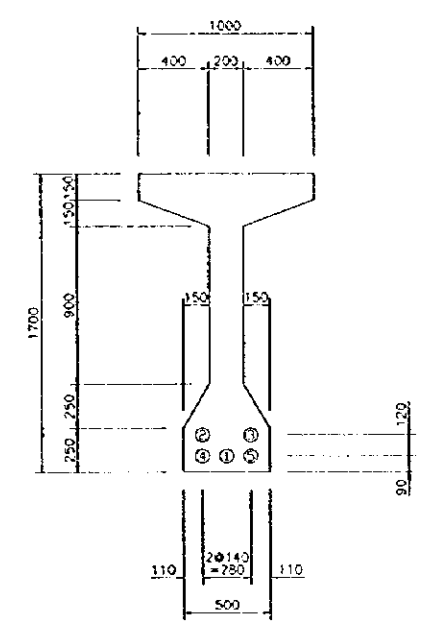
CORTE C-C  
ESC 1:50



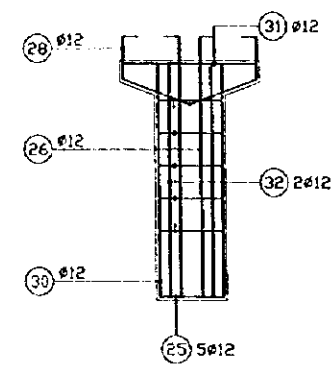
CORTE A-A  
ESC 1:20



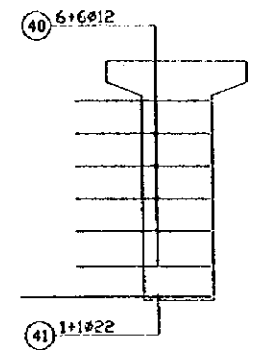
CORTE B-B  
ESC 1:20



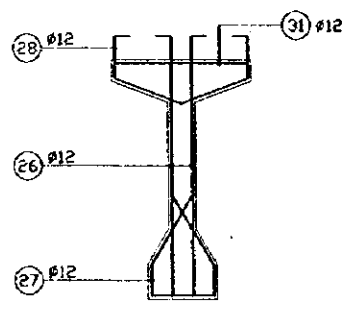
CORTE D-D  
ESC 1:25



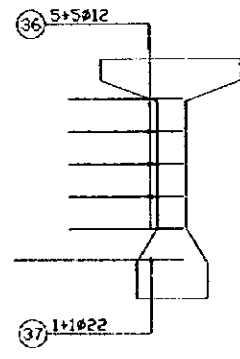
CORTE E-E  
ESC 1:25



CORTE F-F  
ESC 1:25

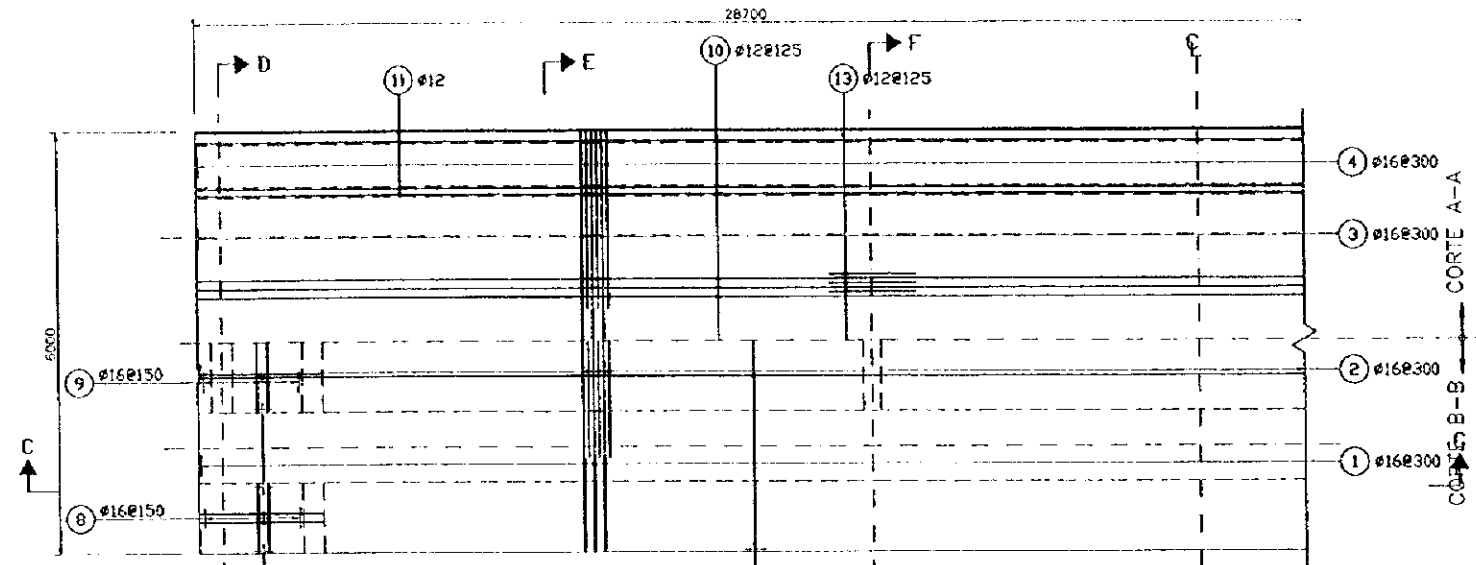


CORTE G-G  
ESC 1:25

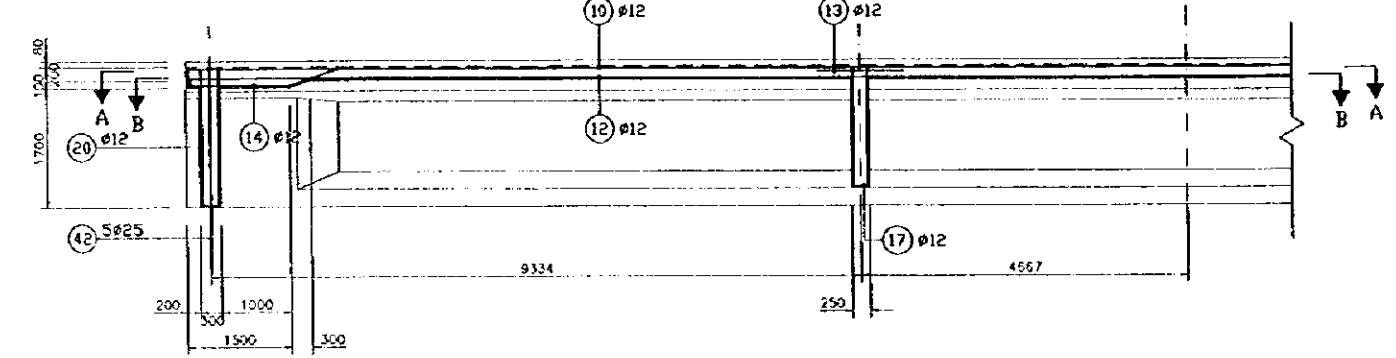


|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puente: 1-PST-L26_n2                                     |                      |
| Camino:  |                      |
| Provincia:   | Region:              |
| Proyecto:  | Reviso:              |
| Va Ba Ing. Jefe Depto. Puentes                           | Director de Vialidad |
| Dibujo:  | Fecha:               |

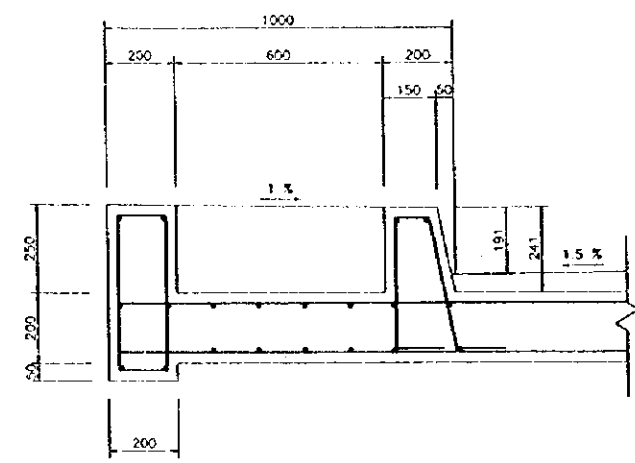
PLANTA DE LOSA  
ESC. 1:50



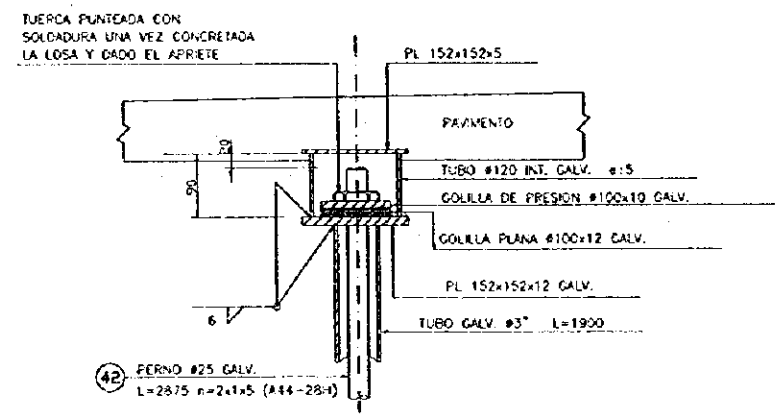
CORTE C-C  
ESC. 1:50



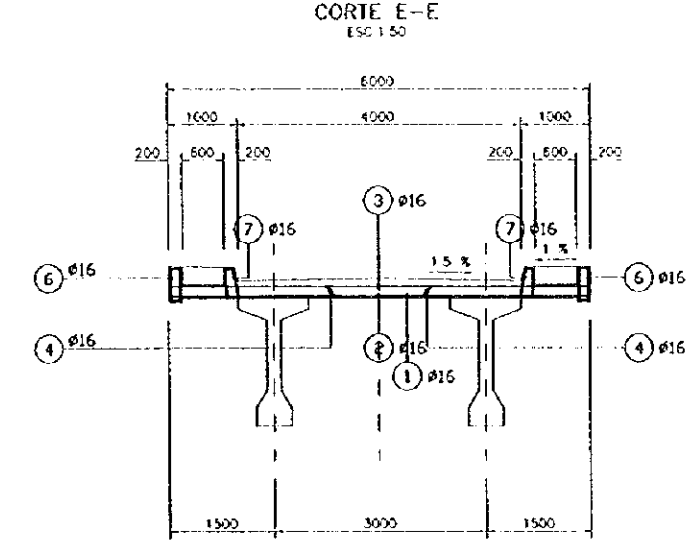
DETALLE DE PASILLO  
ESC. 1:10



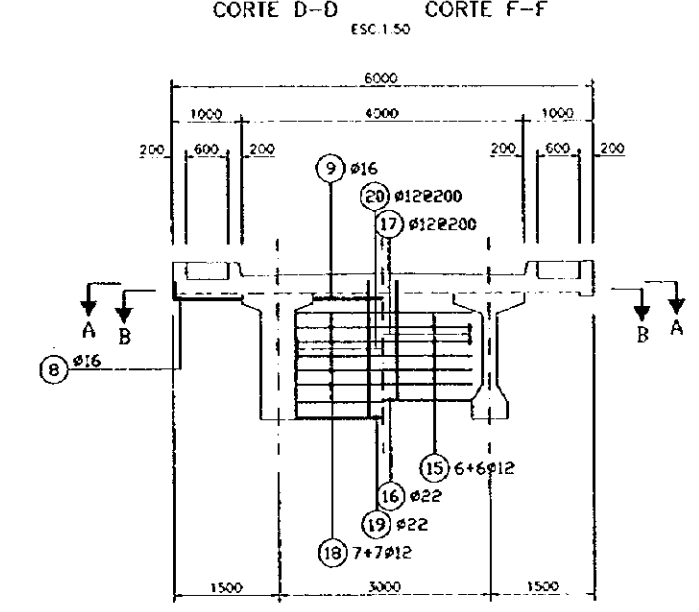
DETALLE BARRAS ANTISISMICAS  
ESC. 1:5



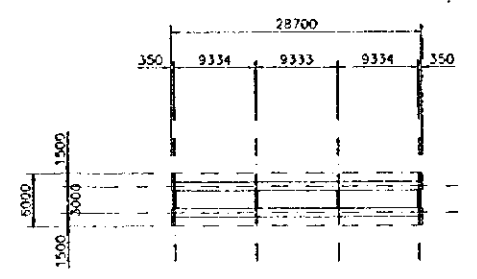
CORTE TRVERSAL  
CORTE E-E



TRAVESAÑOS EXTREMOS  
CORTE D-D CORTE F-F

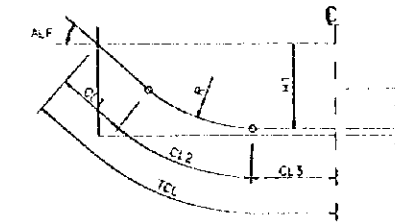
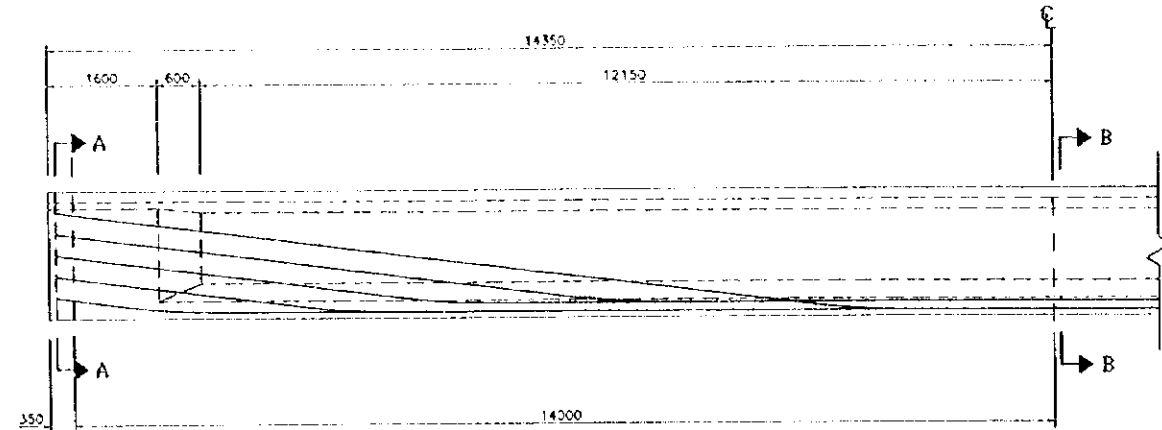


PLANTA DE DISPOSICION



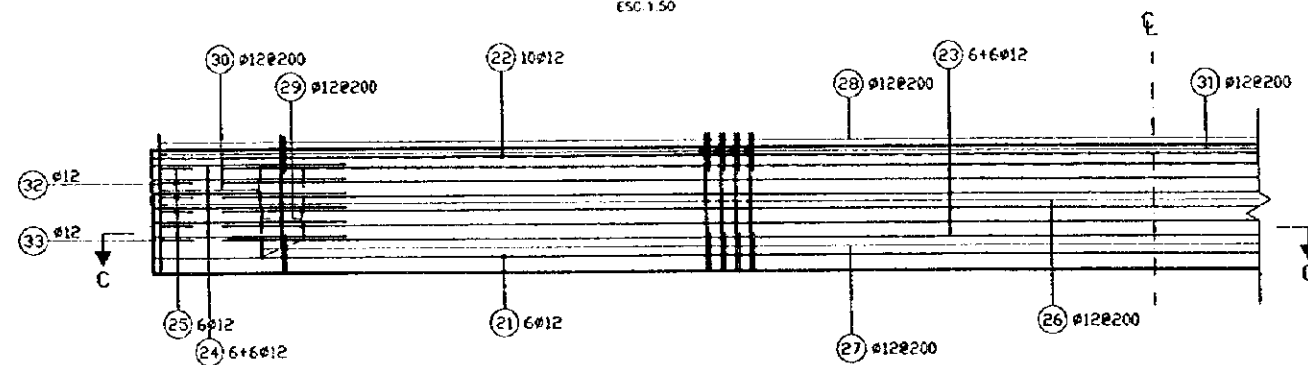
|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puentes: 1-PST-L28_n2                                    |                      |
| Camino:  |                      |
| Provincia:   | Region:              |
| Proyecto:  | Reviso:              |
| Vo Bo Ing. Jefe Depto. Puentes                           | Director de Vialidad |
| Dibujante:   | Fecha:               |

1/2 ELEVACION DE VIGA POSTENSADO  
ESC. 1:50

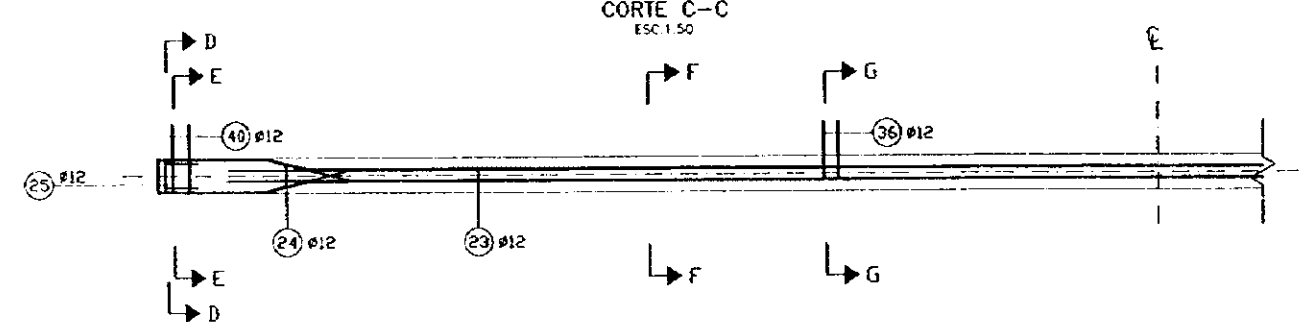


|    | ALF | R  | H1   | H2 | H3  | CL1   | CL2  | CL3   | XCL   |
|----|-----|----|------|----|-----|-------|------|-------|-------|
| D1 | 7   | 10 | 1410 | 75 | 90  | 10958 | 1222 | 2155  | 14335 |
| D2 | 7   | 10 | 990  | 75 | 210 | 7512  | 1222 | 5575  | 14308 |
| D3 | 7   | 10 | 690  | 75 | 210 | 5050  | 1222 | 6319  | 14291 |
| D4 | 7   | 10 | 510  | 75 | 90  | 3573  | 1222 | 9485  | 14280 |
| D5 | 7   | 10 | 210  | 75 | 90  | 1112  | 1222 | 11928 | 14261 |

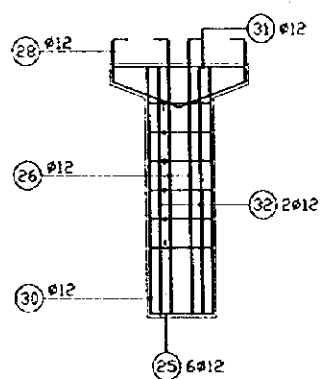
1/2 ENFIERRADURA VIGA POSTENSADO  
ESC. 1:50



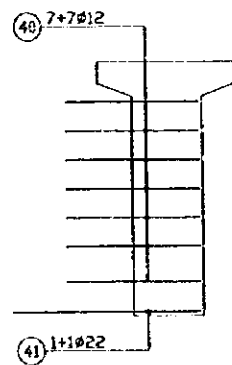
CORTE C-C  
ESC. 1:50



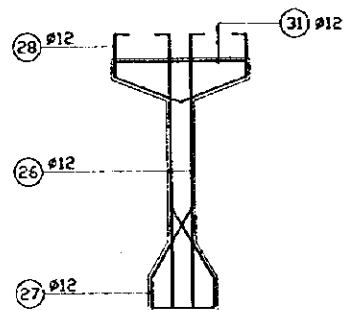
CORTE D-D  
ESC. 1:25



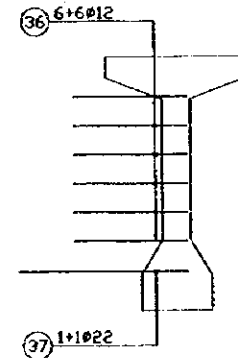
CORTE E-E  
ESC. 1:25



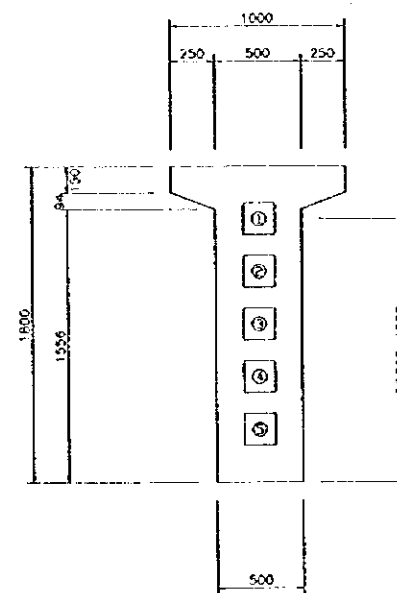
CORTE F-F  
ESC. 1:25



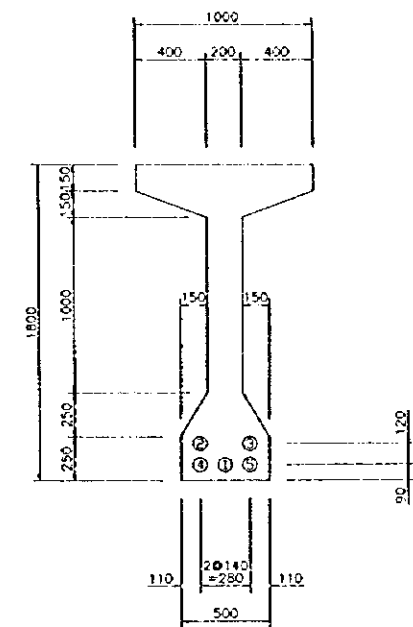
CORTE G-G  
ESC. 1:25



CORTE A-A  
ESC. 1:20



CORTE B-B  
ESC. 1:20



DIRECCION DE VIALIDAD  
DEPARTAMENTO DE PUENTES

Puente: 1-PST-L28\_n2

Camino:

Provincia:

Region:

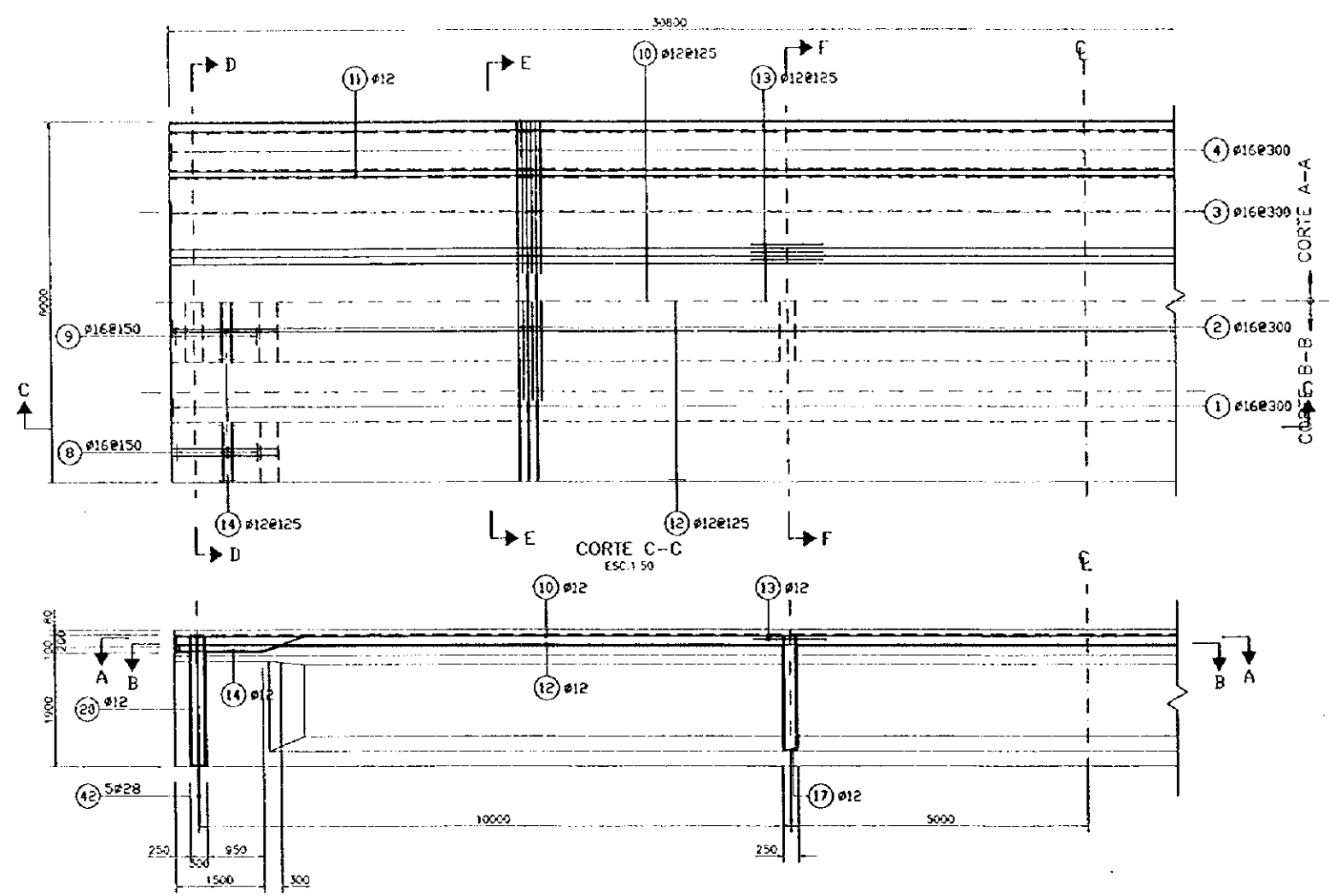
Proyecto  
Va do Ing. Jefe Depto. Puentes

Reviso  
Director de Vialidad

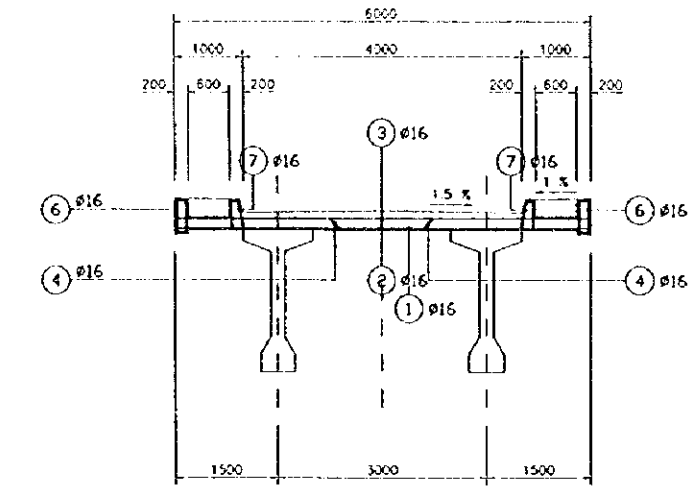
Elaboro  
Fecha:



