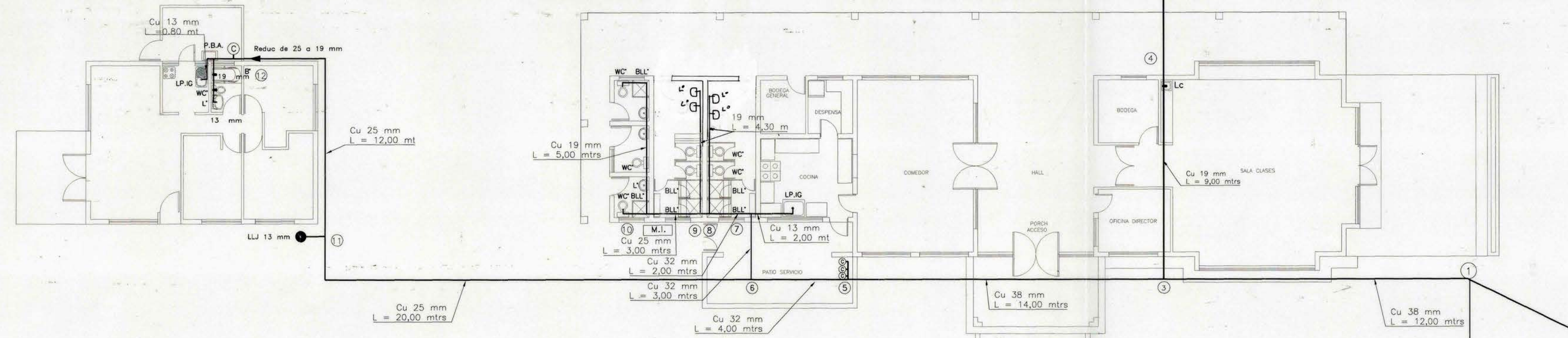


# PLANTA GENERAL ESCALA 1 : 100



- 1.-) CALCULO DEL CONSUMO  
 $Q_i = 410 \text{ Ltrs/min}$   
 $Q_{mp} = 109.84 \text{ Ltrs/min}$
- 2.-) CALCULO DE PRESION DE TRABAJO  
Diferencia de cotas = 2  
Pérdidas de carga = 10.72  
Presión (at) = 7 mts  
Total = 19.72
- 3.-) ELEVACION DE LA MOTOBOMBA  
3 Motobombas trifásicas de motor 1.5 hp 380 Volt mod GP-170  
2 Motobombas estarán en servicio y la tercera de reserva  
 $P_a = 25.00$   
 $P_b = 35.00$
- 4.-) DETERMINACION DEL  $Q_m$   
 $Q_m = Q_a + Q_b = 82.50 \text{ ltrs}$
- 5.-) DETERMINACION DEL T  
T para motor 1.5 Hp = 1.20 minutos
- 6.-) CALCULO DEL  $V_r$   
 $V_r = \frac{Q_m \cdot T}{4} = 24.75 \text{ ltrs}$
- 7.-) CALCULO DEL  $V_h$   
 $V_h = V_r (P_b + 1) = 111.375 \text{ ltrs}$   
 $P_b - P_a$   
SE UTILIZARA UN ESTANQUE HIDRONEUMATICO DE 150 Ltrs

