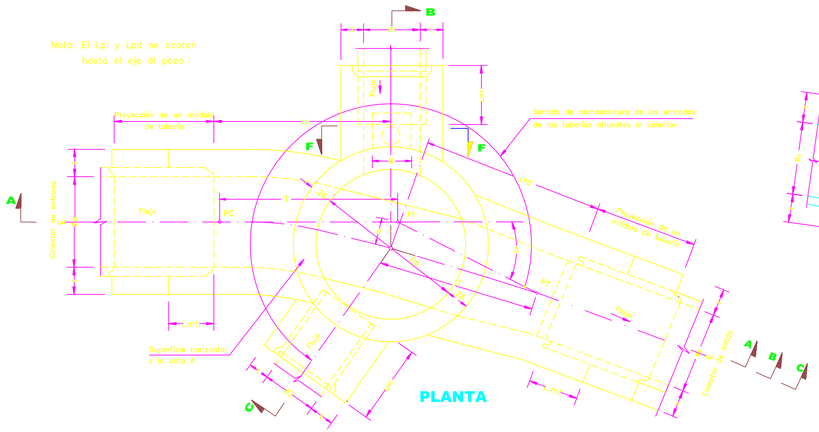
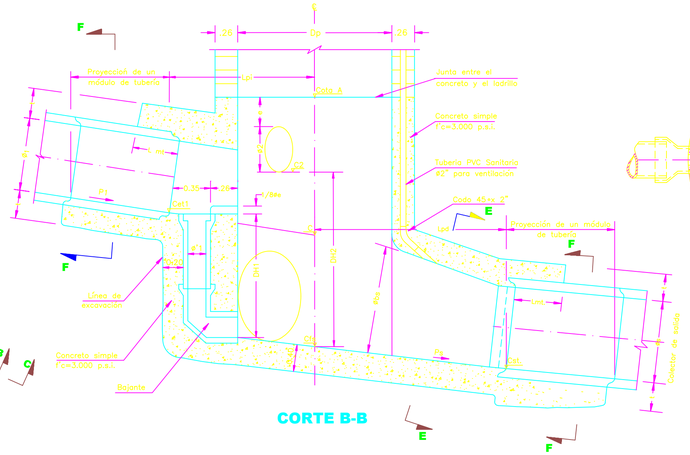
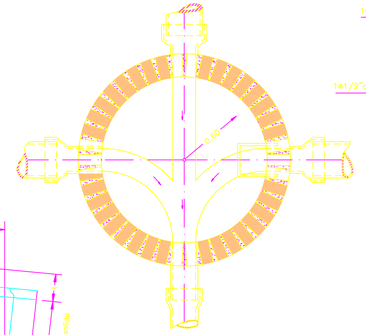


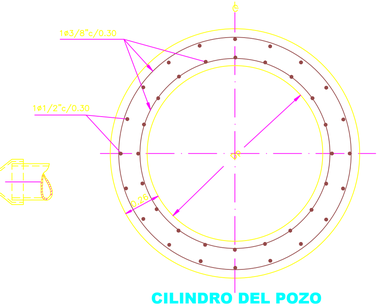

## PLANTA




## CORTE B-B

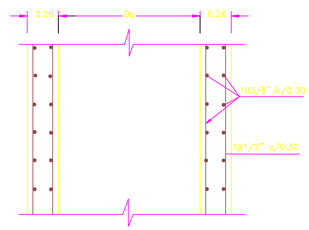



## CONFLUENCIA DE COLECTORES DETALLE DE LA CAÑUELA

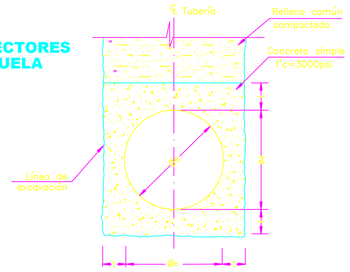



## CILINDRO DEL POZO

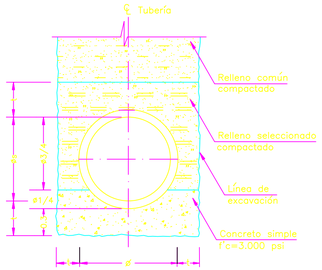
(Ver notas 10 y 11)




## SECCION LONGITUDINAL




## CORTE D-D

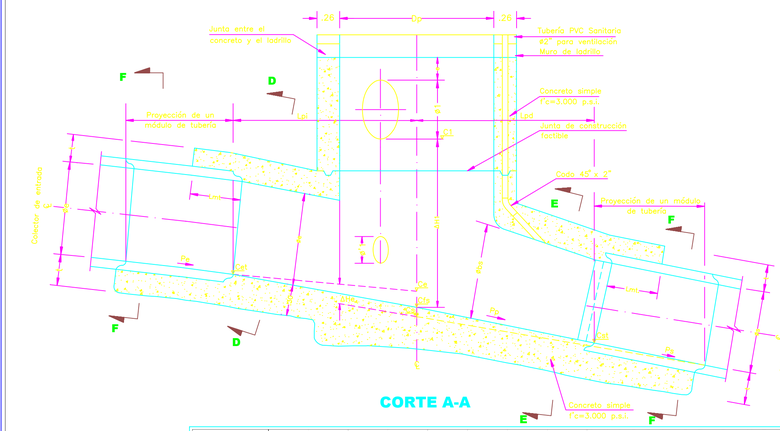



## CORTE F-F

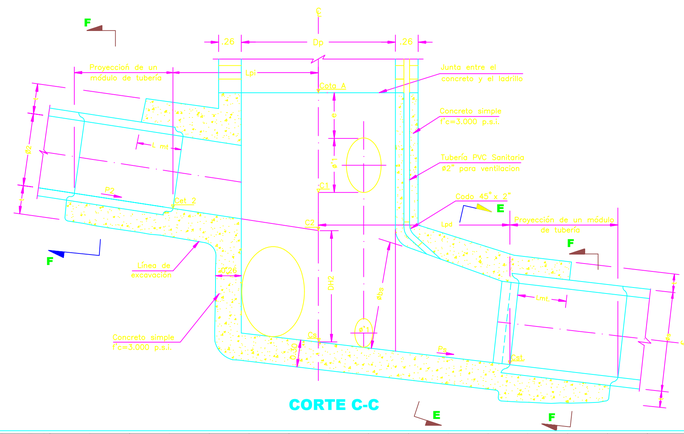
Cimentación para el primer módulo en tuberías de concreto reforzado