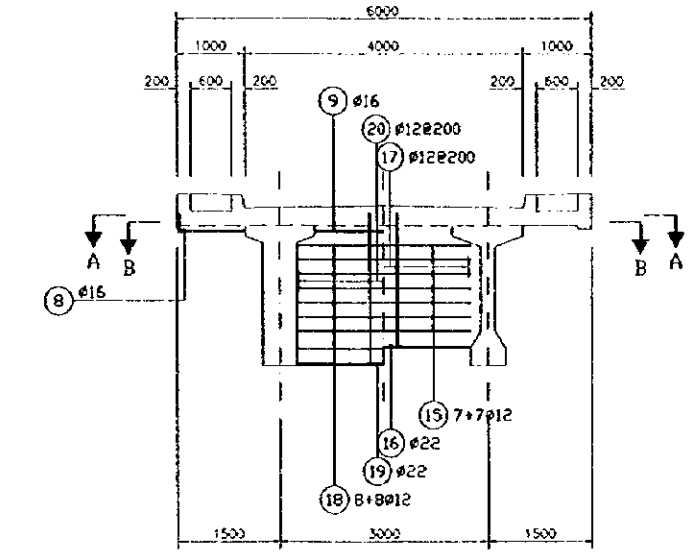
PLANTA DE LOSA  
ESC. 1:50



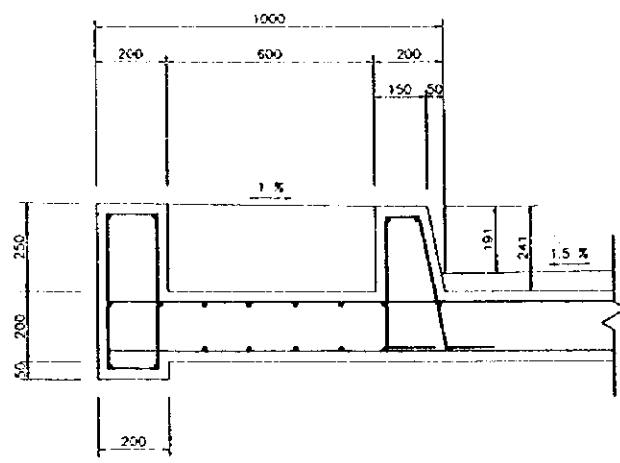
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



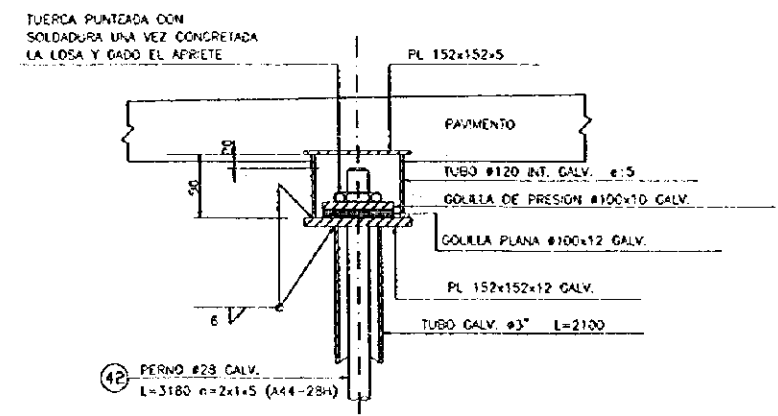
TRAVESAÑOS EXTREMOS  
CORTE D-D  
CORTE F-F  
ESC. 1:50



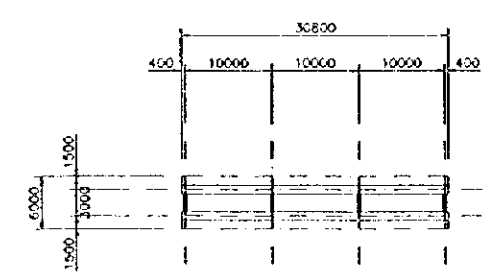
DETALLE DE PASILLO  
ESC. 1:10



DETALLE BARRAS ANTISISMICAS  
ESC. 1:5

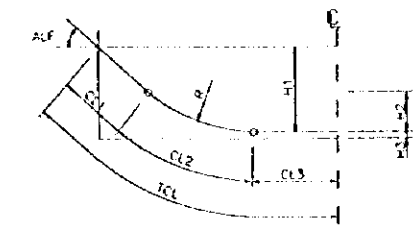
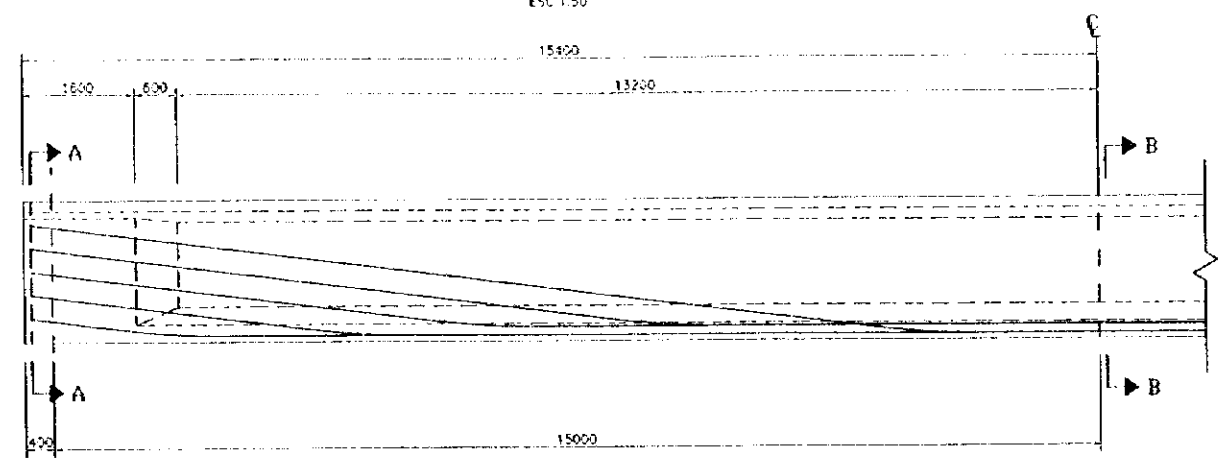


PLANTA DE DISPOSICION



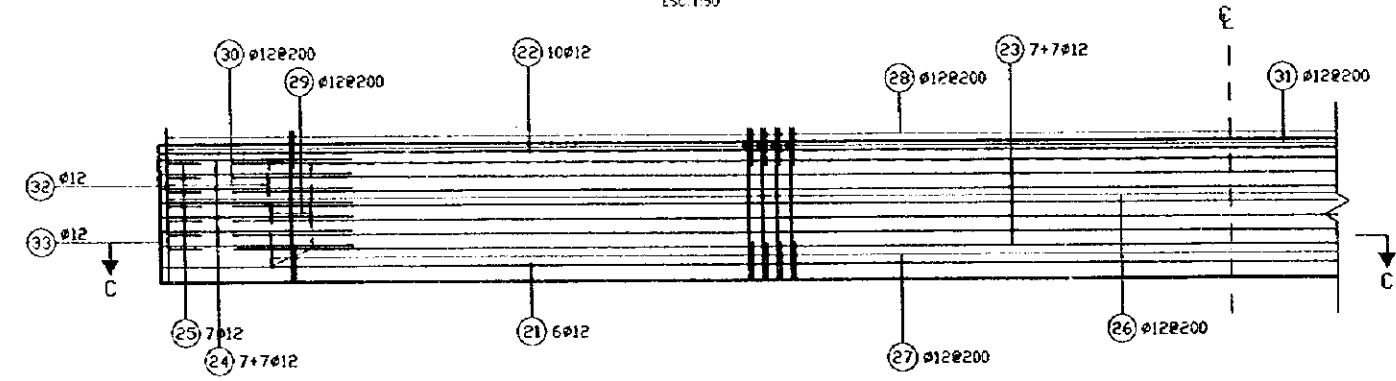
|  |                                  |
|--|----------------------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                                  |
| Puentes: 1-PST-L30_n2                                    |                                  |
| Carino:  |                                  |
| Provincia:   | Region:                          |
| _____ Proyecto _____                                     | _____ Reviso _____               |
| _____ Va Bn Ing. Jefe Depto. Puentes _____               | _____ Director de Vialidad _____ |
| Reviso<br>Fecha:   |                                  |

1/2 ELEVACION DE VIGA POSTENSADO  
ESC. 1:50

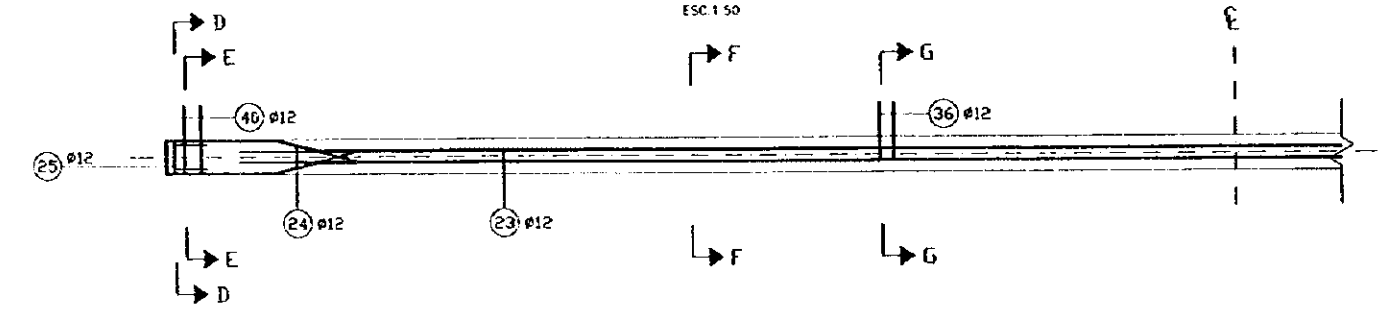


|    | ALF | R  | H1   | H2 | H3  | CL1   | CL2  | CL3   | TCL   |
|----|-----|----|------|----|-----|-------|------|-------|-------|
| D1 | 7   | 10 | 1570 | 75 | 90  | 12271 | 1222 | 1902  | 15395 |
| D2 | 7   | 10 | 1120 | 75 | 210 | 8579  | 1222 | 5567  | 15367 |
| D3 | 7   | 10 | 730  | 75 | 210 | 5871  | 1222 | 8254  | 15347 |
| D4 | 7   | 10 | 580  | 75 | 90  | 4148  | 1222 | 9955  | 15334 |
| D5 | 7   | 10 | 250  | 75 | 90  | 1410  | 1222 | 12852 | 15314 |

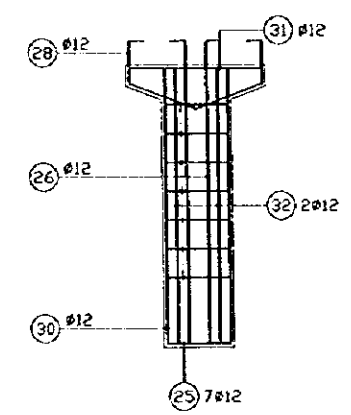
1/2 ENFIERRADURA VIGA POSTENSADO  
ESC. 1:50



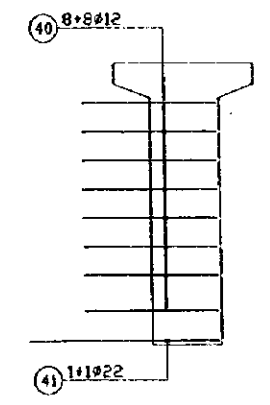
CORTE C-C  
ESC. 1:50



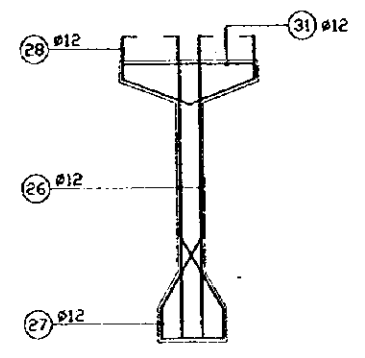
CORTE D-D  
ESC. 1:25



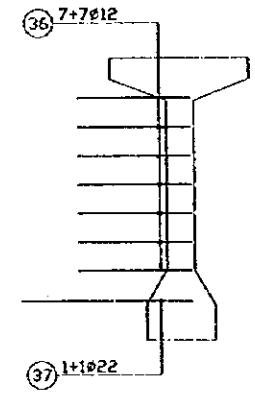
CORTE E-E  
ESC. 1:25



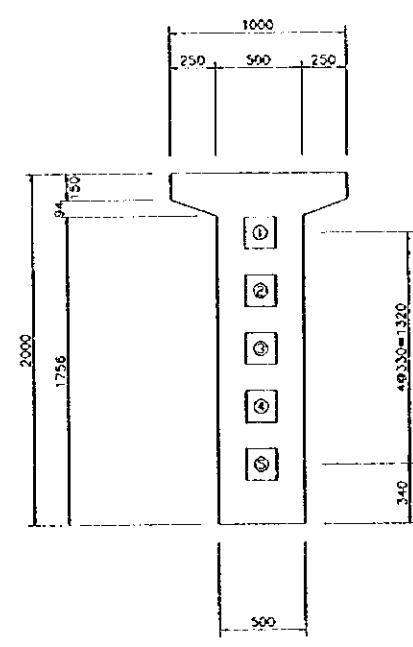
CORTE F-F  
ESC. 1:25



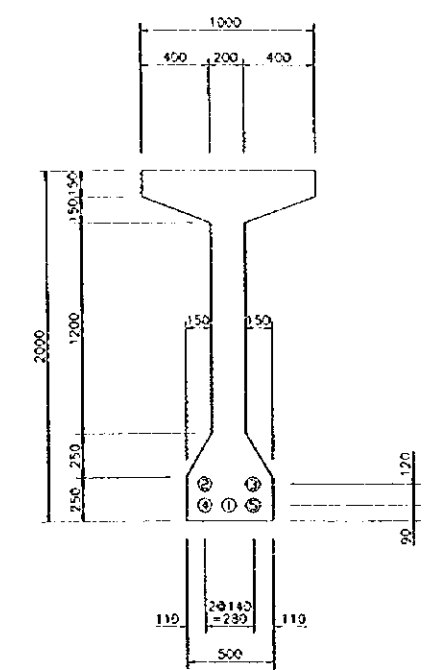
CORTE G-G  
ESC. 1:25



CORTE A-A  
ESC. 1:20

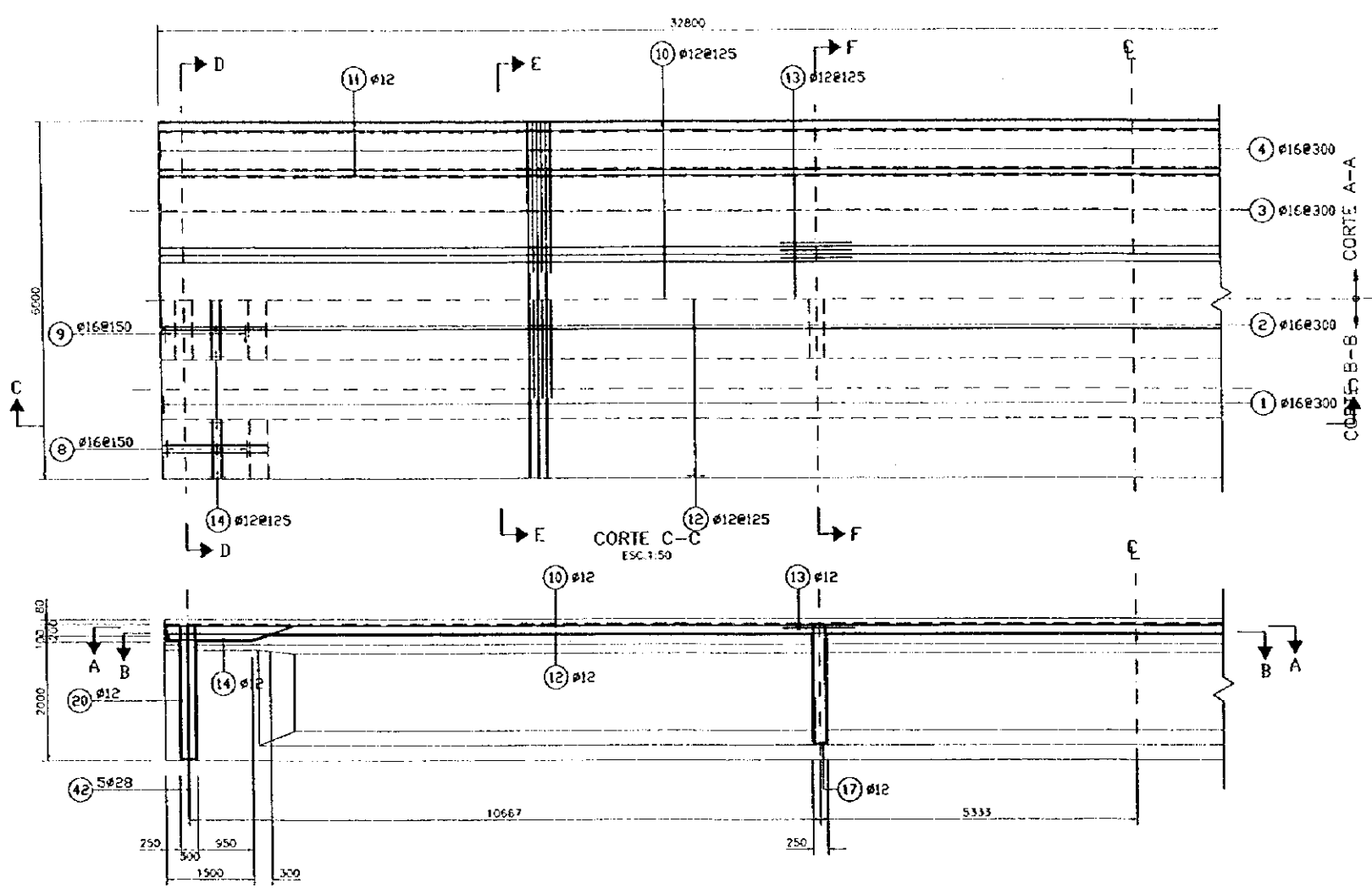


CORTE B-B  
ESC. 1:20

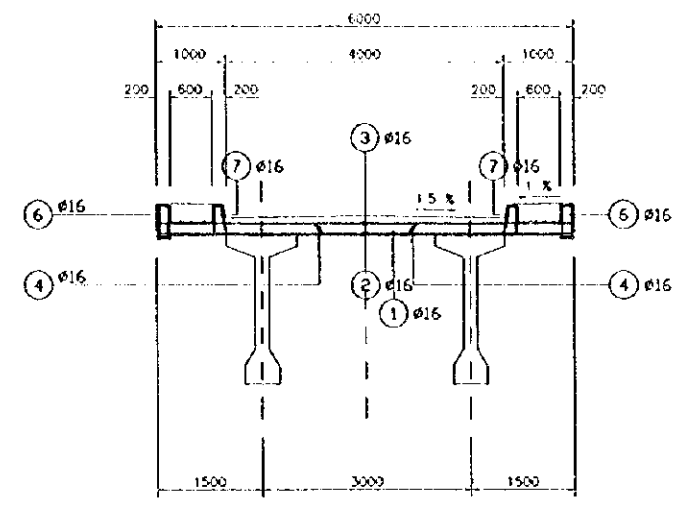


|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puente: 1-PST-L30_n2                                     |                      |
| Camino:  |                      |
| Provincia:   | Region:              |
| Proyecto   | Reviso               |
| Vo Bo Ing. Jefe Depto. Puentes                           | Director de Vialidad |
| Dibujante  | Fecha                |

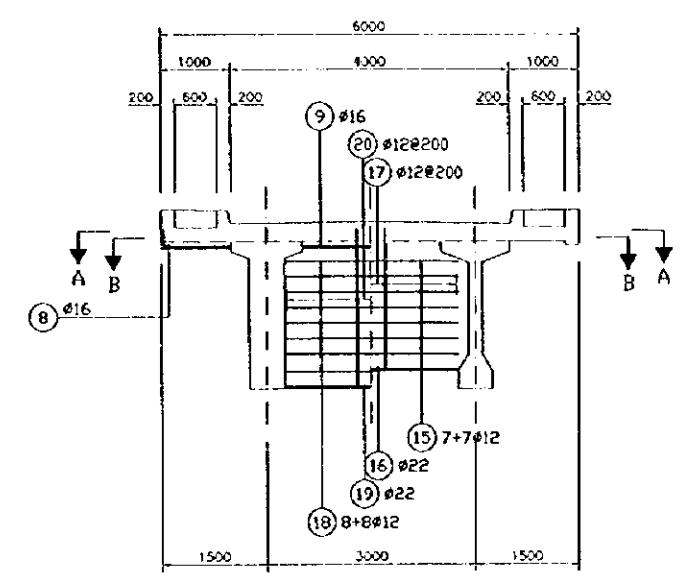
PLANTA DE LOSA  
ESC. 1:50



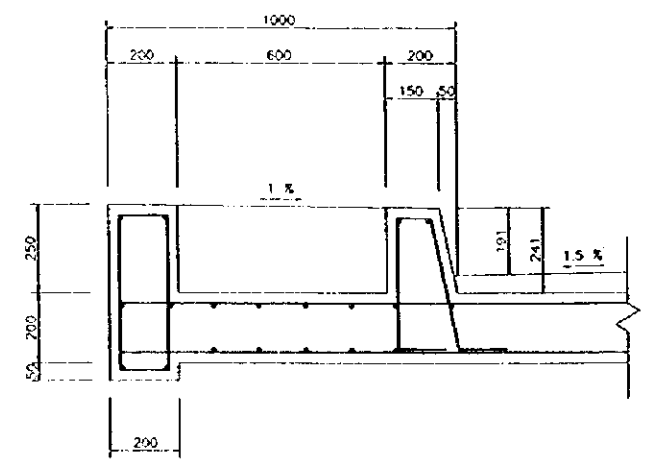
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



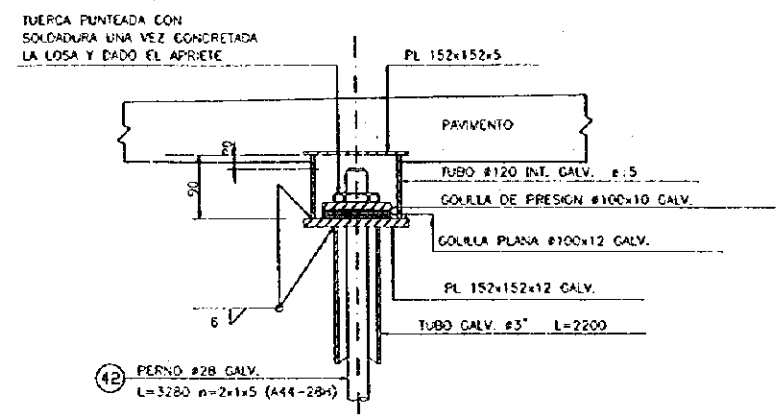
TRAVESAOS EXTREMOS  
CORTE D-D CORTE F-F  
ESC. 1:50



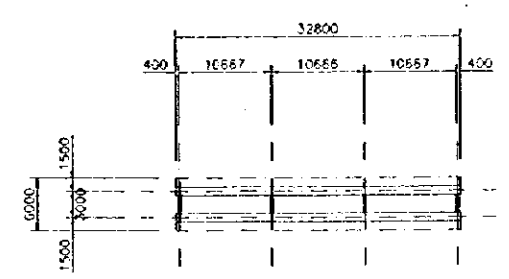
DETALLE DE PASILLO  
ESC. 1:10



DETALLE BARRAS ANTISISMICAS  
ESC. 1:5

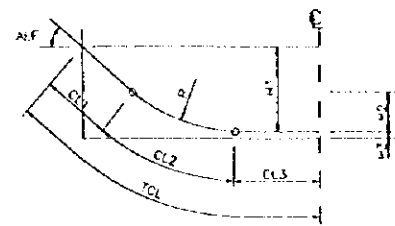
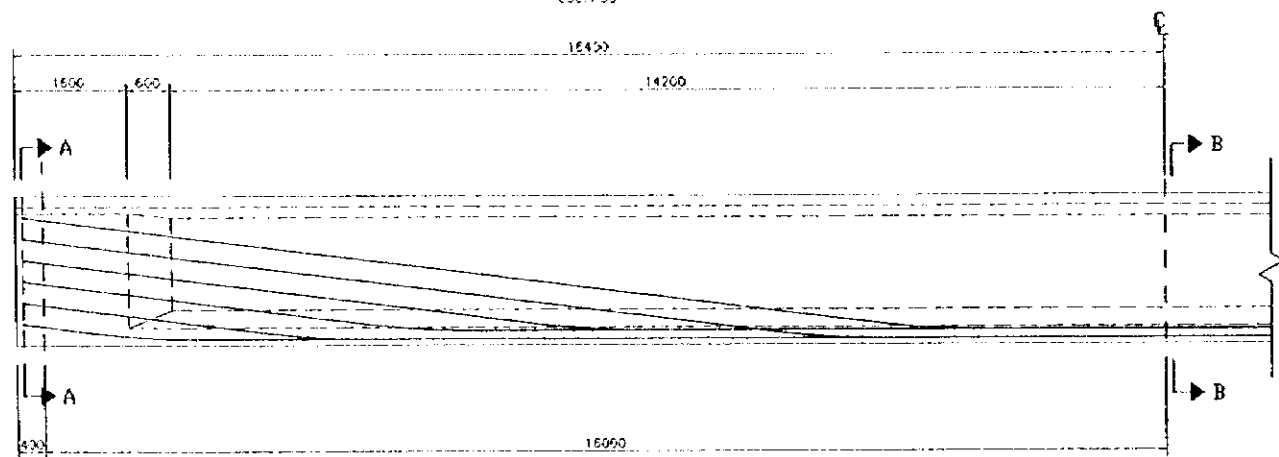