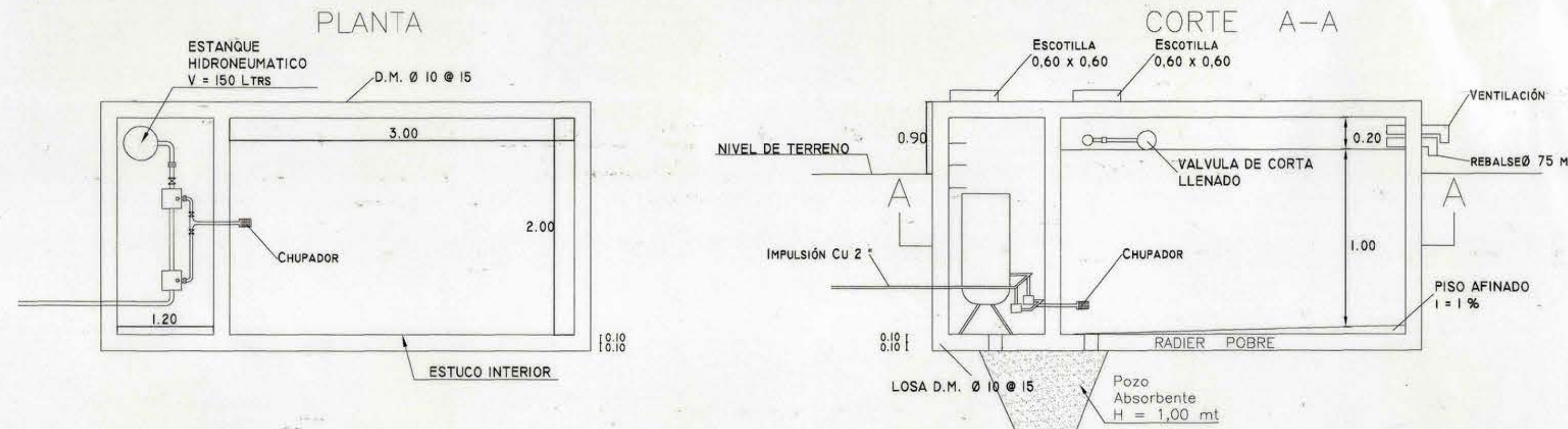
## CUADRO DE PERDIDAS DE CARGA

| TRAMO    | GASTOS    |          | LARGOS |        | DIAMETRO |      | PERDIDAS DE CARGA |           | COTA |         | PRESIONES |  | VELOCIDAD | PUNTO   |
|----------|-----------|----------|--------|--------|----------|------|-------------------|-----------|------|---------|-----------|--|-----------|---------|
|          | INSTALADO | PROBABLE | REAL   | EQUIV. | (mm)     | J    | J EN TRAMO        | SUMA J PL | (m)  | INICIAL | FINAL     |  | (m/seg)   | Estanco |
| EQUIPO-1 | 410       | 109.84   | 30.00  | 45.00  | 38.24    | 0.08 | 3.43              | 3.43      | 0.0  | 20.00   | 20.00     |  |           |         |
| 1 - 2    | 10        | 8.50     | 8.00   | 12.00  | 19.94    | 0.02 | 0.23              | 3.66      | 0.0  | 16.57   | 16.34     |  |           | 1       |
| 1 - 3    | 400       | 107.99   | 12.00  | 18.00  | 38.24    | 0.07 | 1.33              | 4.78      | 0.0  | 16.57   | 15.24     |  |           | 2       |
| 3 - 4    | 30        | 16.12    | 8.00   | 13.50  | 19.94    | 0.07 | 0.87              | 5.73      | 0.0  | 15.24   | 14.27     |  |           | 3       |
| 3 - 5    | 370       | 102.34   | 14.00  | 21.00  | 38.24    | 0.07 | 1.41              | 6.17      | 0.0  | 15.24   | 13.83     |  |           | 4       |
| 5 - 6    | 370       | 102.34   | 4.00   | 6.00   | 32.12    | 0.15 | 0.83              | 7.10      | 0.0  | 13.83   | 12.90     |  |           | 5       |
| 6 - 7    | 290       | 86.53    | 3.00   | 4.50   | 32.12    | 0.11 | 0.52              | 7.61      | 0.0  | 12.90   | 12.38     |  |           | 6       |
| 7 - 8    | 275       | 83.42    | 2.00   | 3.00   | 32.12    | 0.11 | 0.32              | 7.94      | 0.0  | 12.38   | 12.06     |  |           | 7       |
| 8 - 9    | 195       | 69.82    | 1.00   | 1.50   | 26.04    | 0.19 | 0.29              | 8.23      | 0.0  | 12.06   | 11.77     |  |           | 8       |
| 9-10     | 110       | 44.35    | 3.00   | 4.50   | 26.04    | 0.10 | 0.44              | 8.66      | 0.0  | 11.77   | 11.33     |  |           | 9       |
| 6-11     | 95        | 40.10    | 20.00  | 3.00   | 26.04    | 0.08 | 2.43              | 9.43      | 0.0  | 12.90   | 10.47     |  |           | 10      |
| 11-12    | 80        | 35.62    | 12.00  | 18.00  | 26.04    | 0.07 | 1.19              | 10.72     | 0.0  | 10.47   | 9.28      |  |           | 11      |