PLANTA DE DISPOSICION



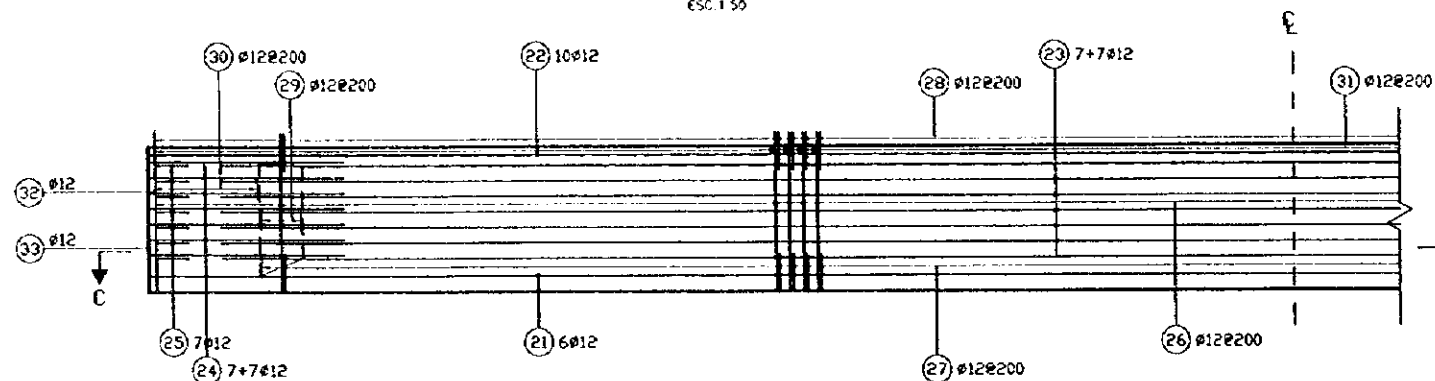
|  |         |
|--|---------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |         |
| Puente: 1-PST-L32_n2                                     |         |
| Camino:  |         |
| Provincia:   | Region: |
| Proyecto:  | Reviso: |
| Va Bo Ing Jefe Depto. Puentes                            |         |
| Director de Vialidad                                     |         |
| Dibujo:  | Fecha:  |

1/2 ELEVACION DE VIGA POSTENSADO  
ESC. 1:50

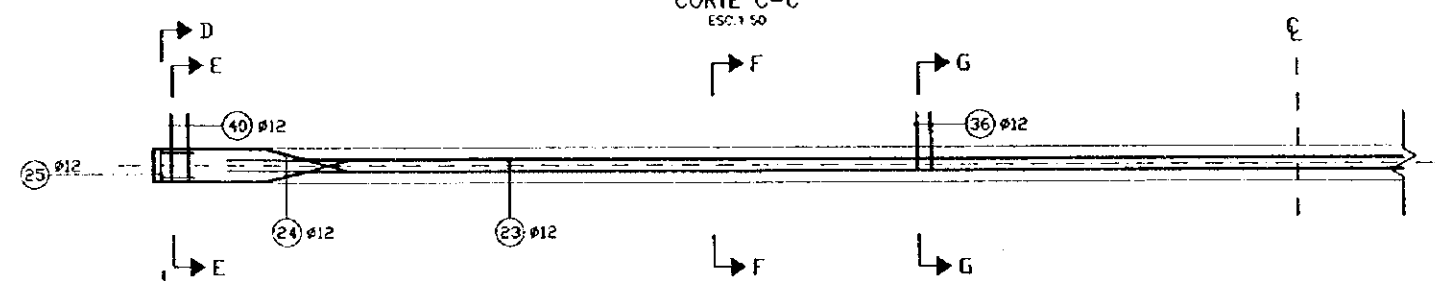


|    | ALF | R  | H1   | H2 | H3  | CL1   | CL2  | CL3   | TOL   |
|----|-----|----|------|----|-----|-------|------|-------|-------|
| D1 | 7   | 10 | 1590 | 75 | 210 | 12435 | 1222 | 2733  | 16335 |
| D2 | 7   | 10 | 1415 | 75 | 90  | 10958 | 1222 | 4205  | 16385 |
| D3 | 7   | 10 | 990  | 75 | 210 | 7512  | 1222 | 7625  | 16359 |
| D4 | 7   | 10 | 690  | 75 | 210 | 5050  | 1222 | 10069 | 16341 |
| D5 | 7   | 10 | 510  | 75 | 90  | 3573  | 1222 | 11535 | 16330 |
| D6 | 7   | 10 | 210  | 75 | 90  | 1112  | 1222 | 13978 | 16311 |

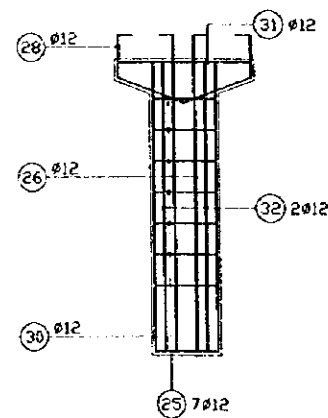
1/2 ENFIERRADURA VIGA POSTENSADO  
ESC. 1:50



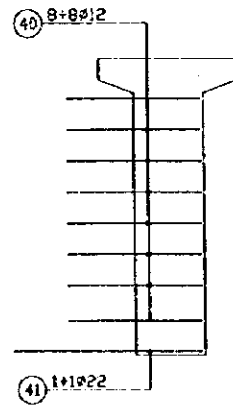
CORTE C-C  
ESC. 1:50



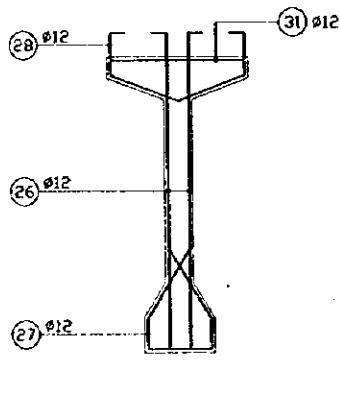
CORTE D-D  
ESC. 1:25



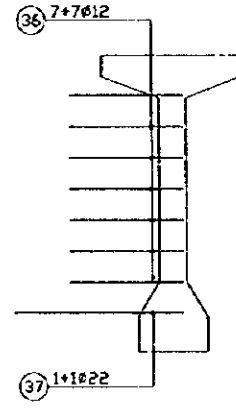
CORTE E-E  
ESC. 1:25



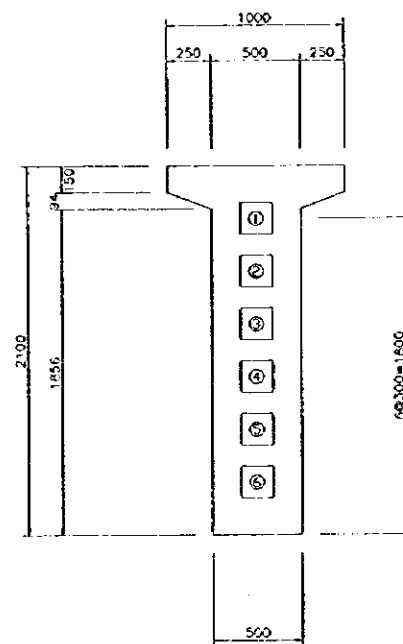
CORTE F-F  
ESC. 1:25



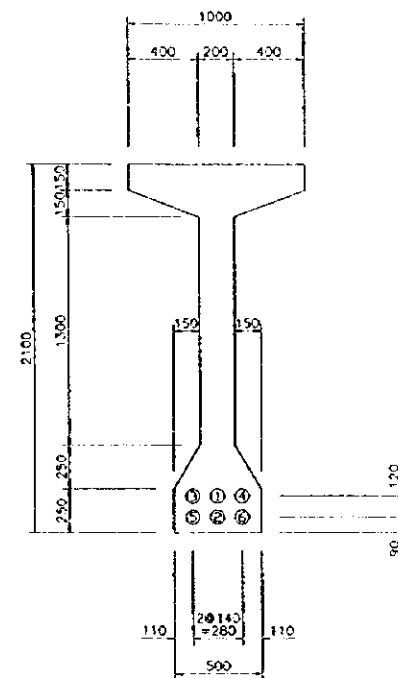
CORTE G-G  
ESC. 1:25



CORTE A-A  
ESC. 1:20



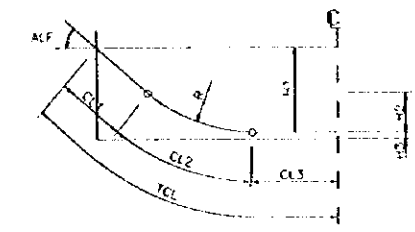
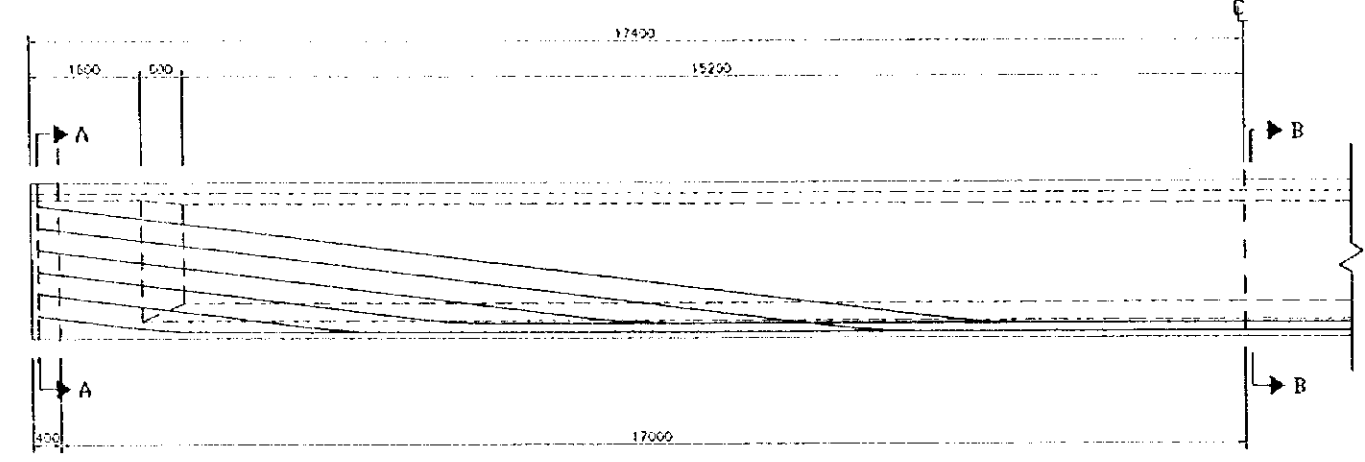
CORTE B-B  
ESC. 1:20



|  |         |
|--|---------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |         |
| Puente: 1-PST-L32_n2                                     |         |
| Camino:  |         |
| Provincia:   | Region: |
|  |         |
|  |         |
|  |         |
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|  |         |
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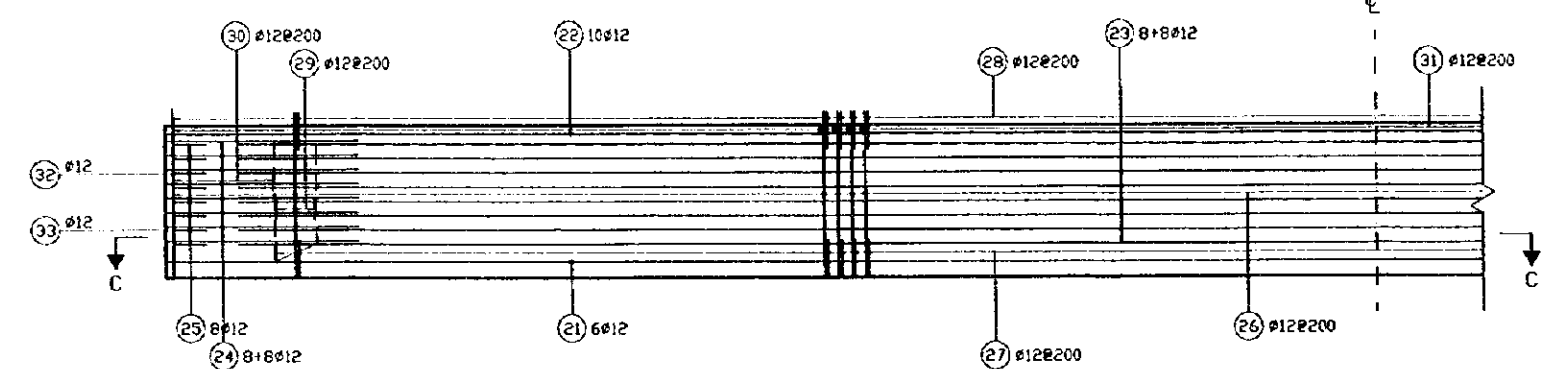


1/2 ELEVACION DE VIGA POSTENSADO  
ESC. 1:50

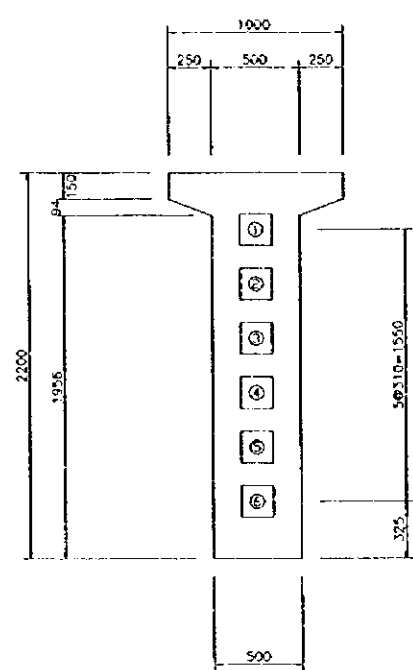


|    | ALF | R  | H1   | H2 | H3  | CL1   | CL2  | CL3   | TOL   |
|----|-----|----|------|----|-----|-------|------|-------|-------|
| D1 | 7   | 10 | 1665 | 75 | 210 | 13051 | 1222 | 3128  | 17400 |
| D2 | 7   | 10 | 1475 | 75 | 90  | 11431 | 1222 | 4575  | 17363 |
| D3 | 7   | 10 | 1045 | 75 | 210 | 7553  | 1222 | 8178  | 17362 |
| D4 | 7   | 10 | 735  | 75 | 210 | 5413  | 1222 | 10702 | 17343 |
| D5 | 7   | 10 | 545  | 75 | 50  | 3660  | 1222 | 12250 | 17332 |
| D6 | 7   | 10 | 235  | 75 | 90  | 1317  | 1222 | 14774 | 17313 |

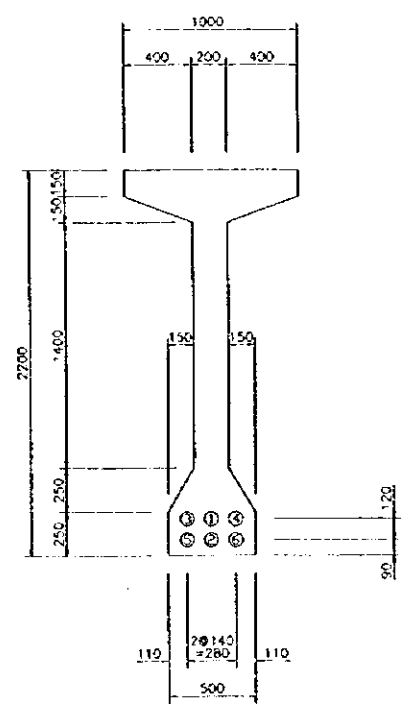
1/2 ENFIERRADURA VIGA POSTENSADO  
ESC. 1:50



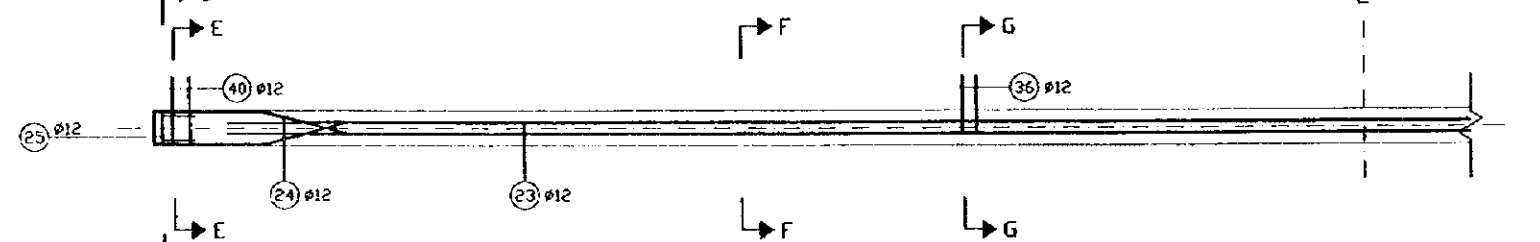
CORTE A-A  
ESC. 1:20



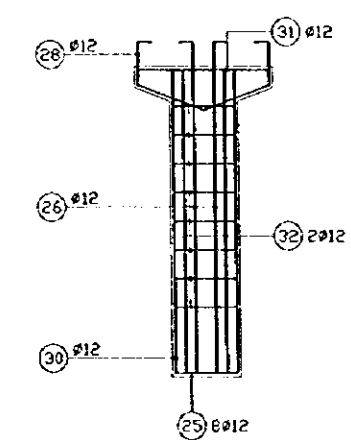
CORTE B-B  
ESC. 1:20



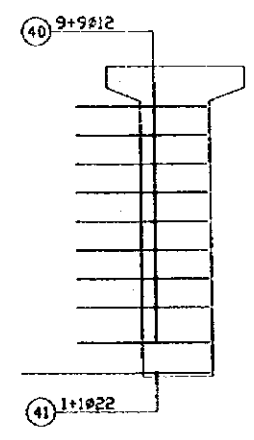
CORTE C-C  
ESC. 1:50



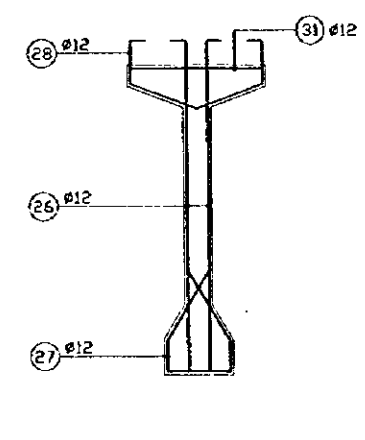
CORTE D-D  
ESC. 1:25



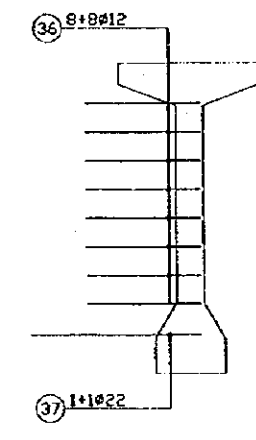
CORTE E-E  
ESC. 1:25



CORTE F-F  
ESC. 1:25



CORTE G-G  
ESC. 1:25



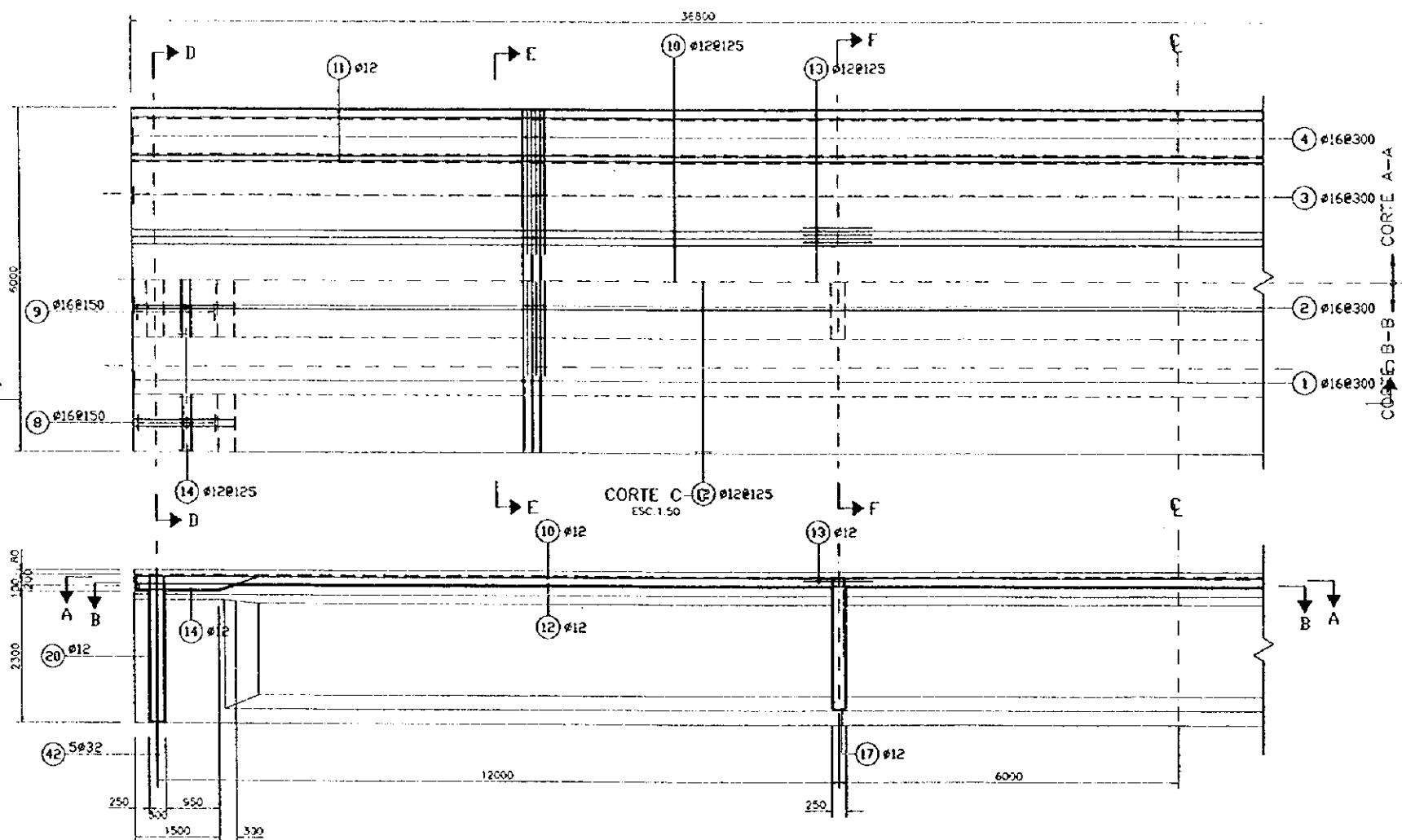
**DIRECCION DE VIALIDAD  
DEPARTAMENTO DE PUENTES**

Puente: 1-PST-L34\_n2  
 Camino:  
 Provincia: \_\_\_\_\_ Region: \_\_\_\_\_

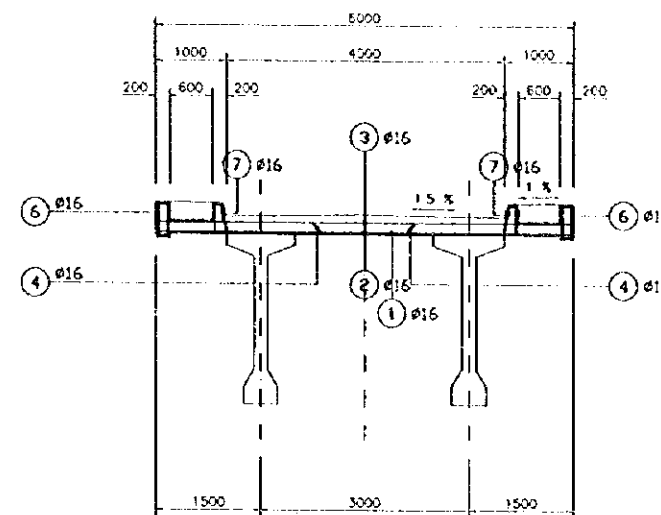
\_\_\_\_\_  
 Proyecto Revis  
 Vd Bo Ing. Jefe Depto. Puentes Director de Vialidad

Dibujo \_\_\_\_\_  
 Fecha: \_\_\_\_\_

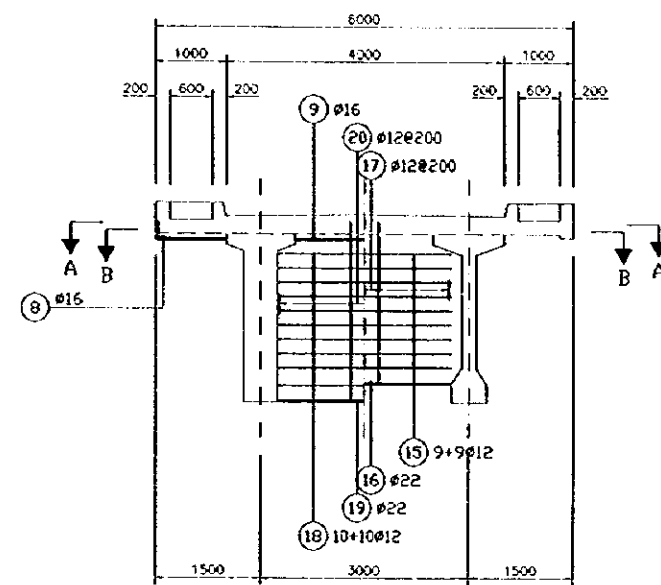
PLANTA DE LOSA  
ESC. 1:50



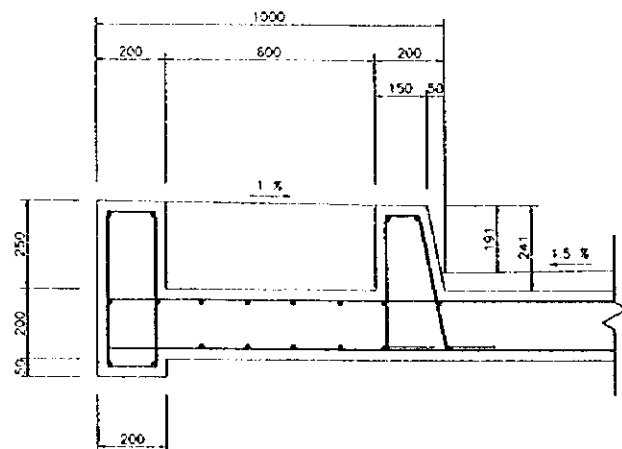
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



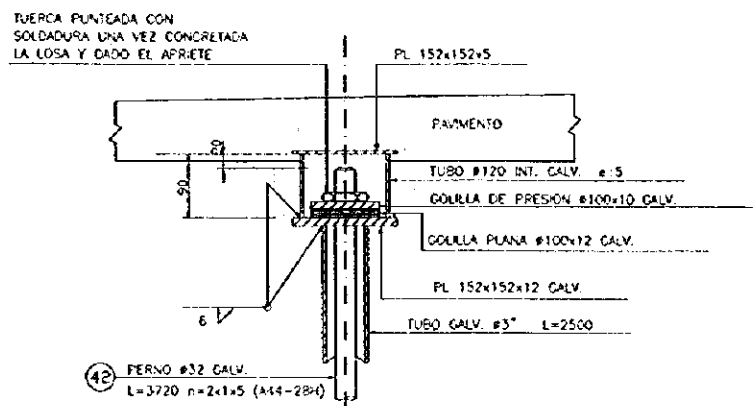
TRAVESANOS EXTREMOS  
CORTE D-D ESC. 1:50 CORTE F-F



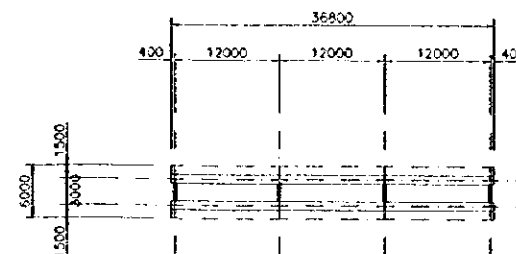
DETALLE DE PASILLO  
ESC. 1:10



DETALLE BARRAS ANTISISMICAS  
ESC. 1:5

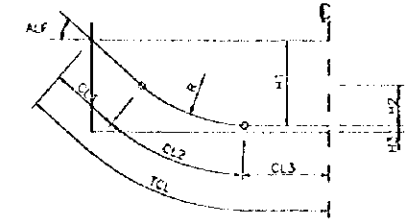
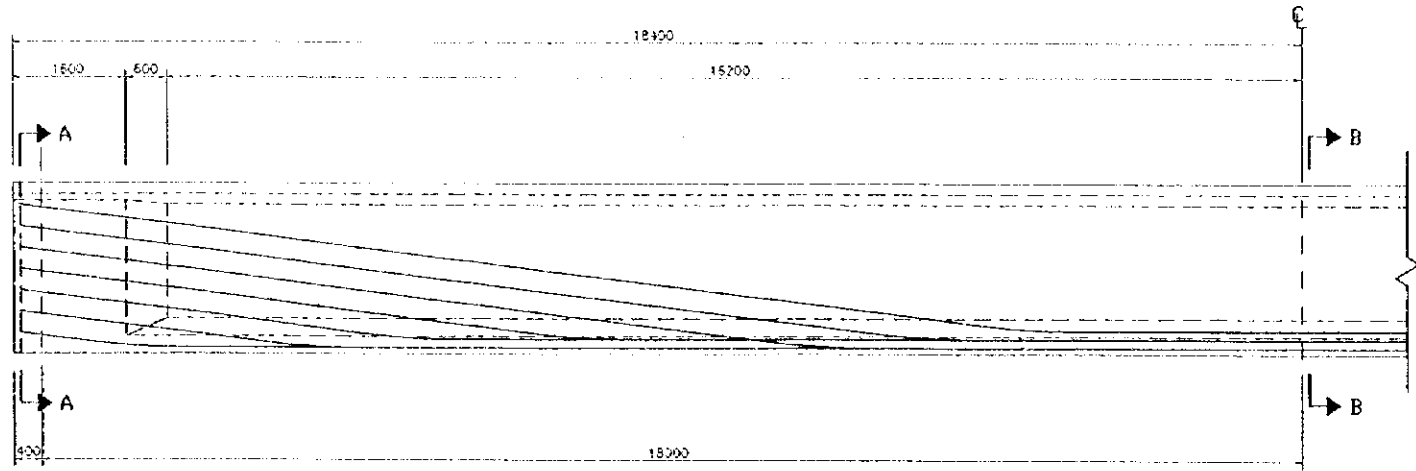


PLANTA DE DISPOSICION



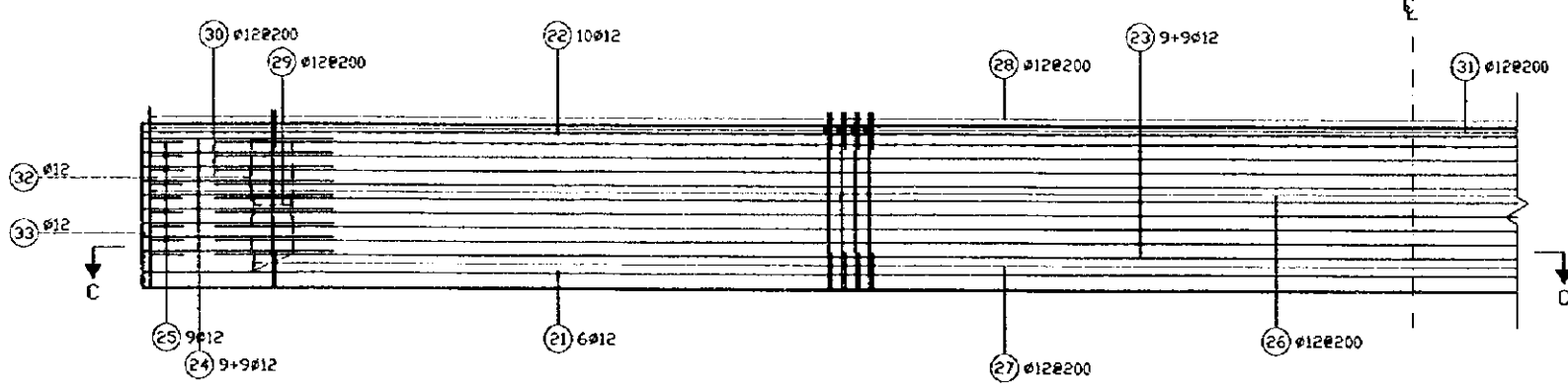
|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puente: 1-PST-L36_n2                                     |                      |
| Camino:  |                      |
| Provincia:   | Region:              |
| Proyecto:  | Revis:               |
| Va Bo Ing. Jefe Depto. Puentes                           | Director de Vialidad |
| Dibujo<br>Fecha:   |                      |

1/2 ELEVACION DE VIGA POSTENSADO  
ESC. 1:50

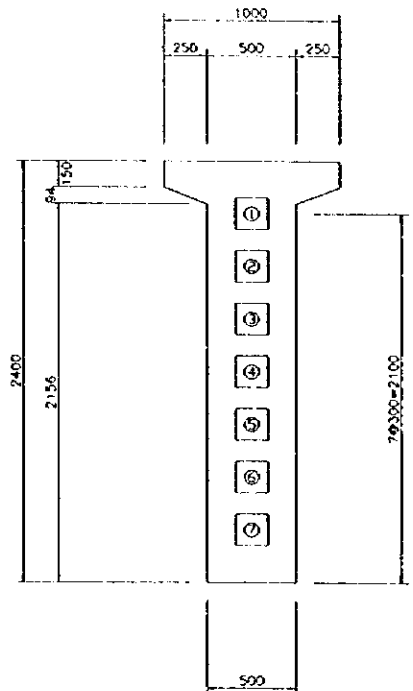


|    | ALF | R  | H1   | H2 | H3  | CL1   | CL2  | CL3   | TCL   |
|----|-----|----|------|----|-----|-------|------|-------|-------|
| D1 | 7   | 10 | 1770 | 75 | 330 | 13312 | 1222 | 3273  | 18407 |
| D2 | 7   | 10 | 1590 | 75 | 210 | 12435 | 1222 | 4739  | 18395 |
| D3 | 7   | 10 | 1410 | 75 | 90  | 10958 | 1222 | 6205  | 18365 |
| D4 | 7   | 10 | 990  | 75 | 210 | 7512  | 1222 | 9525  | 18359 |
| D5 | 7   | 10 | 690  | 75 | 210 | 5050  | 1222 | 12089 | 18341 |
| D6 | 7   | 10 | 510  | 75 | 90  | 3573  | 1222 | 13555 | 18330 |
| D7 | 7   | 10 | 210  | 75 | 90  | 1112  | 1222 | 15978 | 18311 |

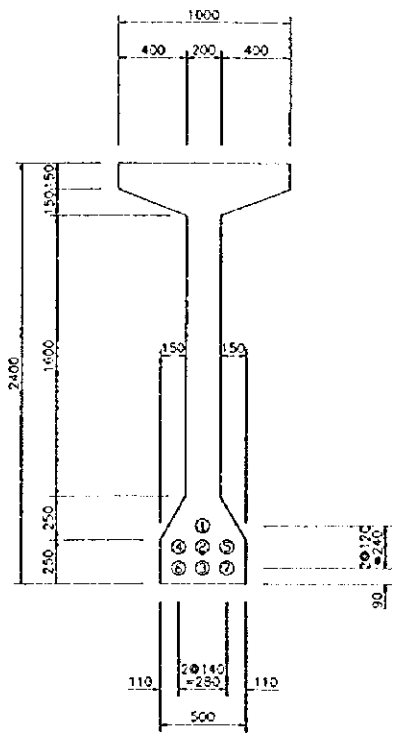
1/2 ENFIERRADURA VIGA POSTENSADO  
ESC. 1:50



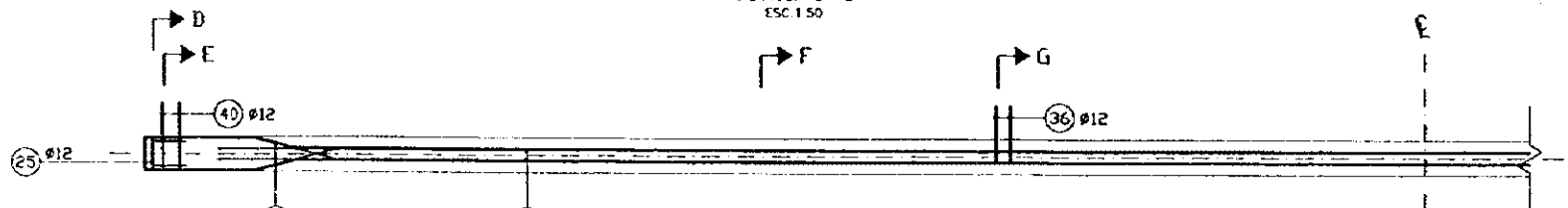
CORTE A-A  
ESC. 1:20



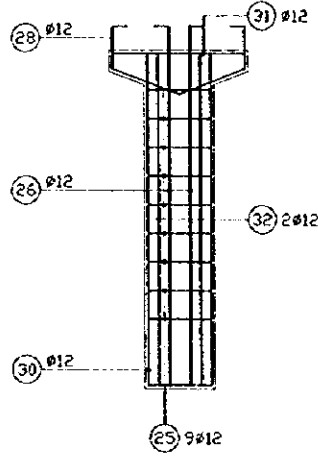
CORTE B-B  
ESC. 1:20



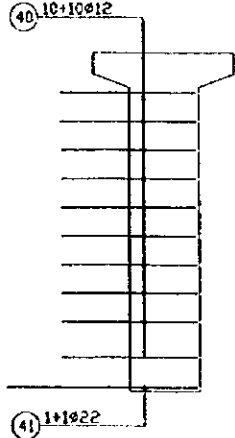
CORTE C-C  
ESC. 1:50



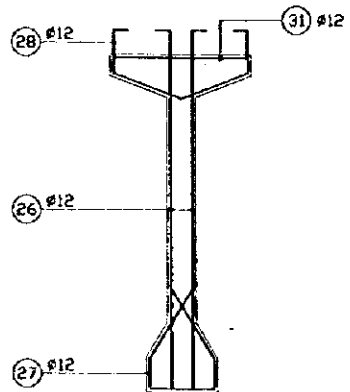
CORTE D-D  
ESC. 1:25



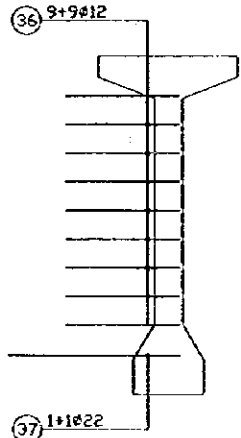
CORTE E-E  
ESC. 1:25



CORTE F-F  
ESC. 1:25



CORTE G-G  
ESC. 1:25



**DIRECCION DE VIALIDAD  
DEPARTAMENTO DE PUENTES**

Puente: 1-PST-L36\_n2

Carino:

Provincia: \_\_\_\_\_ Region: \_\_\_\_\_

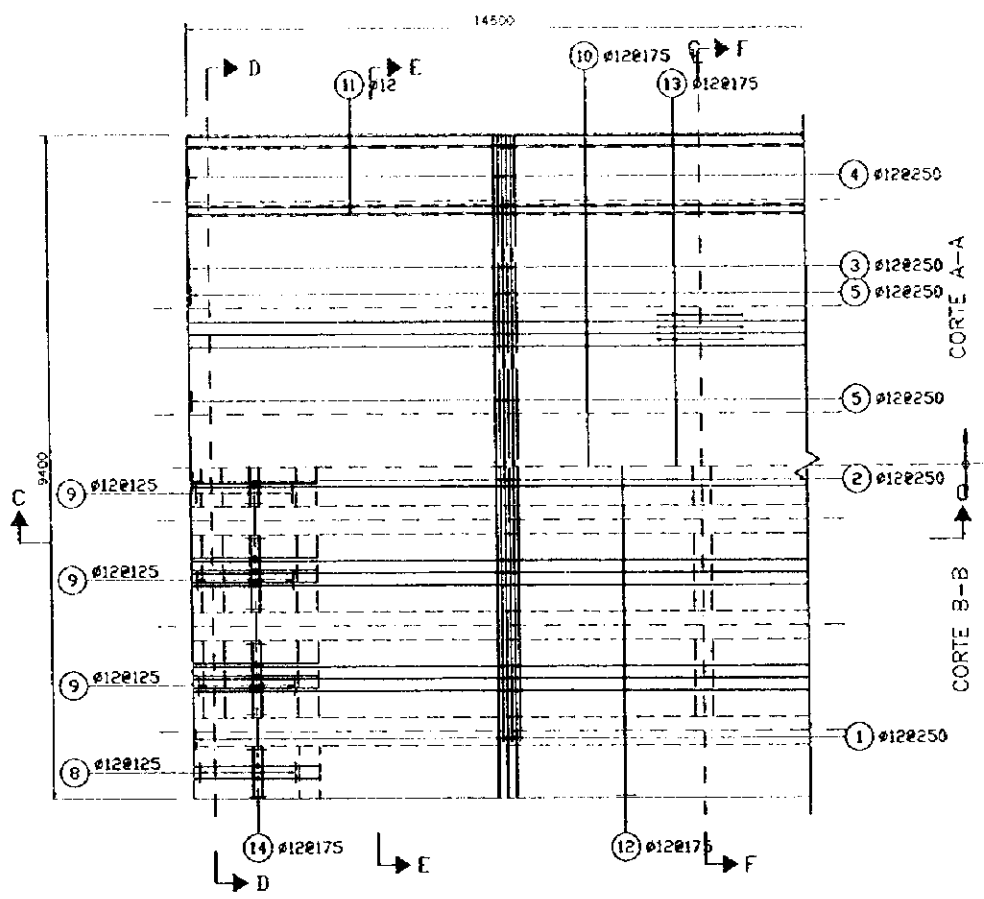
----- Proyecto ----- Reuso -----

----- Vo Bo Ing. Jefe Depto. Puentes ----- Director de Vialidad -----

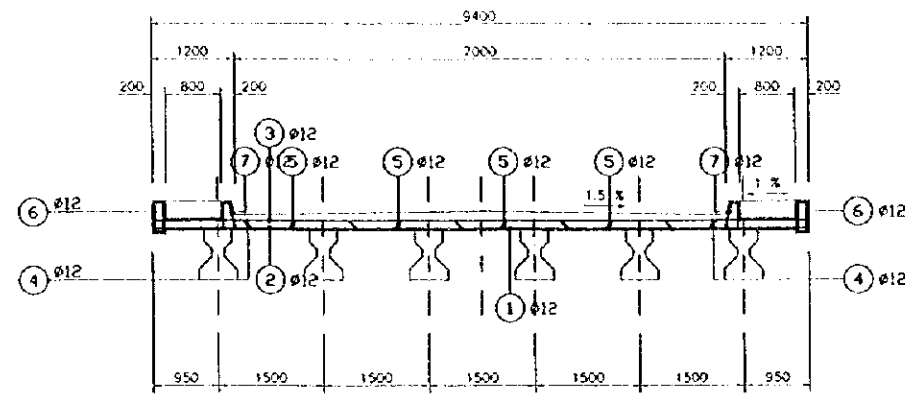
Dibujo: \_\_\_\_\_ Fecha: \_\_\_\_\_



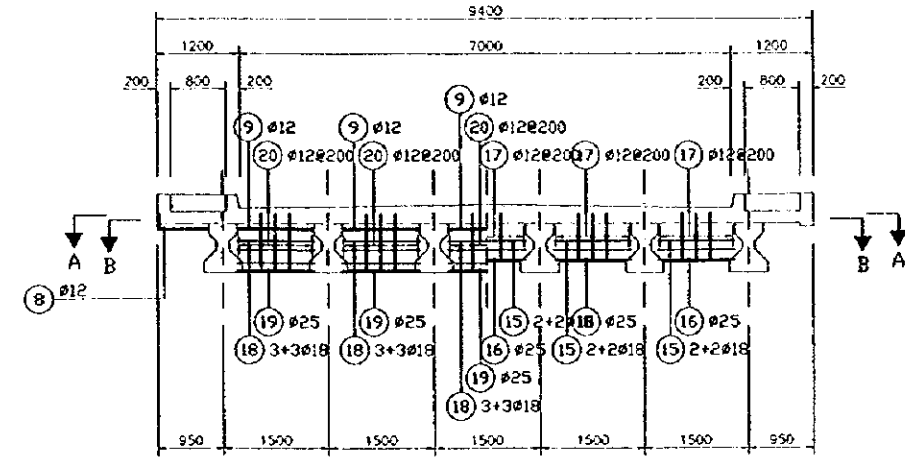
PLANTA DE LOSA  
ESC. 1:50



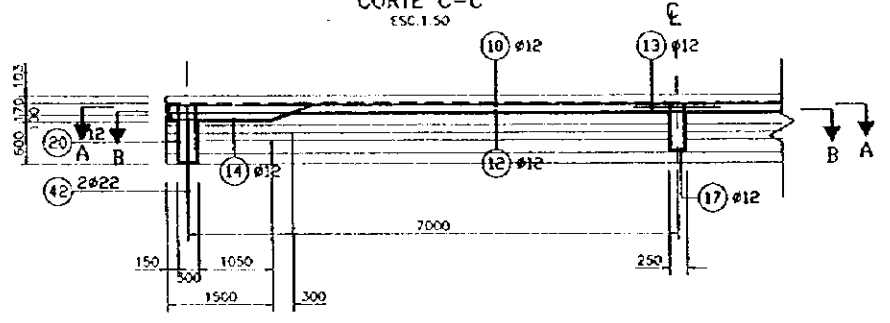
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



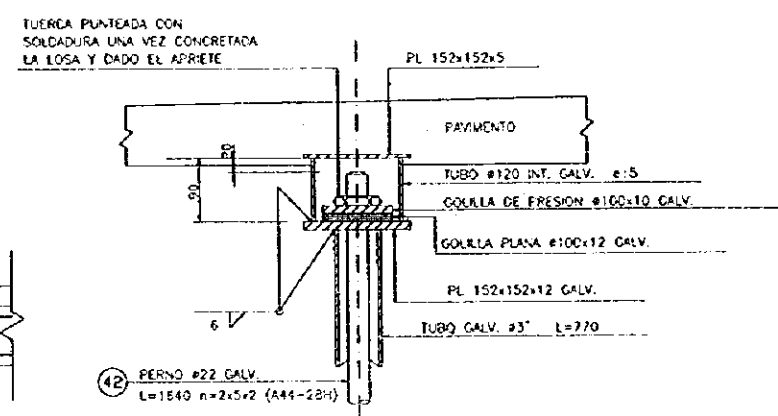
TRAVESAÑOS EXTREMOS  
CORTE D-D ESC. 1:50      CORTE F-F



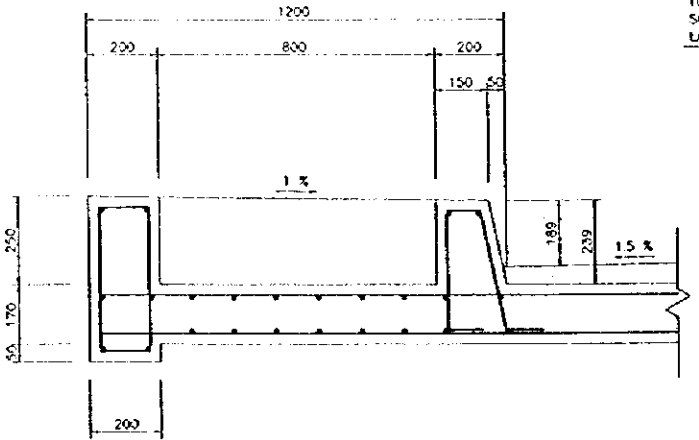
CORTE C-C  
ESC. 1:50



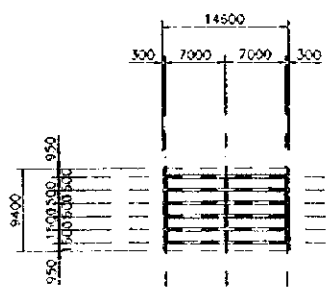
DETALLE BARRAS ANTISISMICAS  
ESC. 1:5



DETALLE DE PASILLO  
ESC. 1:10

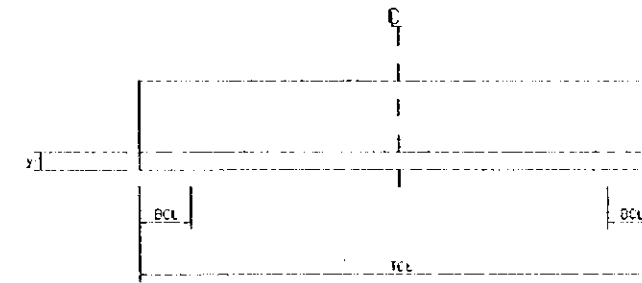
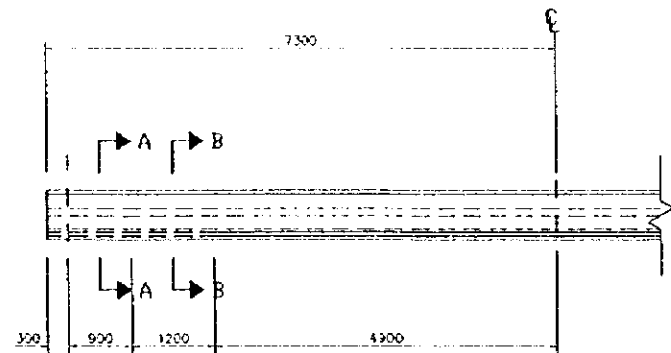


PLANTA DE DISPOSICION



|  |                        |
|--|------------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                        |
| Puente: 2-PRE-L14_n6                                     |                        |
| Camino:  |                        |
| Provincia:   | Region:                |
| Proyecto   | Reviso                 |
| Vo Bo Ing. Jefe Depto. Puentes                           | Director de Validación |
| Dibujante  | Fecha:                 |

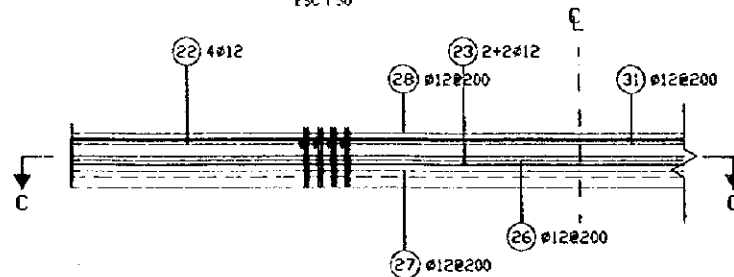
1/2 ELEVACION DE VIGA PRETENSADO  
ESC 1:50



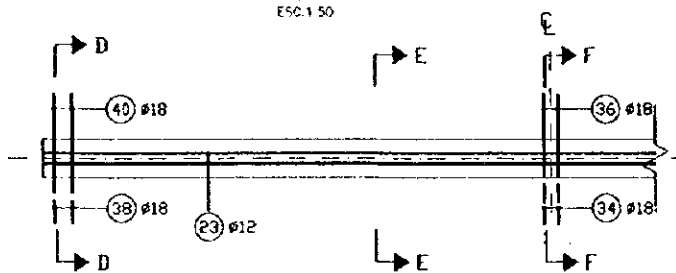
TCL = 1446 mm

| No    | y(cm) | NS | NSC | BCL(mm) | NBC | BCL(mm) | N  | Total(mm) |
|-------|-------|----|-----|---------|-----|---------|----|-----------|
| 1     | 64.5  | 2  | 0   | 1200    | 0   | 2400    | 2  | 0         |
| 2     | 11.0  | 2  | 2   | 1200    | 4   | 2400    | 8  | 24000     |
| 3     | 5.5   | 4  | 0   | 1200    | 3   | 2400    | 7  | 14400     |
| Total |       | 8  | 2   | 2400    | 7   | 16800   | 17 | 38400     |

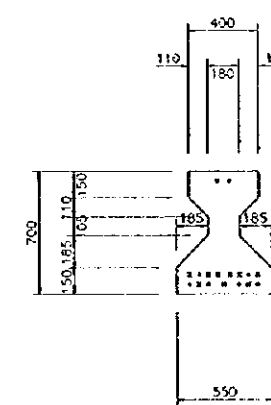
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC 1:50