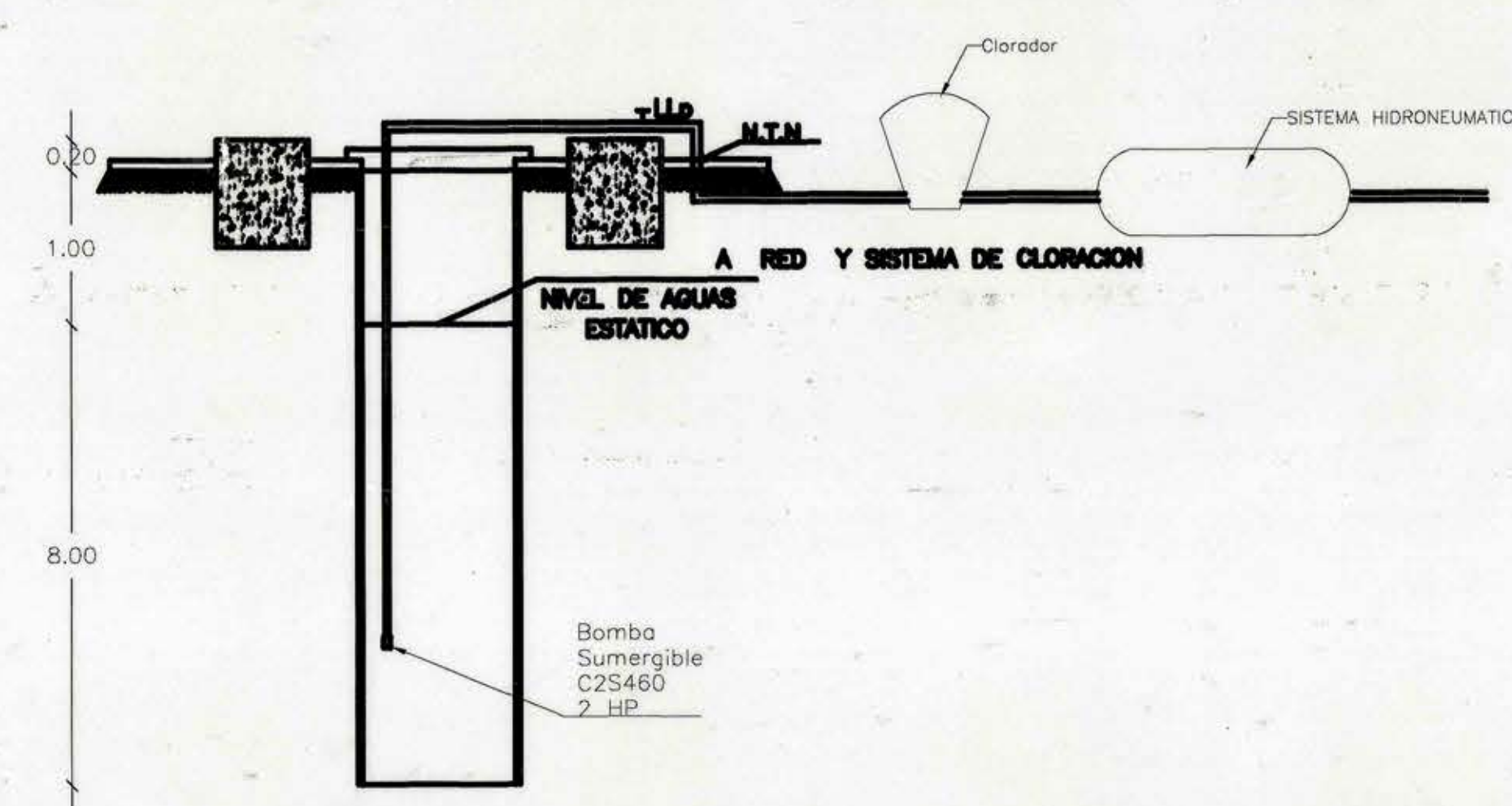
NOTA : TODOS LOS ARTEFACTOS CUENTAN CON LLAVE DE PASO INDIVIDUAL Y LOS RECINTOS CON LLAVE DE PASO GENERAL

## SOLUCION DEL PRIMER PISO ESCALA 1 : 100

## DETALLE ESTANQUE DE ACUMULACION ESCALA 1 : 50



CAMINO



## Cuadro de Gastos

| ARTEFACTOS | CANTIDAD | GASTO INST. | TOTAL |
|------------|----------|-------------|-------|
| WC         | 8        | 20          | 160   |
| L          | 8        | 10          | 80    |
| LP         | 1        | 10          | 10    |
| LP         | 2        | 15          | 30    |
| LP         | 2        | 15          | 30    |
| UP         | 1        | 10          | 10    |
| BL         | 6        | 10          | 60    |
| B          | 1        | 20          | 20    |
| TOTAL      | 29       |             | 400   |

|                                                 |                                                         |
|-------------------------------------------------|---------------------------------------------------------|
| PROPIETARIO :<br>I. MUNICIPALIDAD DE LAS CABRAS |                                                         |
| MOP                                             | DIRECCION DE ARQUITECTURA<br>OFICINA REGIONAL VI REGION |
| REGION VI REGION                                | OBRA AGUA POTABLE (FRIA)                                |
| PROVINCIA CACHAPOAL                             | ESCUOLA VALDEBENITO LAS CABRAS                          |
| COMUNA LAS CABRAS                               | CONTENIDO                                               |
| ARQUITECTO REGIONAL                             | PLANTA GENERAL, DISTRIBUCION y CALCULO                  |
| OSCAR E. NOVOA VARGAS                           | DIBUJO                                                  |
| ARQUITECTO PATROCINANTE                         | FECHA                                                   |
| FRANCISCO HERNANDEZ DIAZ                        | DIC. 2000                                               |
| ARQUITECTO PATROCINANTE                         | FORMATO                                                 |
|                                                 | A-0                                                     |
| DIRECCION DE ARQUITECTURA MOP                   | LAMINA Nº                                               |
| DE CARRELLLO                                    | 2 DE 5                                                  |
| ESCALA                                          | TUBO Nº 313                                             |
| LAS INDICADAS                                   |                                                         |