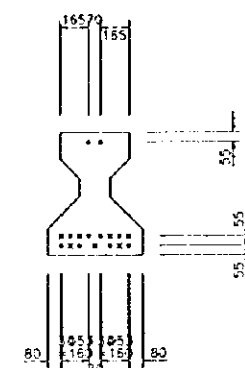
CORTE C-C  
ESC 1:50



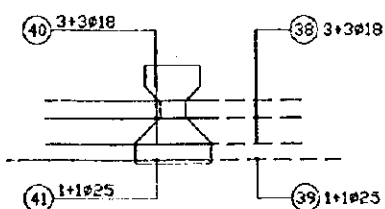
CORTE A-A  
ESC 1:20



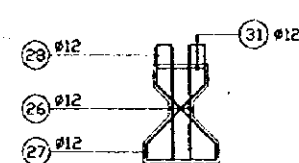
CORTE B-B  
ESC 1:20



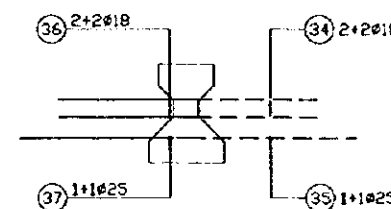
CORTE D-D  
ESC 1:25



CORTE E-E  
ESC 1:25



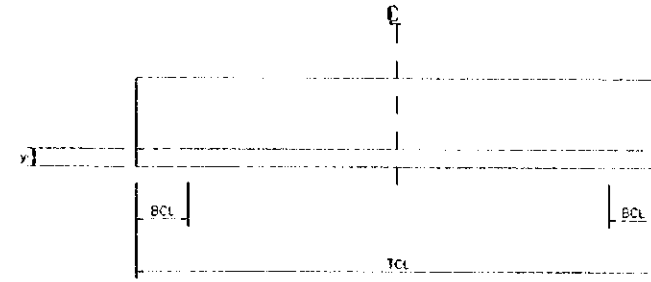
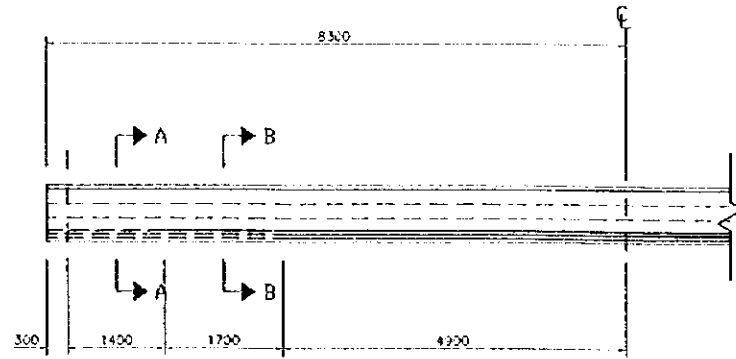
CORTE F-F  
ESC 1:25



|  |                |
|--|----------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                |
| Puente: 2-PRE-L14_n6                                     |                |
| Carino:  |                |
| Provincia:   | Region:        |
| _____<br>Proyecto  | _____<br>Revis |
| Vo Bo del Jefe Depto Puentes                             |                |
| Director de Vialidad                                     |                |
| Dibuj  | Fecha:         |



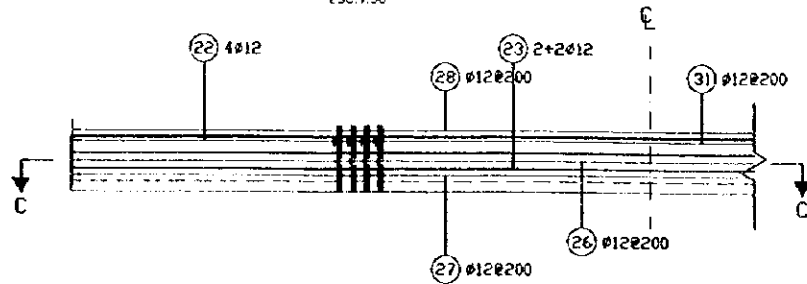
1/2 ELEVACION DE VIGA PRETENSADO  
ESC. 1:50



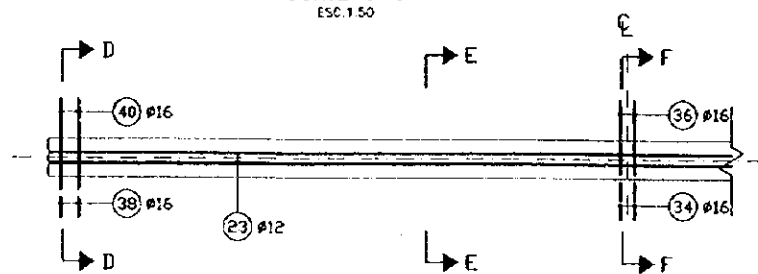
TCL = 16.6 m

| Nº    | y (cm) | NB | NSC | BCL (mm) | NBC | BCL (mm) | N  | Folaj (mm) |
|-------|--------|----|-----|----------|-----|----------|----|------------|
| 1     | 74.5   | 2  | 0   | 1700     | 0   | 3400     | 2  | 0          |
| 2     | 18.5   | 0  | 2   | 1700     | 0   | 3400     | 2  | 6800       |
| 3     | 11.0   | 2  | 0   | 1700     | 6   | 3400     | 8  | 40800      |
| 4     | 5.5    | 4  | 1   | 1700     | 2   | 3400     | 7  | 17000      |
| Total |        | 8  | 3   | 5100     | 8   | 27200    | 19 | 64500      |

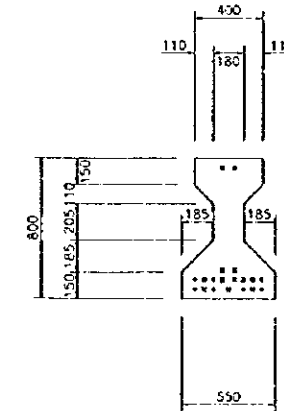
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC. 1:50



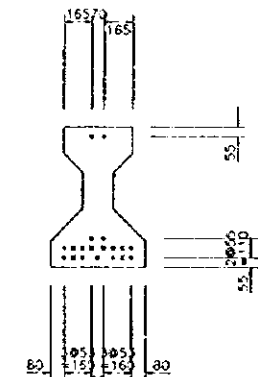
CORTE C-C  
ESC. 1:50



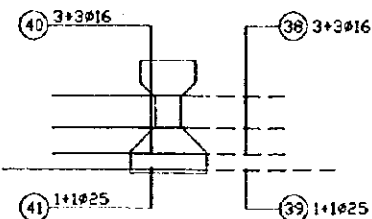
CORTE A-A  
ESC. 1:20



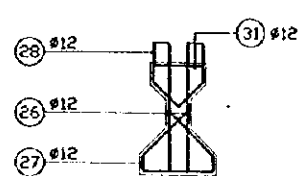
CORTE B-B  
ESC. 1:20



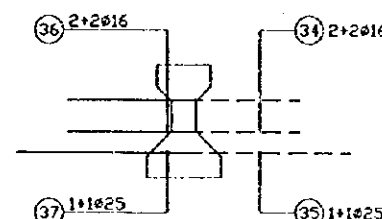
CORTE D-D  
ESC. 1:25



CORTE E-E  
ESC. 1:25



CORTE F-F  
ESC. 1:25



DIRECCION DE VIALIDAD  
DEPARTAMENTO DE PUENTES

Puente: 2-PRE-L16\_n6

Camino:

Provincia:

Region:

\_\_\_\_\_  
Proyecto

\_\_\_\_\_  
Revisó

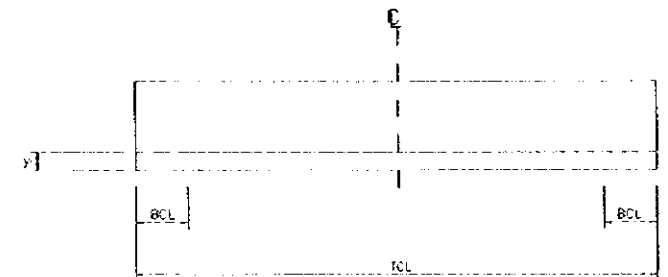
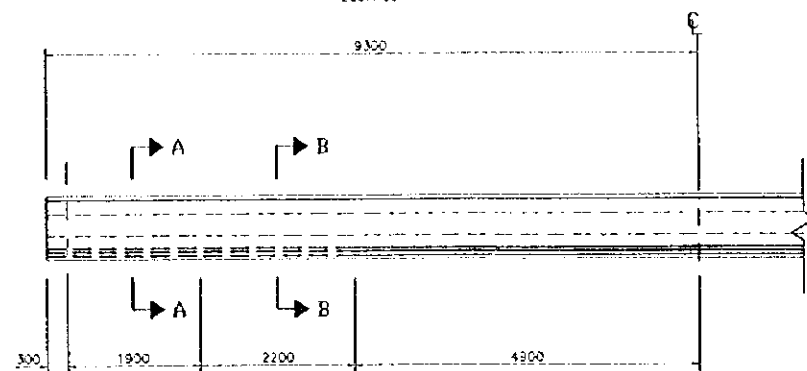
\_\_\_\_\_  
Vº Bº Ing. Jefe Depto. Puentes

\_\_\_\_\_  
Director de Vialidad

Dibujo  
Fecha:



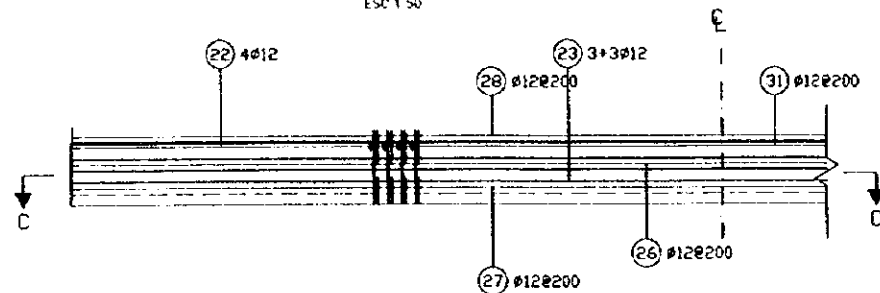
1/2 ELEVACION DE VIGA PRETENSADO  
ESC 1:50



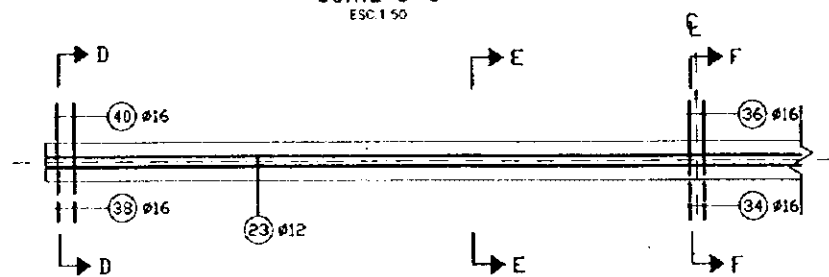
TCL = 18.6 m

| No    | y(cm) | NB | NBC | BCL(mm) | NBC | BCL(mm) | N  | Total(mm) |
|-------|-------|----|-----|---------|-----|---------|----|-----------|
| 1     | 84.5  | 2  | 0   | 2200    | 0   | 4400    | 2  | 0         |
| 2     | 16.5  | 0  | 2   | 2200    | 2   | 4400    | 4  | 26400     |
| 3     | 11.0  | 2  | 2   | 2200    | 4   | 4400    | 8  | 44000     |
| 4     | 5.5   | 4  | 0   | 2200    | 3   | 4400    | 7  | 26400     |
| Total |       | 8  | 4   | 8800    | 9   | 39600   | 21 | 96800     |

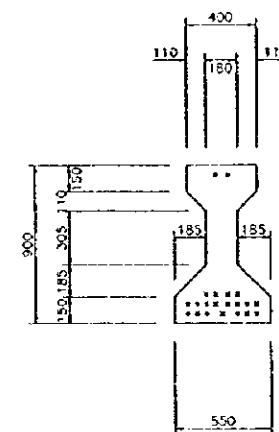
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC 1:50



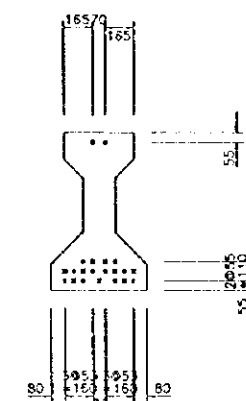
CORTE C-C  
ESC 1:50



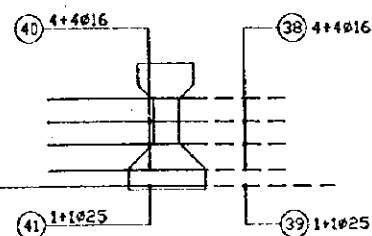
CORTE A-A  
ESC 1:20



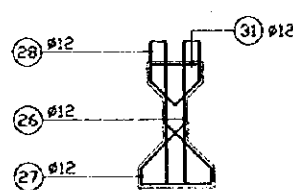
CORTE B-B  
ESC 1:20



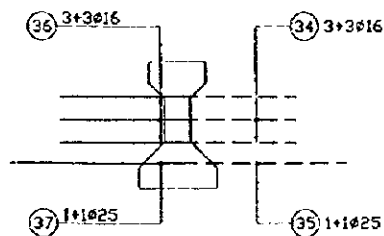
CORTE D-D  
ESC 1:25



CORTE E-E  
ESC 1:25



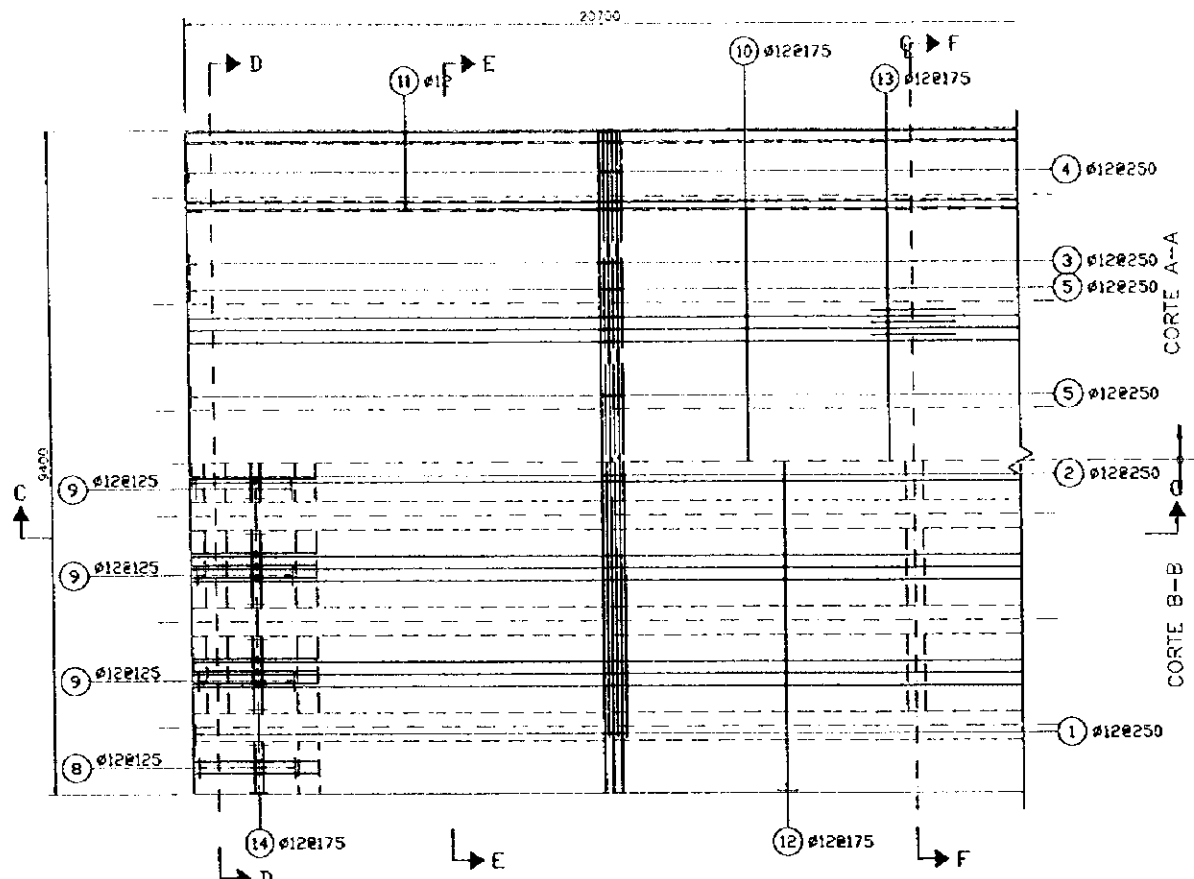
CORTE F-F  
ESC 1:25



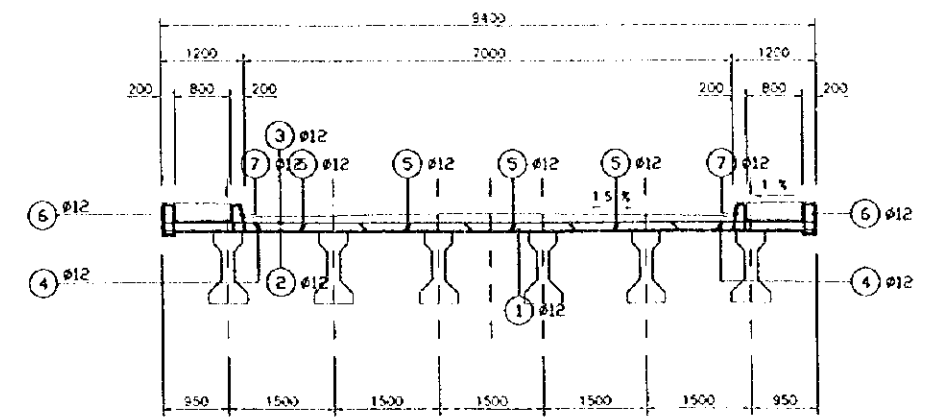
**DIRECCION DE VIALIDAD  
DEPARTAMENTO DE PUENTES**

Puente: 2-PRE-L18\_n6  
 Camino:  
 Provincia: \_\_\_\_\_ Region: \_\_\_\_\_  
 Proyecto: \_\_\_\_\_ Per/sa: \_\_\_\_\_  
 Va. B. Ing. Jefe Depto. Puentes Director de Vialidad  
 Bando: \_\_\_\_\_  
 Fecha: \_\_\_\_\_

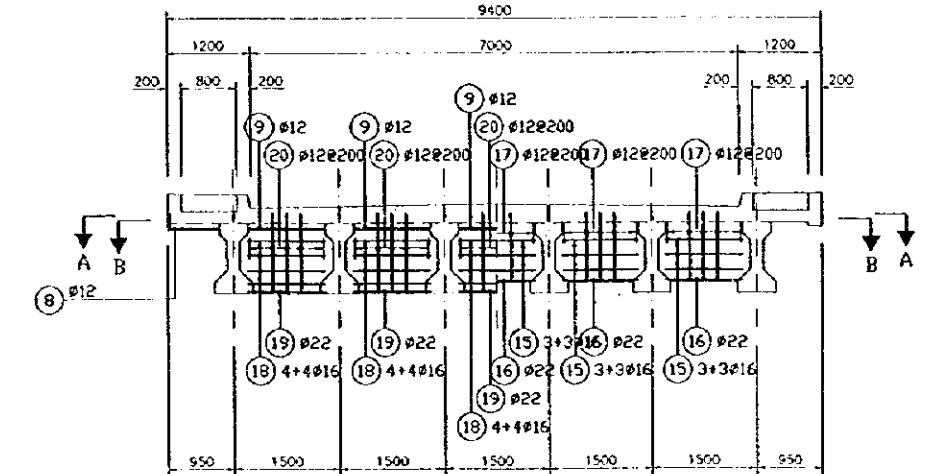
PLANTA DE LOSA  
ESC 1:50



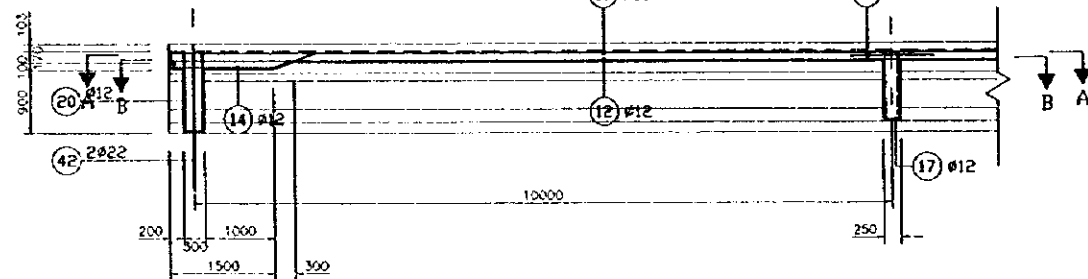
CORTE TRAVERSAL  
CORTE E-E  
ESC 1:50



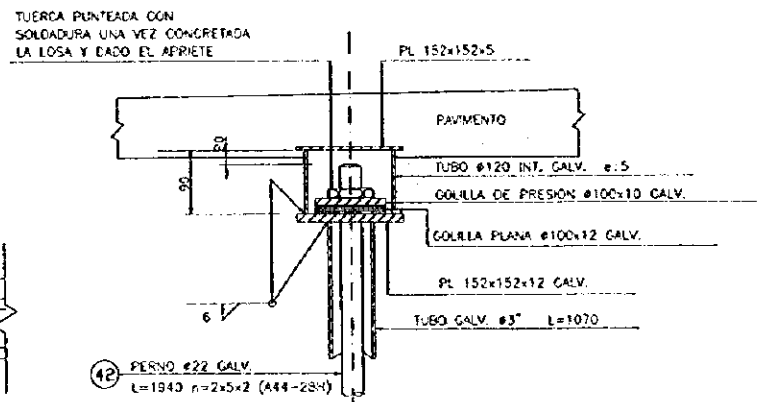
TRAVESAJOS EXTREMOS  
CORTE D-D  
ESC 1:50  
CORTE F-F



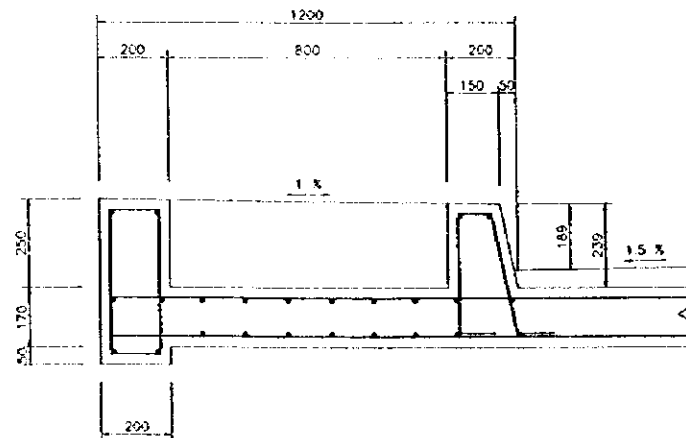
CORTE C-C  
ESC 1:50



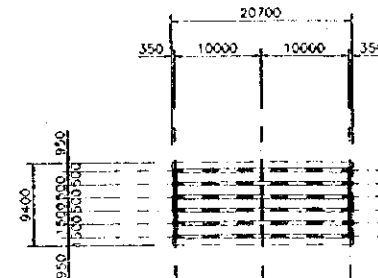
DETALLE BARRAS ANTISISMICAS  
ESC 1:5



DETALLE DE PASILLO  
ESC 1:10

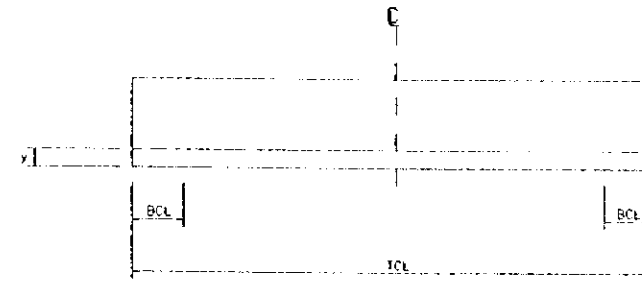
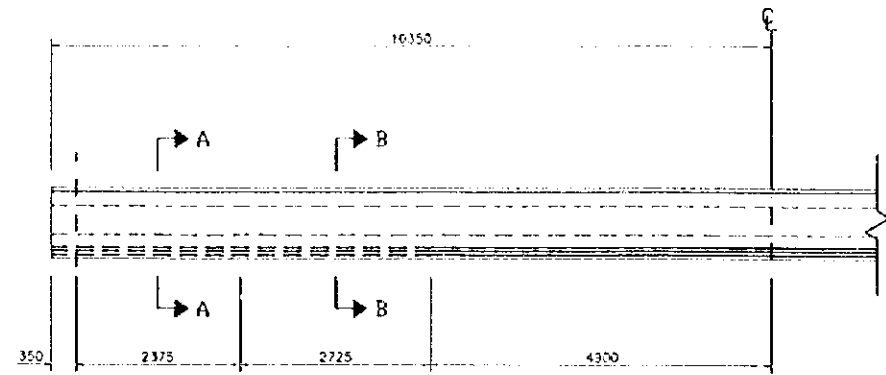


PLANTA DE DISPOSICION



|  |                       |
|--|-----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                       |
| Puente: 2-PRE-L20_n6                                     |                       |
| Camino:  |                       |
| Provincia:   | Region:               |
| Projecto:  | Reviso:               |
| Vo Bº Ing. Jefe Depto. Puentes:                          | Director de Vialidad: |
| Dibujo:  | Fecha:                |

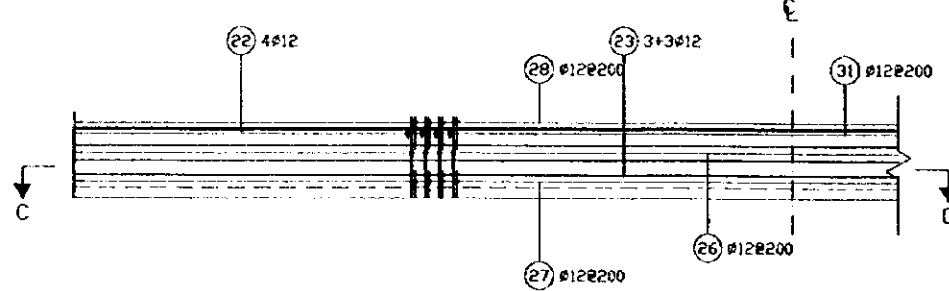
1/2 ELEVACION DE VIGA PRETENSADO  
ESC 1:50



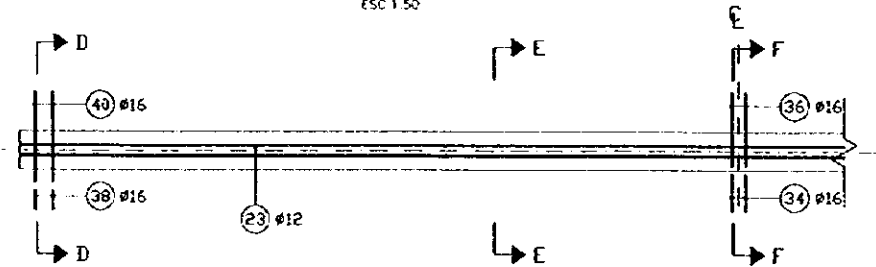
TCL = 20.7 m

| No.    | y(cm) | N3 | NBC | BCL(mm) | NBC | BCL(mm) | N  | Tota(mm) |
|--------|-------|----|-----|---------|-----|---------|----|----------|
| 1      | 94.5  | 2  | 0   | 2725    | 0   | 5450    | 2  | 0        |
| 2      | 16.5  | 2  | 0   | 2725    | 4   | 5450    | 6  | 43600    |
| 3      | 11.0  | 2  | 2   | 2725    | 4   | 5450    | 8  | 54500    |
| 4      | 5.5   | 4  | 1   | 2725    | 2   | 5450    | 7  | 27250    |
| Total: |       | 10 | 3   | 8175    | 10  | 54500   | 23 | 123350   |

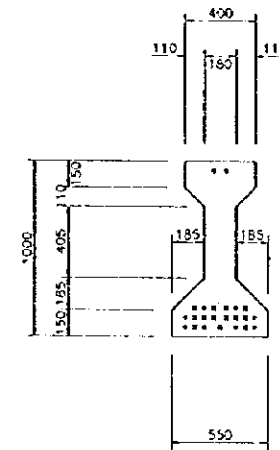
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC 1:50



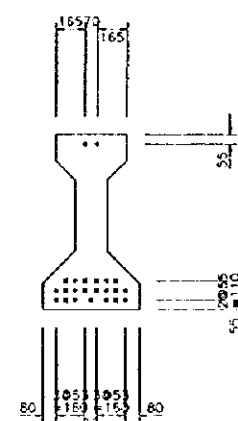
CORTE C-C  
ESC 1:50



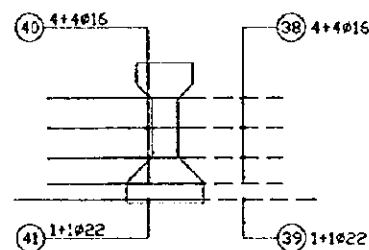
CORTE A-A  
ESC 1:20



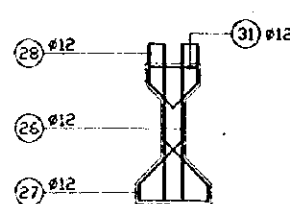
CORTE B-B  
ESC 1:20



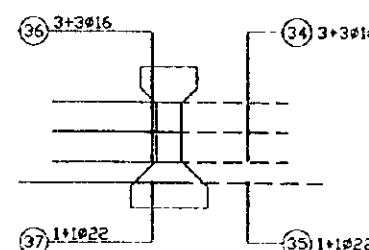
CORTE D-D  
ESC 1:25



CORTE E-E  
ESC 1:25



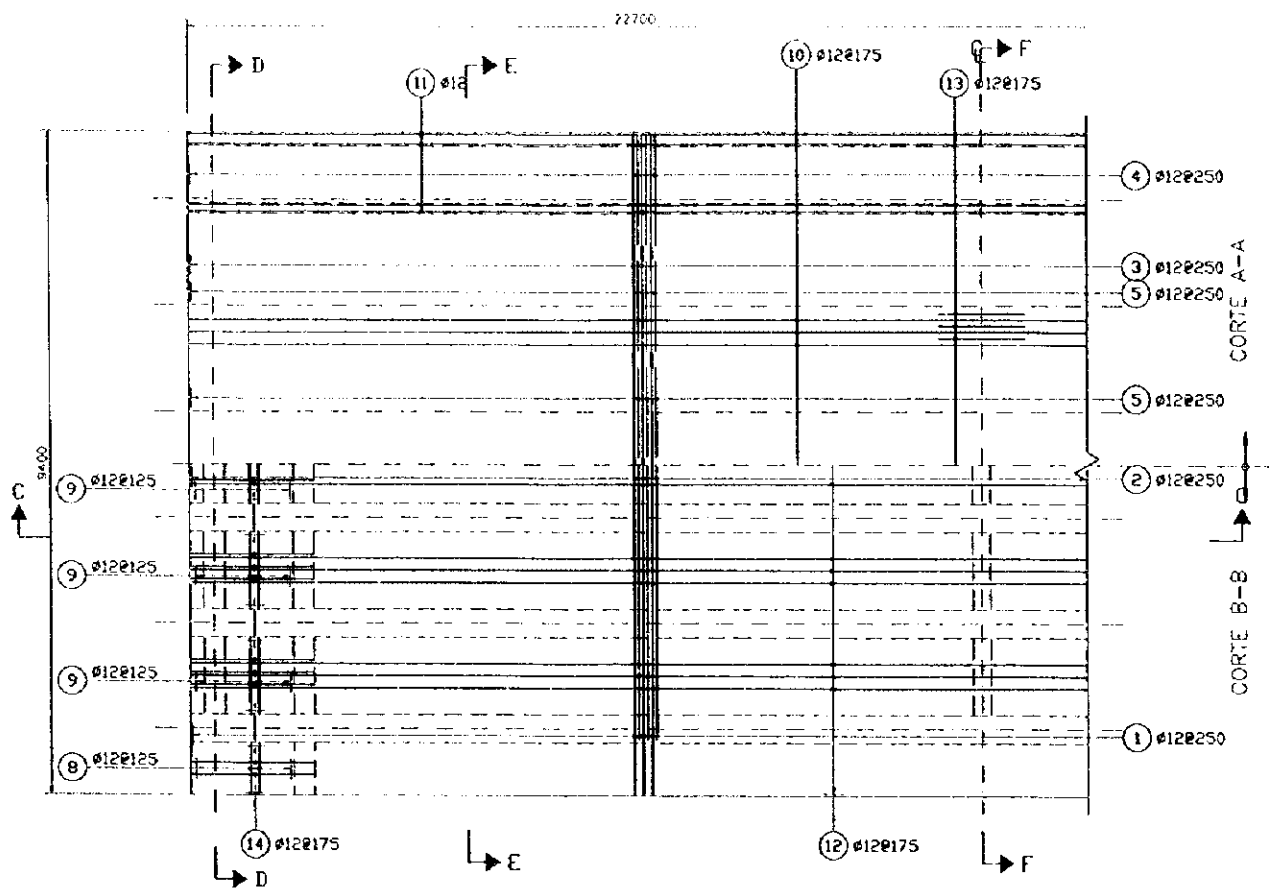
CORTE F-F  
ESC 1:25



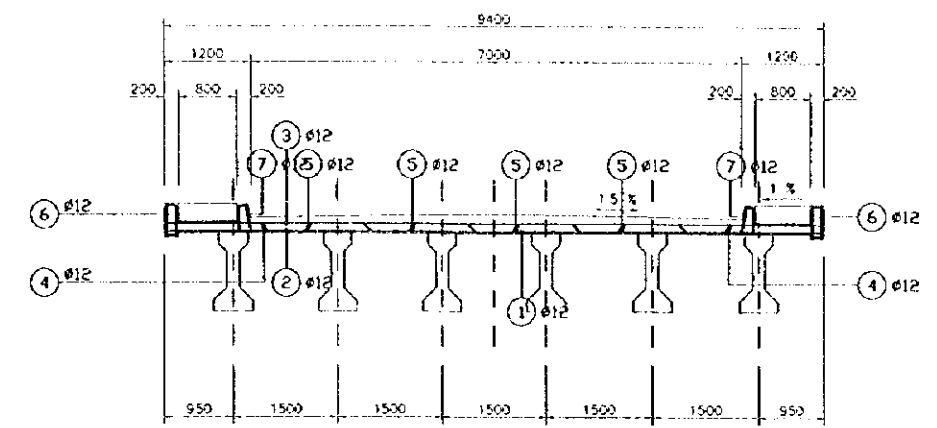
|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puente: 2-PRE-L20_n6                                     |                      |
| Canino:  |                      |
| Provincia:   | Region:              |
| Proyecto:  | Reviso:              |
| Va Ba Ing. Jefe Depto. Puentes                           | Director de Vialidad |
| Señal:   | Fecha:               |



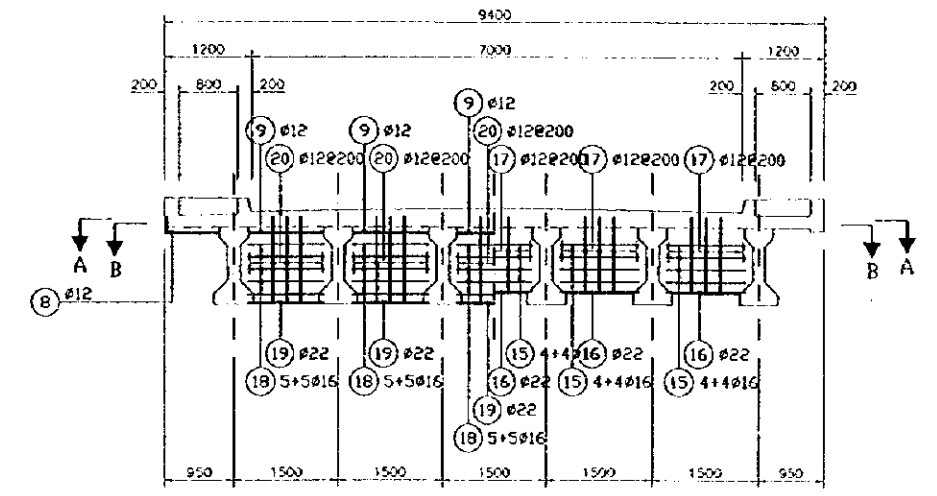
PLANTA DE LOSA  
ESC. 1:50



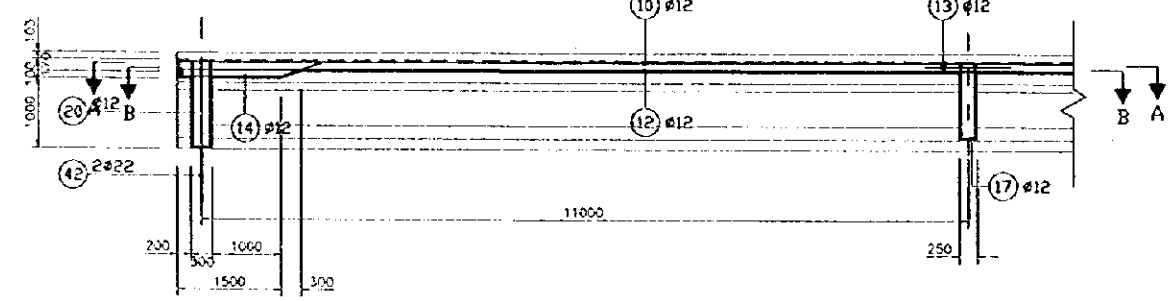
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



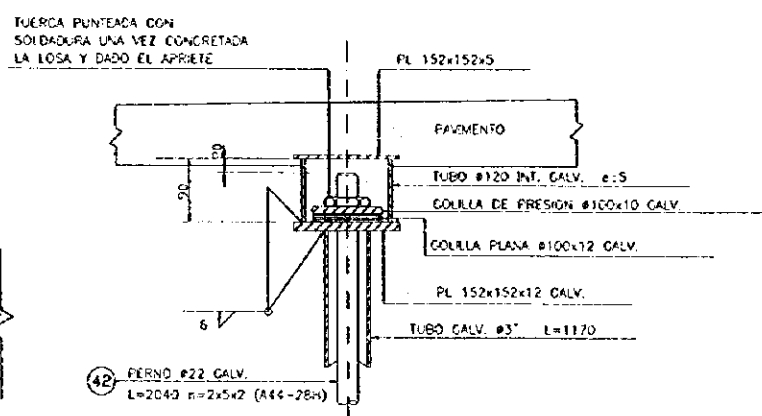
TRAVESAJOS EXTREMOS  
CORTE D-D ESC. 1:50 CORTE F-F



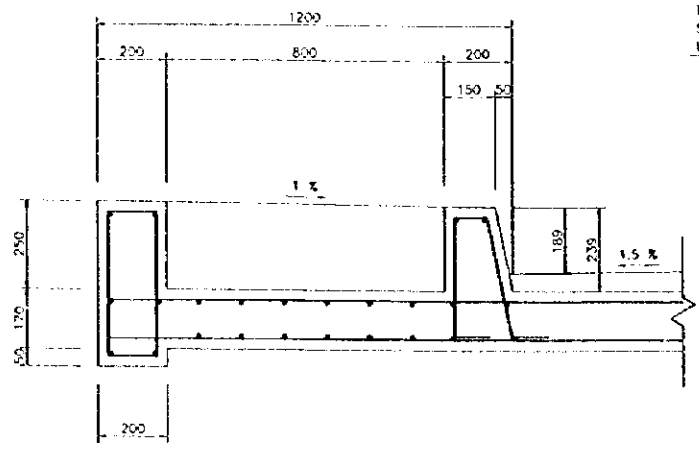
CORTE C-C  
ESC. 1:50



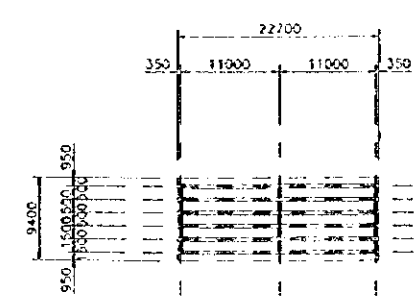
DETALLE BARRAS ANTISISMICAS  
ESC. 1:5



DETALLE DE PASILLO  
ESC. 1:10

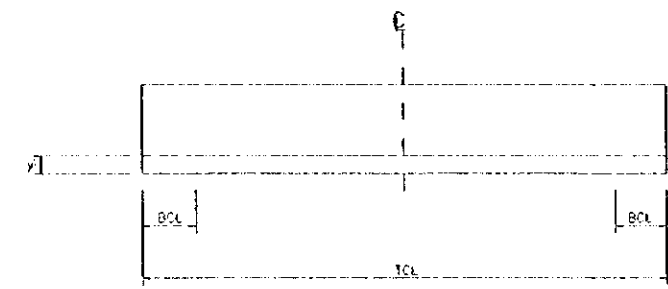
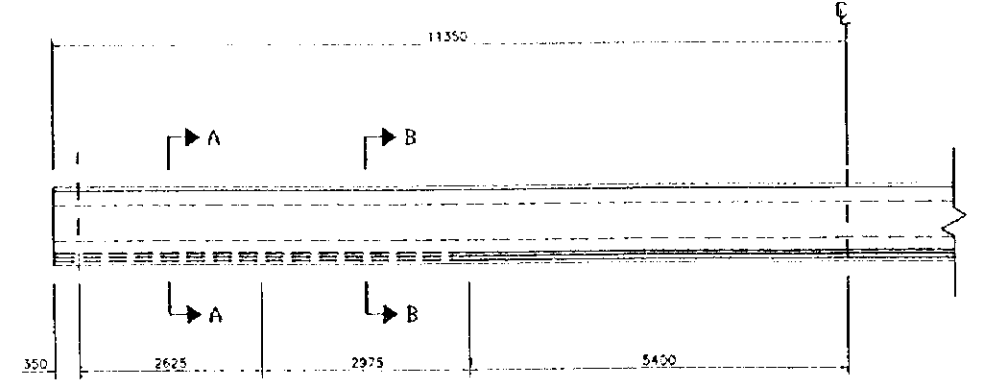


PLANTA DE DISPOSICION



|  |         |
|--|---------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |         |
| Puente: 2-PRE-L22_n6                                     |         |
| Camino:  |         |
| Provincia:   | Region: |
| Proyecta:  | Revisa: |
| Vo Bo Trip. Jefe Depto. Puentes                          |         |
| Director de Vialidad                                     |         |
| Elaboro:   | Fecha:  |

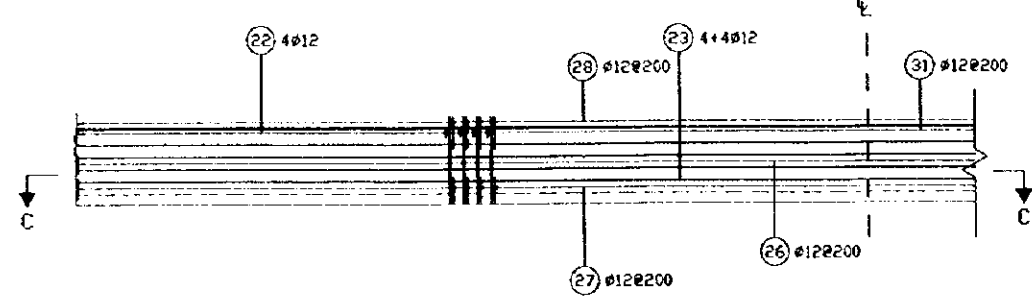
1/2 ELEVACION DE VIGA PRETENSADO  
ESC 1:50



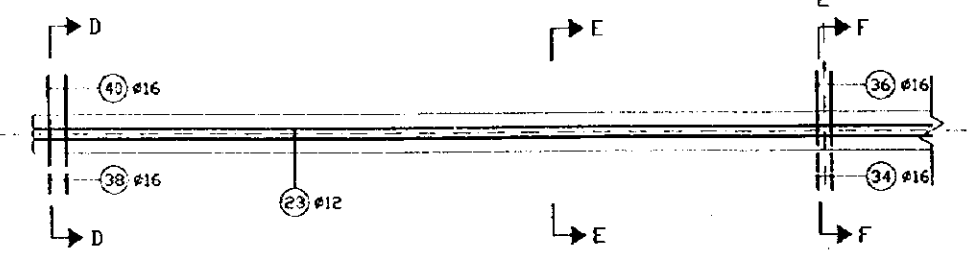
TCL = 22.7 m

| No    | y(cm) | NB | NBC | BCL(mm) | NBC | BCL(mm) | N  | Total(mm) |
|-------|-------|----|-----|---------|-----|---------|----|-----------|
| 1     | 104.5 | 2  | 0   | 2975    | 0   | 5950    | 2  | 0         |
| 2     | 16.5  | 4  | 0   | 2975    | 4   | 5950    | 8  | 47600     |
| 3     | 11.0  | 2  | 2   | 2975    | 4   | 5950    | 8  | 59500     |
| 4     | 5.5   | 4  | 0   | 2975    | 5   | 5950    | 7  | 35700     |
| Total |       | 12 | 2   | 5950    | 11  | 65450   | 25 | 142800    |

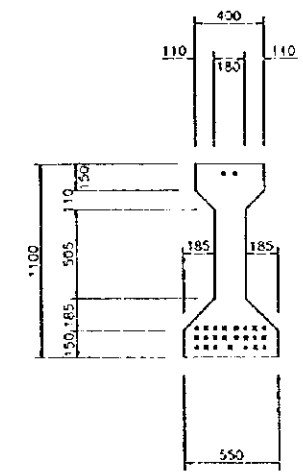
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC 1:50



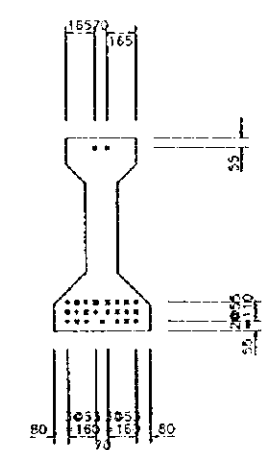
CORTE C-C  
ESC 1:50



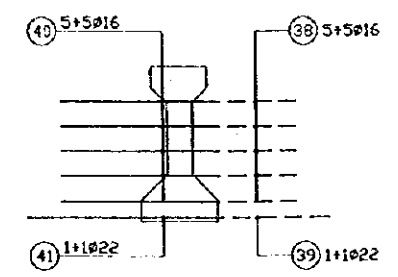
CORTE A-A  
ESC 1:20



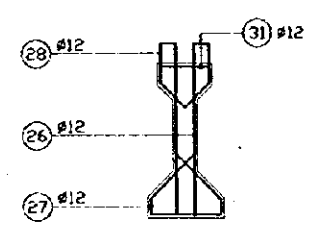
CORTE B-B  
ESC 1:20



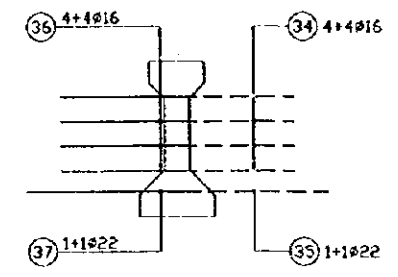
CORTE D-D  
ESC 1:25



CORTE E-E  
ESC 1:25

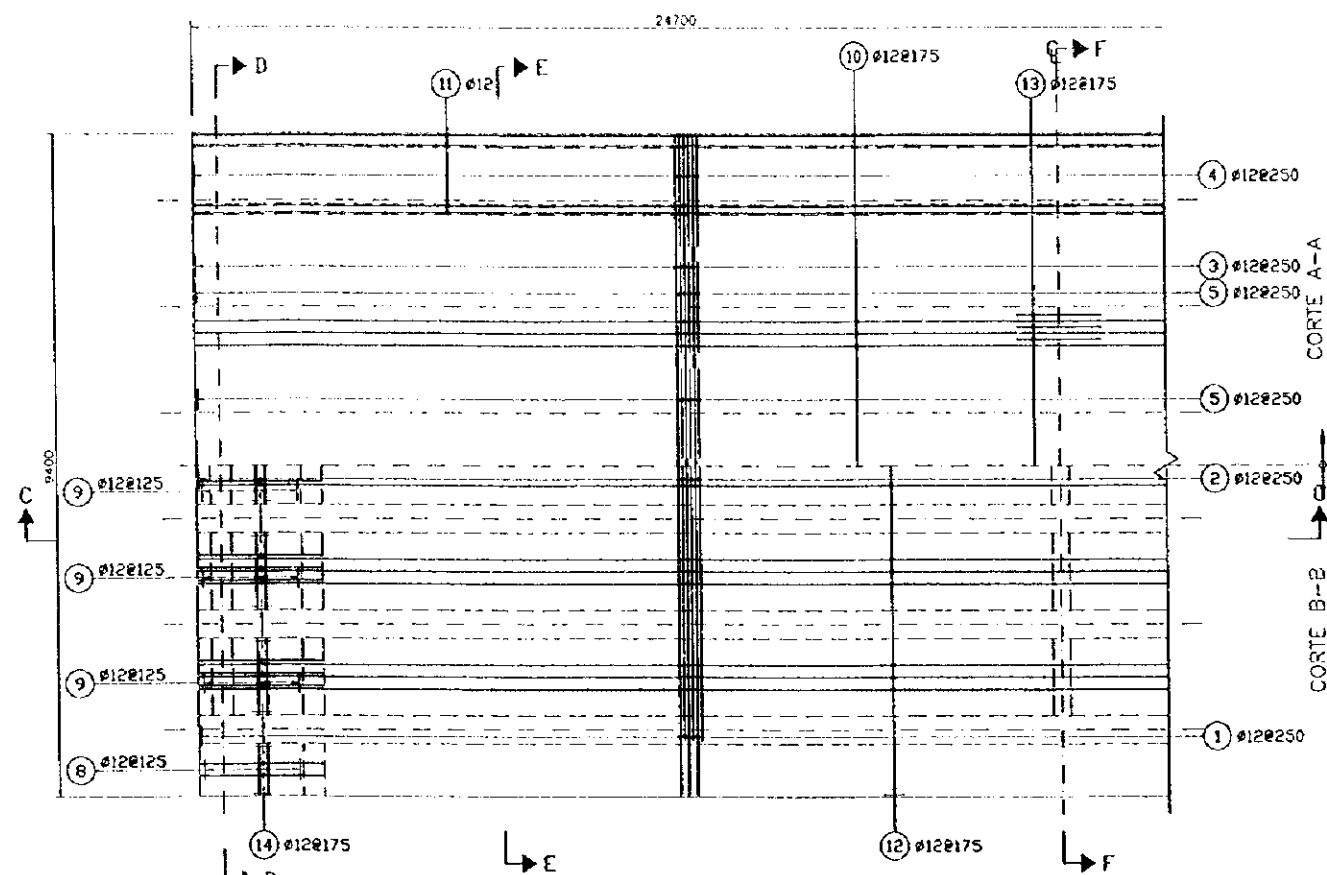


CORTE F-F  
ESC 1:25

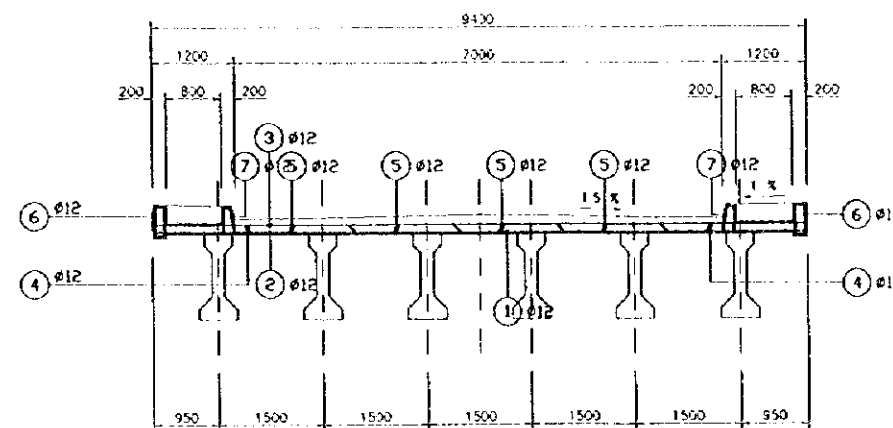


|  |                     |
|--|---------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                     |
| Puente: 2-PRE-L22_n6                                     |                     |
| Carino:  |                     |
| Provincia:   | Region:             |
| Proyecto   | Reviso              |
| Va B3 Ing. Jefe Depto. Puentes                           | Director de Validad |
| Dibujo   | Fecha:              |

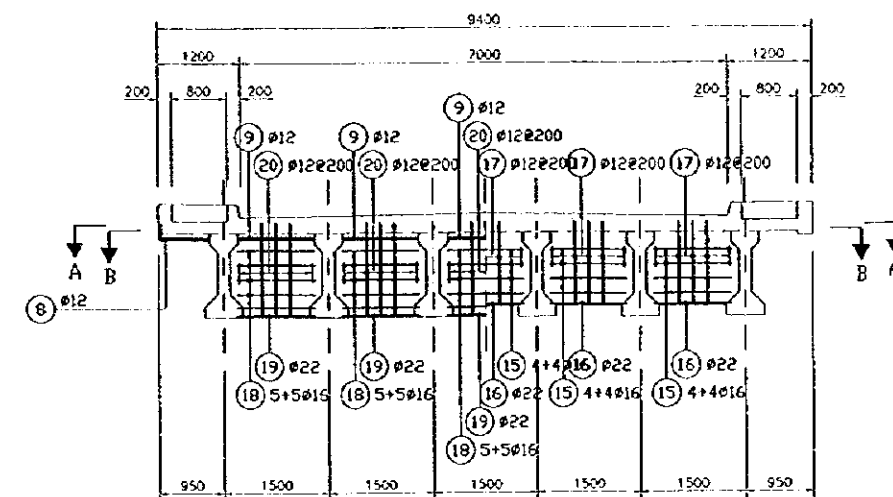
PLANTA DE LOSA  
ESC. 1:50



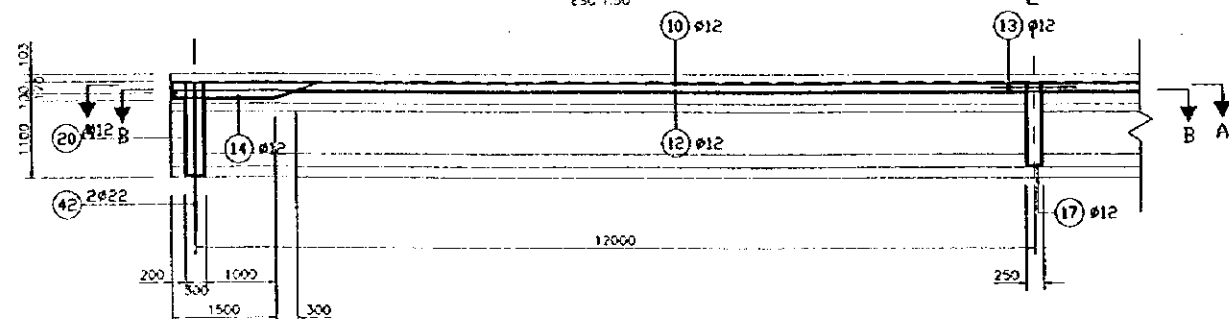
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



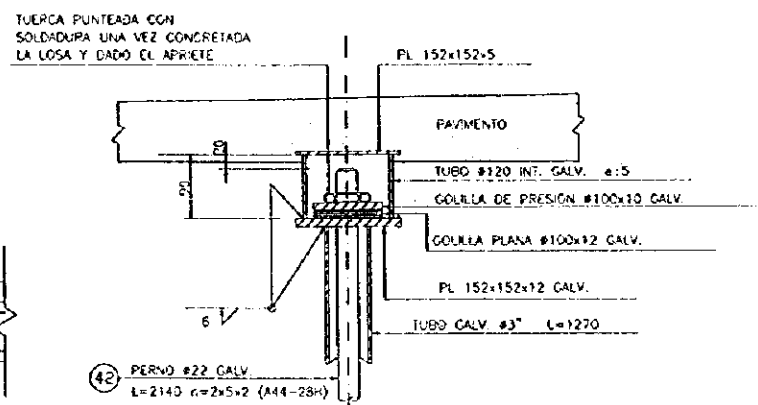
TRAVESAÑOS EXTREMOS  
CORTE D-D ESC. 1:50 CORTE F-F



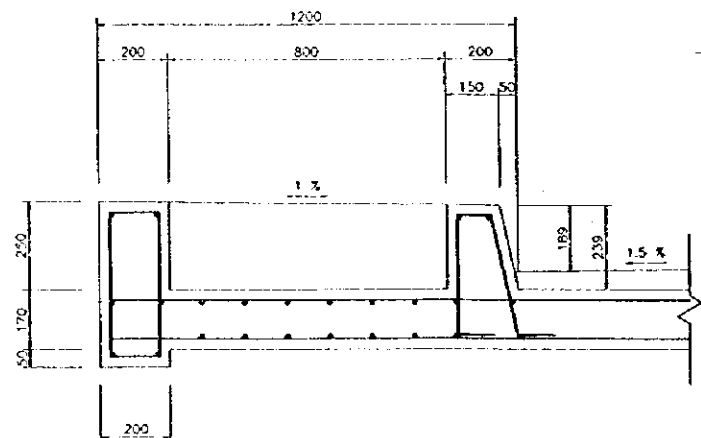
CORTE C-C  
ESC. 1:50



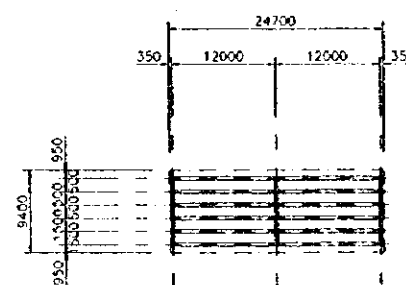
DETALLE BARRAS ANTISMICAS  
ESC. 1:5



DETALLE DE PASILLO  
ESC. 1:10



PLANTA DE DISPOSICION



DIRECCION DE VIALIDAD  
DEPARTAMENTO DE PUENTES

Puente: 2-PRE-L24\_n6

Carino:

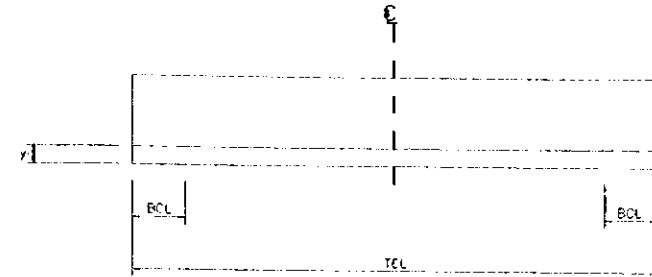
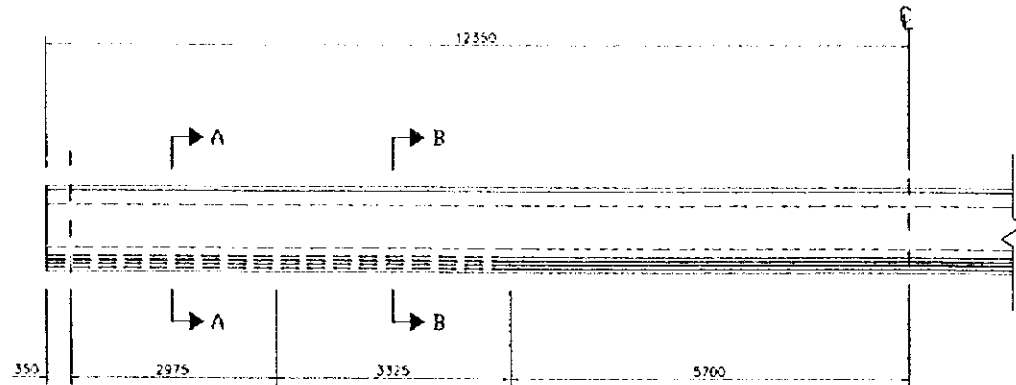
Provincia: Region:

Projecto: Reviso:

Vo Bo Ing. Jefe Depto. Puentes Director de Vialidad

De: Fe: 20

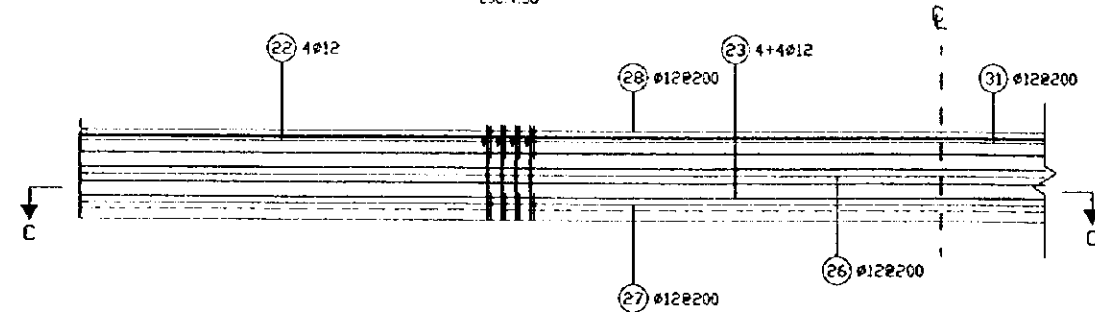
1/2 ELEVACION DE VIGA PRETENSADO  
ESC. 1:50



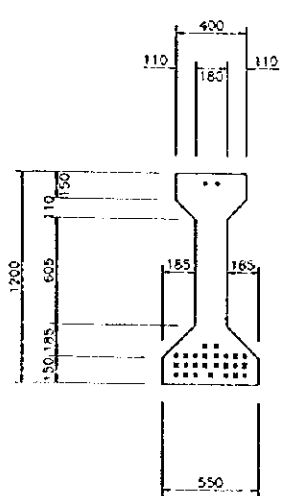
TCL = 24.7 m

| No    | y(cm) | NB | NBC | BCL(mm) | ABC | BCL(mm) | N  | Tota(mm) |
|-------|-------|----|-----|---------|-----|---------|----|----------|
| 1     | 114.5 | 2  | 0   | 3325    | 0   | 6650    | 2  | 0        |
| 2     | 22.0  | 0  | 0   | 3325    | 2   | 6650    | 2  | 26600    |
| 3     | 16.5  | 4  | 0   | 3325    | 4   | 6650    | 8  | 53200    |
| 4     | 11.0  | 2  | 2   | 3325    | 4   | 6650    | 8  | 66500    |
| 5     | 5.5   | 4  | 1   | 3325    | 2   | 6650    | 7  | 33250    |
| Total |       | 12 | 3   | 9975    | 12  | 79800   | 27 | 179550   |

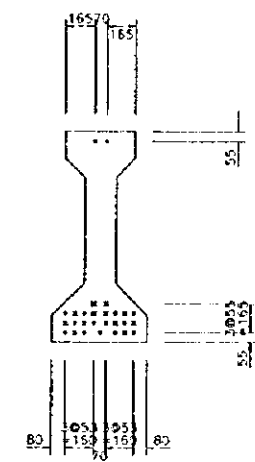
1/2 ENFIERRADURA VIGA PRETENSADO  
ESC. 1:50



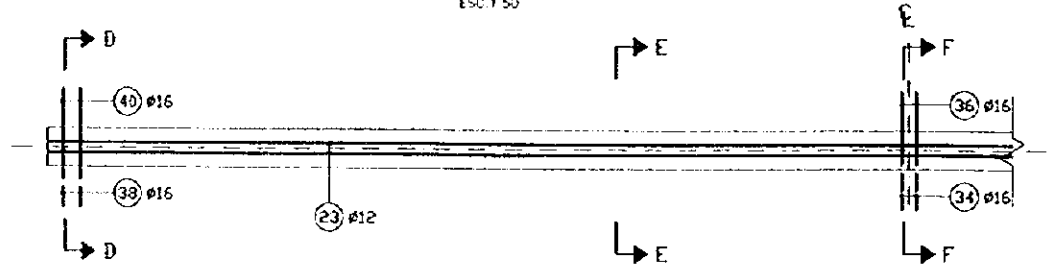
CORTE A-A  
ESC. 1:20



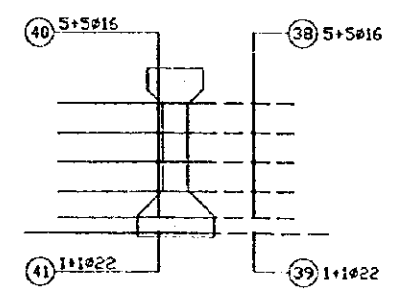
CORTE B-B  
ESC. 1:20



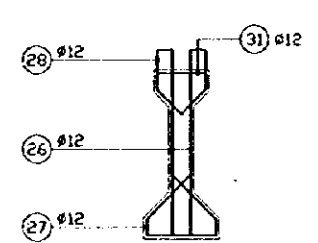
CORTE C-C  
ESC. 1:50



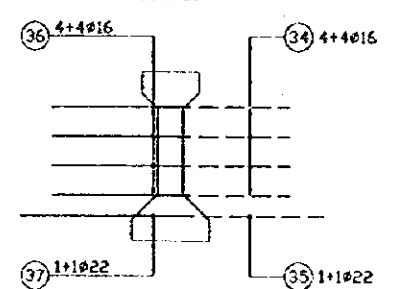
CORTE D-D  
ESC. 1:25



CORTE E-E  
ESC. 1:25

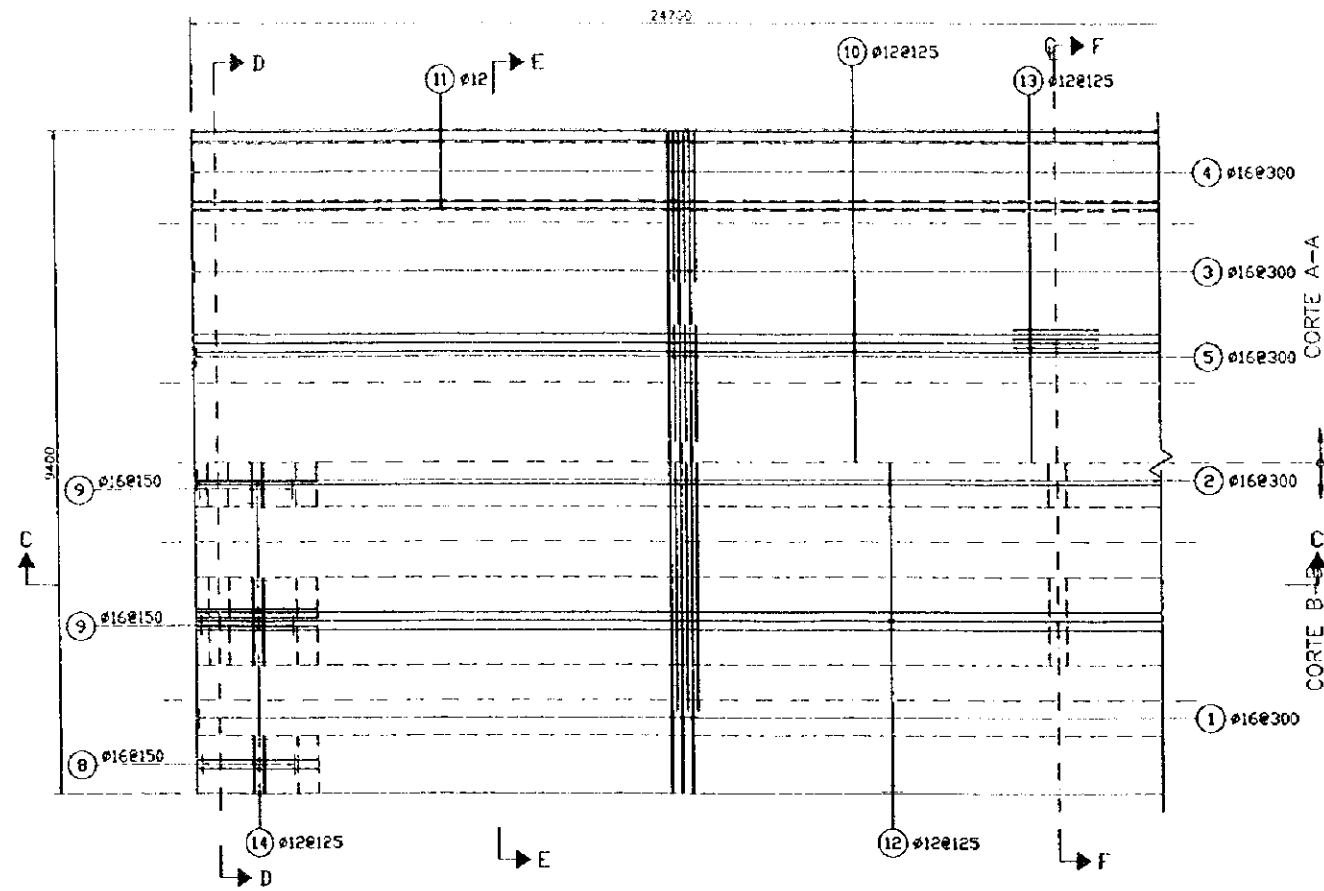


CORTE F-F  
ESC. 1:25

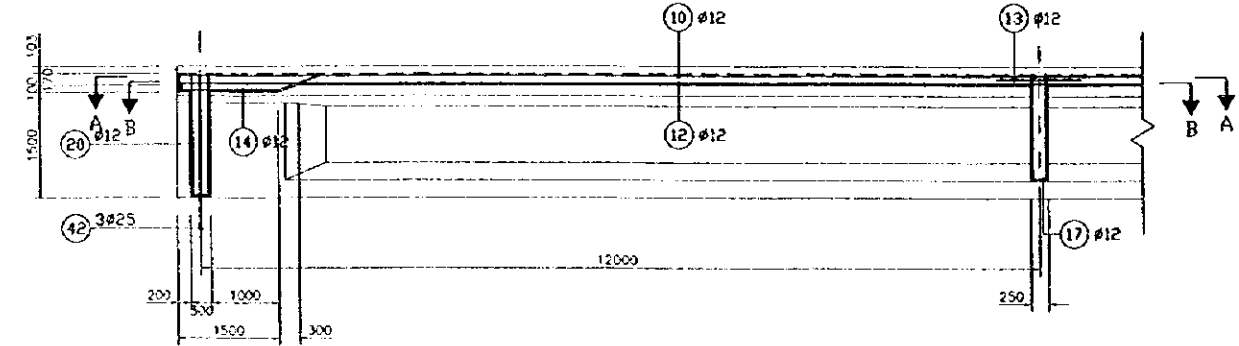


| DIRECCION DE VIALIDAD<br>DEPARTAMENTO DE PUENTES |                      |
|--|----------------------|
| Puente: 2-PRE-L24_n6                             |                      |
| Camino:  |                      |
| Provincia:                                       | Region:              |
| Proyecto:  | Preso:               |
| Via Bo Ing. Jefe Depto. Puentes                  | Director de Vialidad |
| Diseno:  |                      |
| Fecha:   |                      |

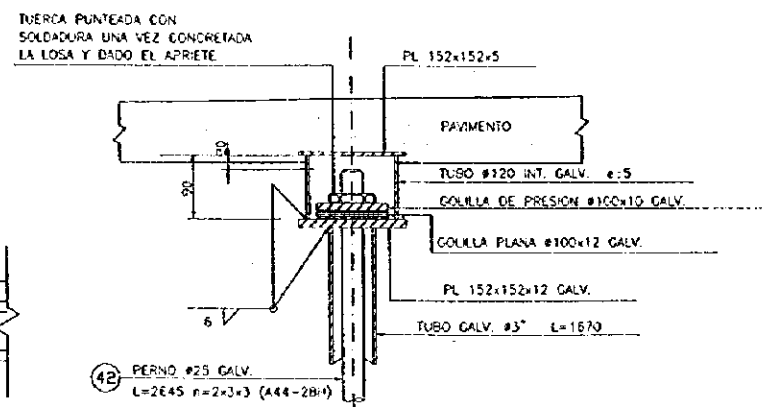
PLANTA DE LOSA  
ESC. 1:50



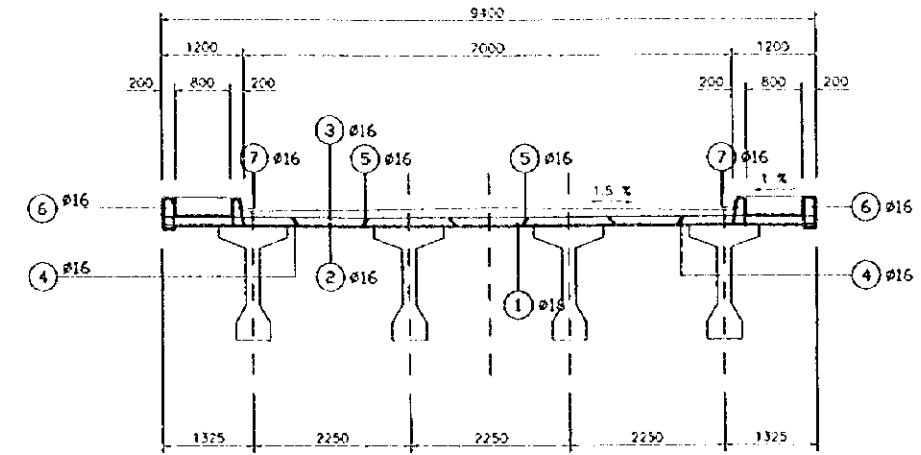
CORTE C-C  
ESC. 1:50



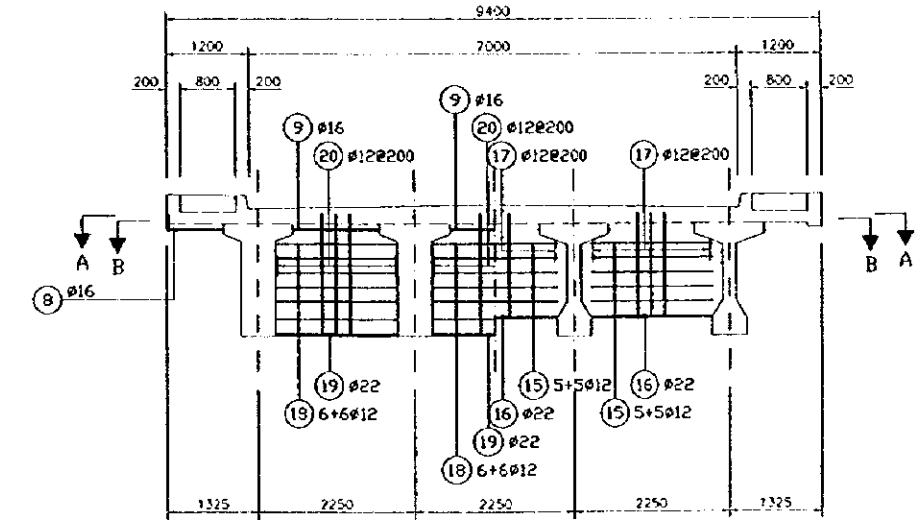
DETALLE BARRAS ANTISISMICAS  
ESC. 1:5



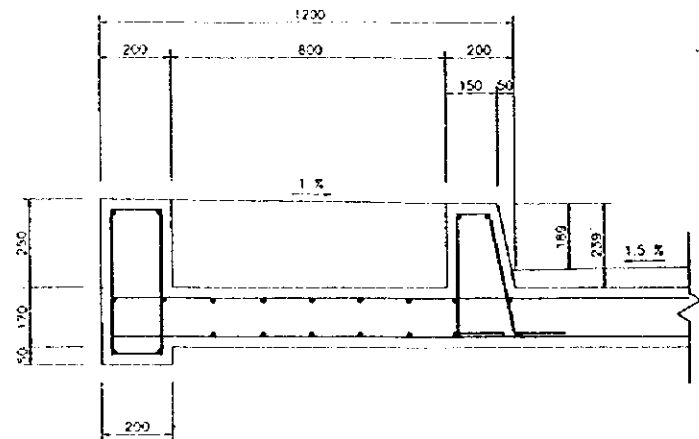
CORTE TRVERSAL  
CORTE E-E  
ESC. 1:50



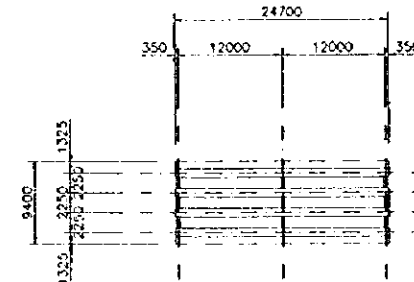
TRAVESANOS EXTREMOS  
CORTE D-D ESC. 1:50 CORTE F-F



DETALLE DE PASILLO  
ESC. 1:10

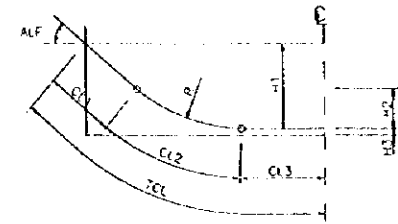
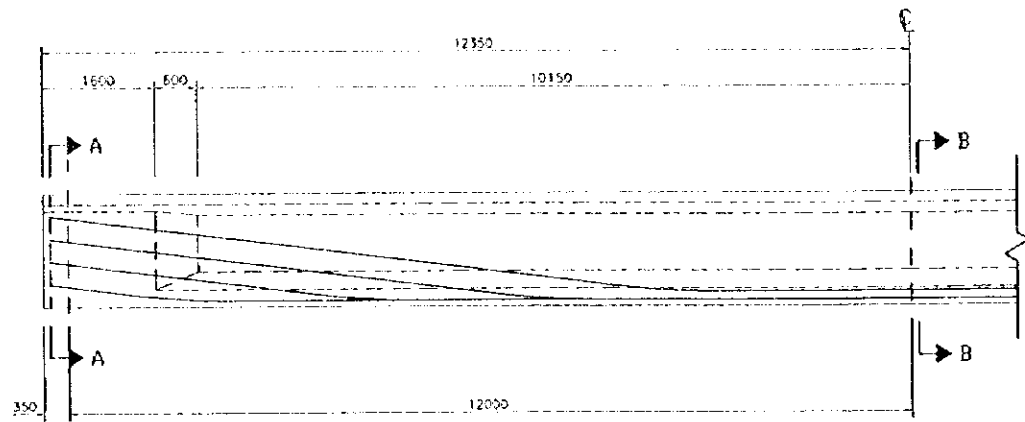


PLANTA DE DISPOSICION



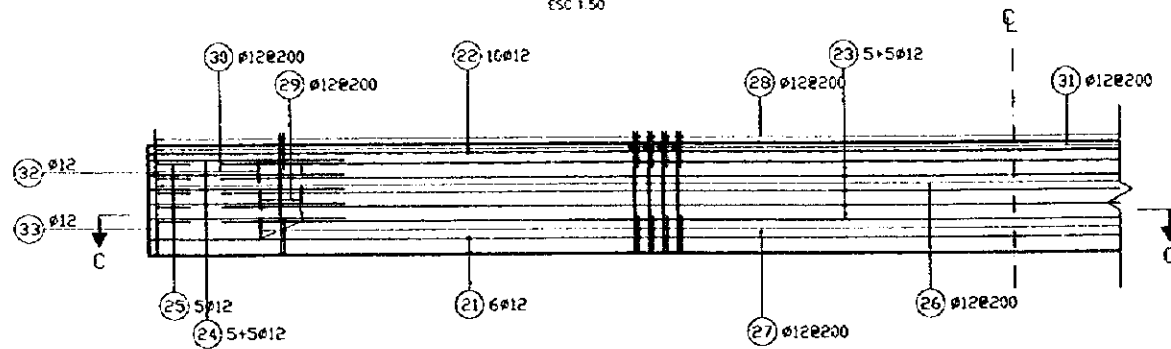
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|--|---------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |         |
| Puente: 2-PST-L24_n4                                     |         |
| Camino:  |         |
| Provincia:   | Region: |
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1/2 ELEVACION DE VIGA POSTENSADO  
ESC 1:50

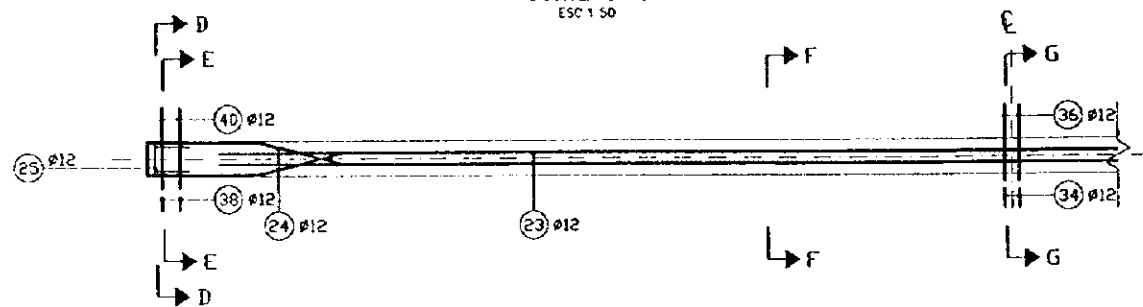


|    | ALF | R  | H1   | H2 | H3  | CL1  | CL2  | CL3  | TCL   |
|----|-----|----|------|----|-----|------|------|------|-------|
| D1 | 7'  | 10 | 1070 | 75 | 210 | 8168 | 1222 | 2924 | 12314 |
| D2 | 7'  | 10 | 870  | 75 | 90  | 6527 | 1222 | 4553 | 12302 |
| D3 | 7'  | 10 | 550  | 75 | 90  | 3901 | 1222 | 7159 | 12282 |
| D4 | 7'  | 10 | 230  | 75 | 90  | 1276 | 1222 | 9765 | 12263 |

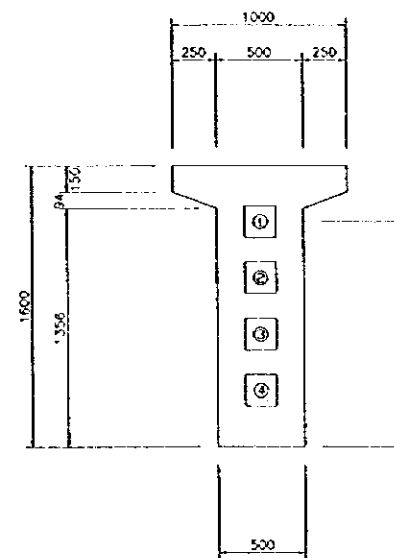
1/2 ENFIERRADURA VIGA POSTENSADO  
ESC 1:50



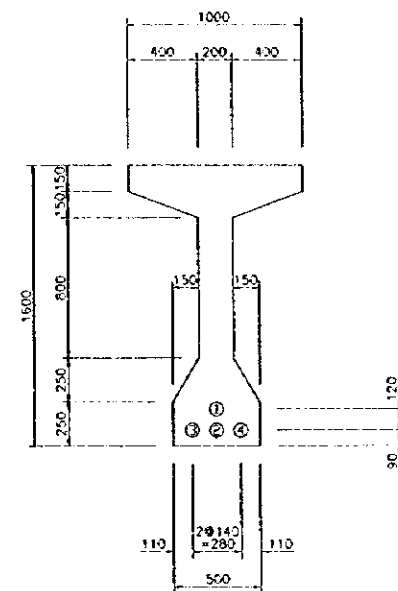
CORTE C-C  
ESC 1:50



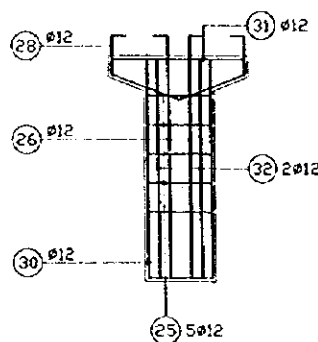
CORTE A-A  
ESC 1:20



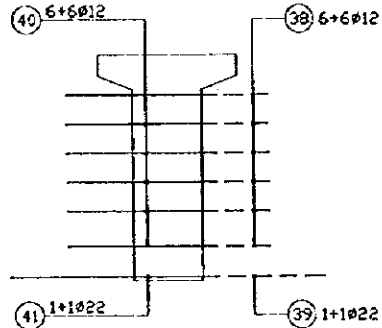
CORTE B-B  
ESC 1:20



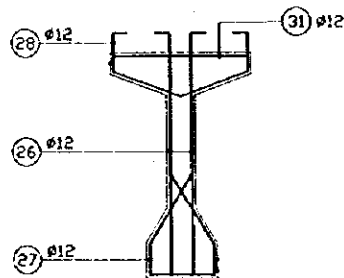
CORTE D-D  
ESC 1:25



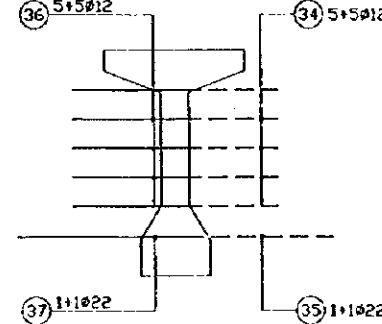
CORTE E-E  
ESC 1:25



CORTE F-F  
ESC 1:25

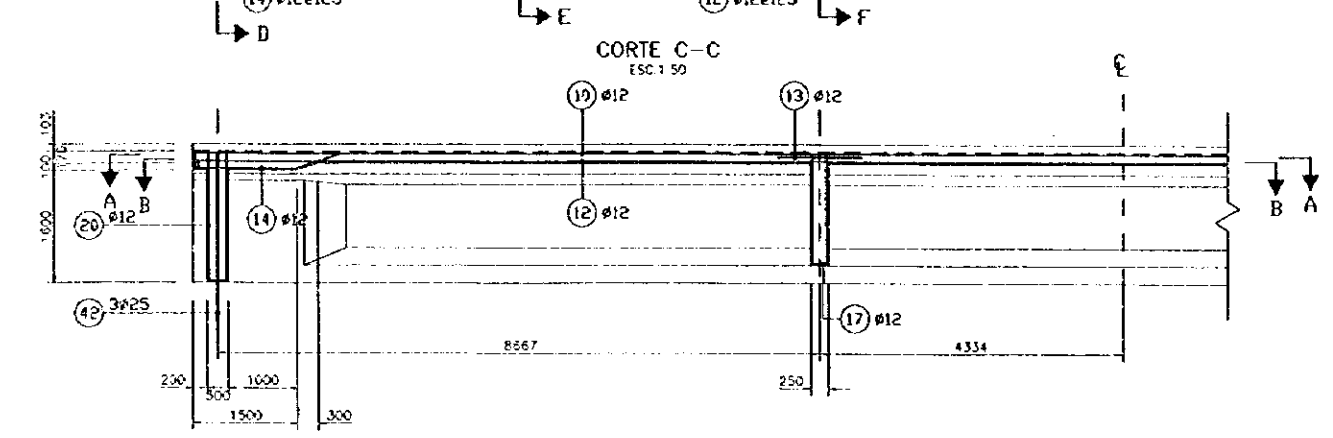
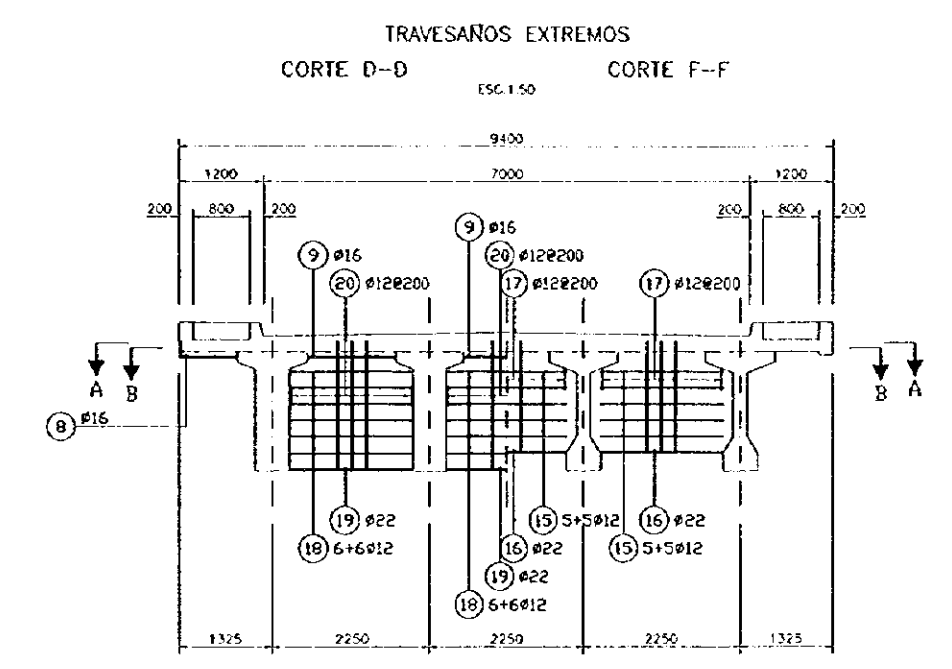
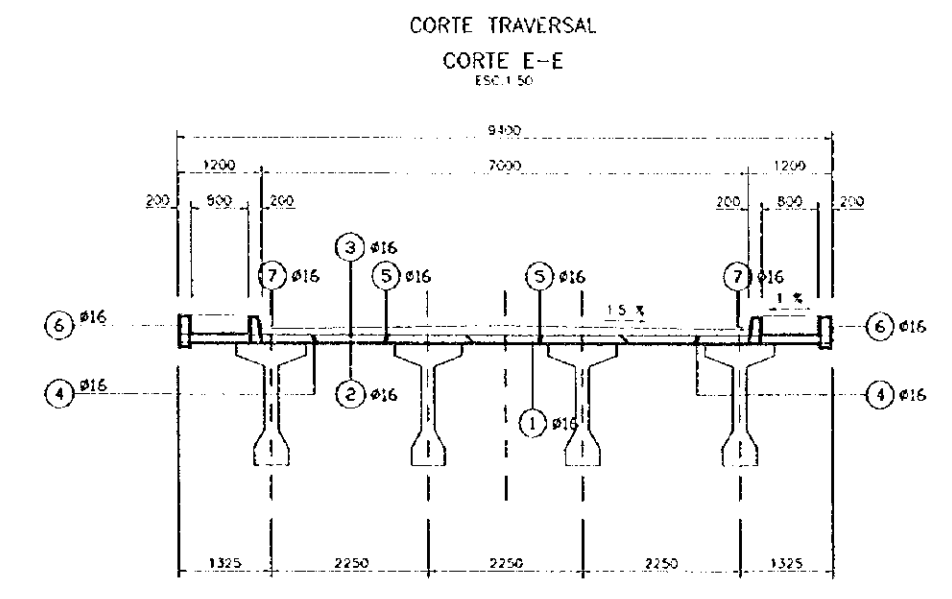
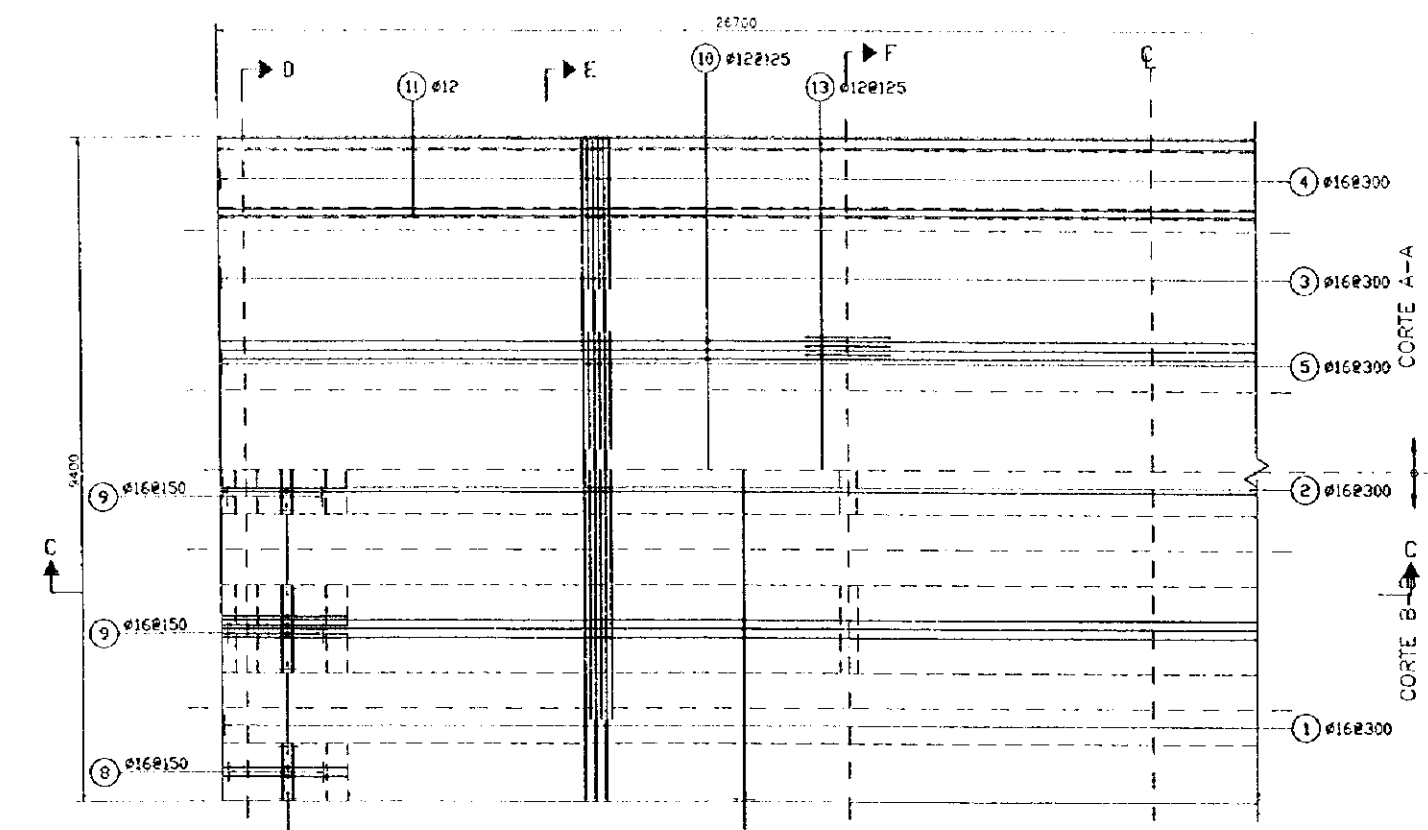


CORTE G-G  
ESC 1:25

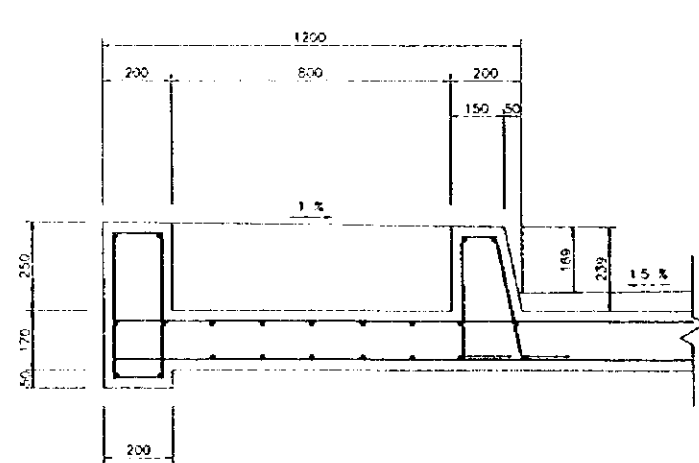


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| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |         |
| Puente: 2-PST-L24_n4                                     |         |
| Camino:  |         |
| Provincia:   | Region: |
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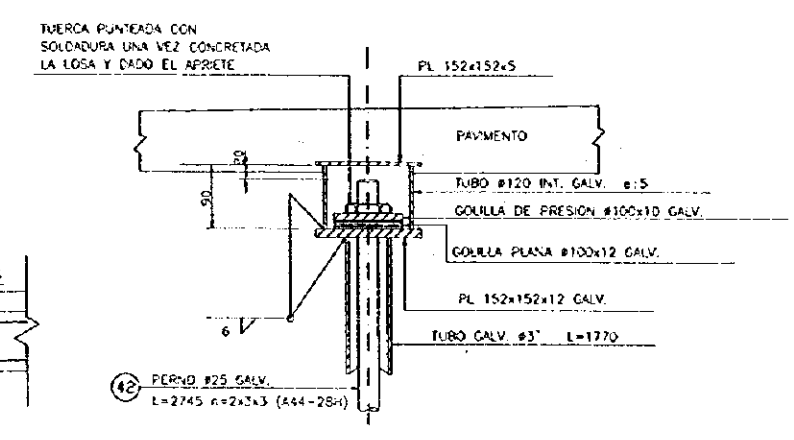
### PLANTA DE LOSA ESC. 1:50



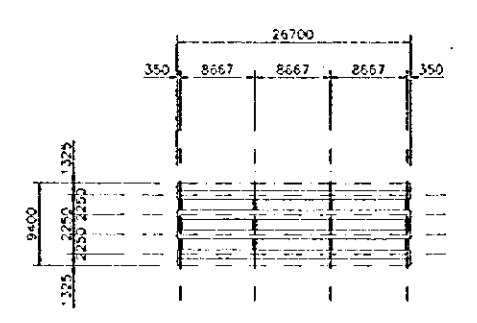
DETALLE DE PASILLO  
ESC. 1:10



DETALLE BARRAS ANTISISMICAS  
ESC. 1:5

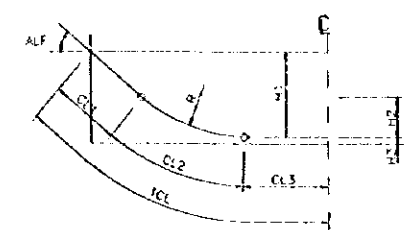
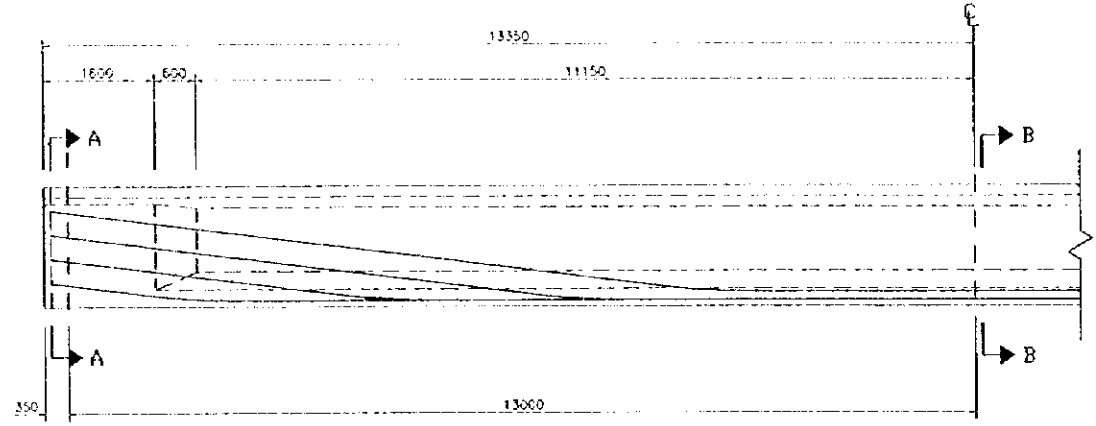


PLANTA DE DISPOSICION



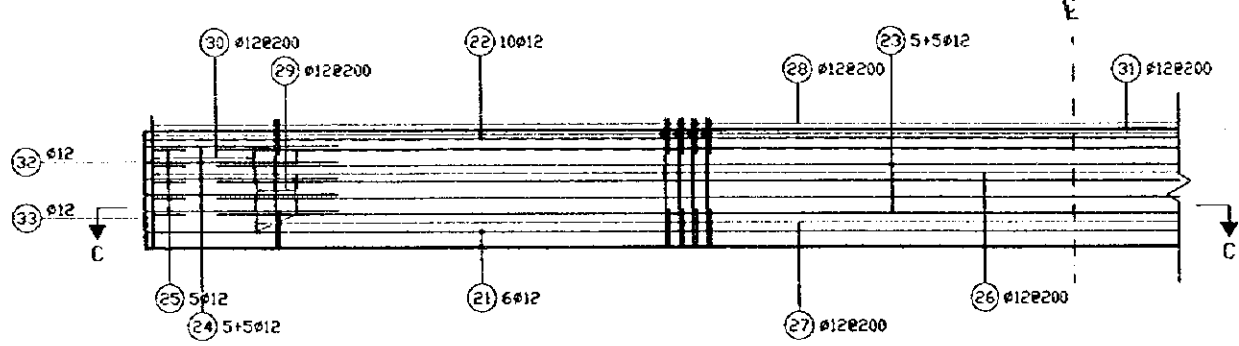
| DIRECCION DE VIALIDAD<br>DEPARTAMENTO DE PUENTES |         |
|--|---------|
| Puente: 2-PST-L26_n4                             |         |
| Camino:  |         |
| Provincia:                                       | Region: |
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|  |         |

1/2 ELEVACION DE VIGA POSTENSADO  
ESC. 1:50

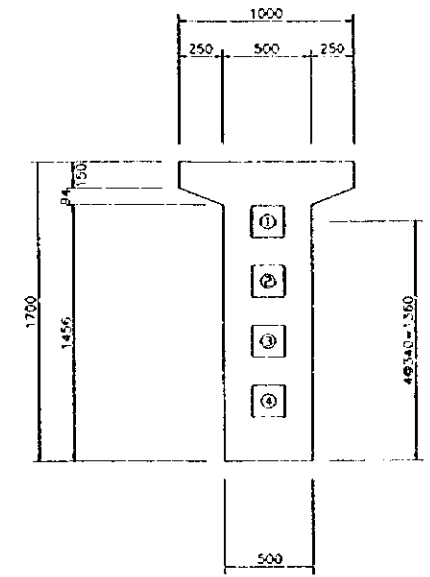


|    | ALF | R  | h1   | h2 | h3  | CL1  | CL2  | CL3   | ICL   |
|----|-----|----|------|----|-----|------|------|-------|-------|
| D1 | 7   | 10 | 1150 | 75 | 210 | 8825 | 1222 | 3272  | 13318 |
| D2 | 7   | 10 | 930  | 75 | 90  | 7019 | 1222 | 5064  | 13305 |
| D3 | 7   | 10 | 590  | 75 | 90  | 4250 | 1222 | 7833  | 13285 |
| D4 | 7   | 10 | 250  | 75 | 90  | 1440 | 1222 | 10602 | 13254 |

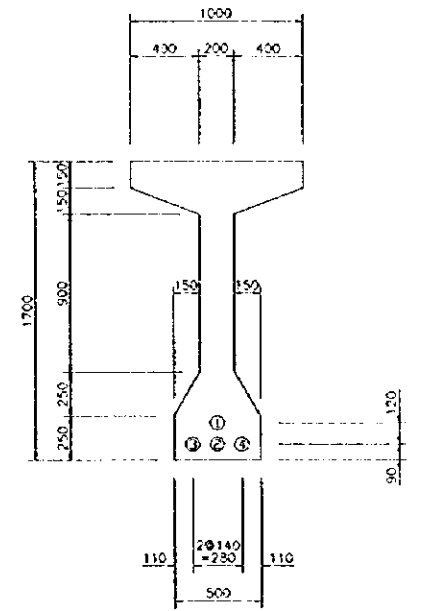
1/2 ENFIERRADURA VIGA POSTENSADO  
ESC. 1:50



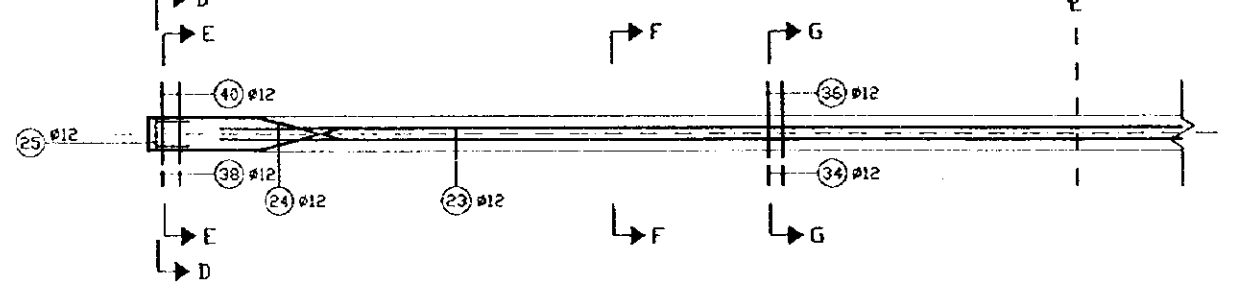
CORTE A-A  
ESC. 1:20



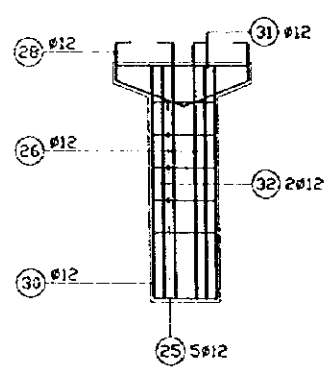
CORTE B-B  
ESC. 1:20



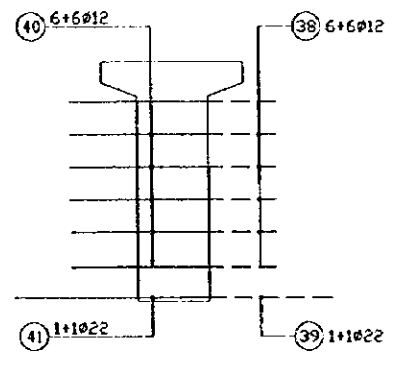
CORTE C-C  
ESC. 1:50



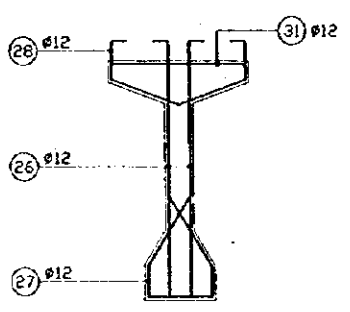
CORTE D-D  
ESC. 1:25



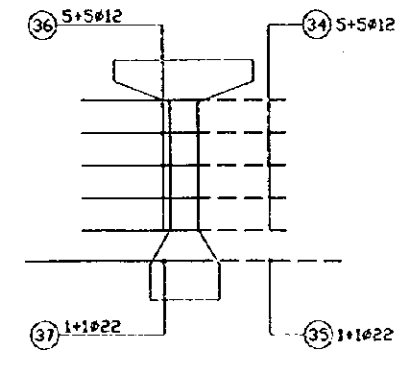
CORTE E-E  
ESC. 1:25



CORTE F-F  
ESC. 1:25



CORTE G-G  
ESC. 1:25



|  |                      |
|--|----------------------|
| <b>DIRECCION DE VIALIDAD<br/>DEPARTAMENTO DE PUENTES</b> |                      |
| Puente: 2-PST-L26_n4                                     |                      |
| Camino:  |                      |
| Provincia:   | Region:              |
| Proyecto   | Reviso               |
| Vo Bo Ing. Jefe Depto. Puentes                           | Director de Vialidad |
| Señala   |                      |
| Fecha:   |                      |