| Øe | K | Ø'1 | e |
|---|---|---|---|
| 8" | 0.40 | 8" | 0.20 |
| 10" | 0.40 | | |
| 12" | 0.40 | | |
| 14" | 0.50 | 12" | 0.25 |
| 16" | 0.50 | | |
| 18" | 0.50 | | |
| 21" | 0.56 | 14" | 0.30 |
| 24" | 0.56 | | |
| 27" | 0.61 | 16" | |
| 30" | 0.61 | | |
| 33" | 0.61 | | |
| 36" | 0.61 | | |

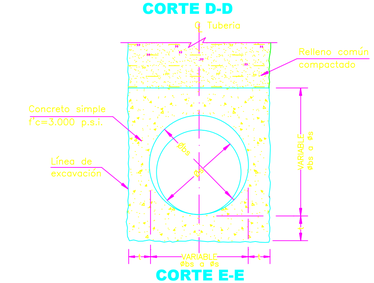
## CAMARA DE CAIDA




## CORTE A-A




## CORTE C-C




## CORTE E-E

### CUADRO DE DIMENSIONES

| ESTRUCTURA POZO | COLECTOR DE ENTRADA Dp | 0e | Pe | Lpi | Ce | Cet | COLECTOR DE SALIDA 0s | 0bs | Ps | Pp | Lpd | Cs | Cfs | Cst | COLECTORES AFLUENTES 01 | 02 | 03 | 04 | C1 | C2 | C3 | C4 | CAMARAS DE CAIDA dHe | 0'e | dH1 | 0'1 | dH2 | 0'2 | dH3 | 0'3 | dH4 | 0'4 | e | Cota A | CANTIDADES DE OBRA ACERO | CONCRETO | EXCAV. | TUBERIA PVC 02" | PVC 02" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m | m | % | m | m | m | m | m | % | % | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | Kg | m3 | m3 | m | Un. |
| TOTAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 231.72 | 53.22 | 252.62 | 3.65 | 4.00 |
| P(CAP)R13 | 1.20 | 0.23 | 3,95 | 0.60 | 1174,06 | 1174,08 | 0,23 | | 1,10 | 2.88 | 0.60 | 1174,05 | 1174,06 | 1174.04 | | | | | | | | | | | | | | | | | | | 0.20 | 1174,51 | 0.00 | 1.11 | 6,15 | | |
| P(CAP)R14 | 1.20 | 0.23 | 1,10 | 0.60 | 1173,35 | 1173,36 | 0,23 | | 1,00 | | 0.60 | 1173,35 | | 1173.35 | | | | | | | | | | | | | | | | | | | 0.20 | 1173,78 | 0.00 | 1.08 | 7,75 | | |
| P(CAP)R15 | 1.20 | 0.23 | 1,00 | 0.60 | 1172,63 | 1172,64 | 0,23 | | 1,00 | 1.21 | 0.60 | 1172,63 | 1172,63 | 1172.62 | | | | | | | | | | | | | | | | | | | 0.20 | 1173,07 | 0.00 | 1.09 | 9,59 | | |
| P(CAP)R16 | 1.20 | 0.23 | 1,00 | 0.60 | 1171,89 | 1171,89 | 0,23 | | 1,00 | 1.04 | 0.60 | 1171,89 | 1171,89 | 1171.88 | | | | | | | | | | | | | | | | | | | 0.20 | 1172,32 | 0.00 | 1.09 | 8,94 | | |
| P(CAP)R17 | 1.20 | 0.23 | 1,00 | 0.60 | 1171,17 | 1171,17 | 0,23 | | 1,50 | | 0.60 | 1170,78 | | 1170.77 | | | | | | | | | | | | | | | | | | | 0.20 | 1171,60 | 0.00 | 1.55 | 6,67 | | |
| P(CAP)R18 | 1.20 | 0.23 | 1,50 | 0.60 | 1169,69 | 1169,70 | 0,23 | | 1,80 | | 0.60 | 1169,18 | | 1169.17 | | | | | | | | | | | | | | | | | | | 0.20 | 1170,12 | 0.00 | 1.69 | 5,65 | | |
| P(CAP)R19 | 1.20 | 0.23 | 1,80 | 0.60 | 1167,48 | 1167,49 | 0,23 | | 2,00 | 5.20 | 0.60 | 1167,44 | 1167,46 | 1167.43 | | | | | | | | | | | | | | | | | | | 0.20 | 1167,92 | 0.00 | 1.14 | 4,99 | | |
| P(CAP)R20 | 1.20 | 0.23 | 2,00 | 0.60 | 1165,87 | 1165,89 | 0,18 | | 0,80 | 1.43 | 0.60 | 1165,87 | 1165,88 | 1165.87 | | | | | | | | | | | | | | | | | | | 0.20 | 1166,31 | 0.00 | 1.08 | 3,88 | | |
| P(PIN)R8 | 1.20 | 0.18 | 0,80 | 0.60 | 1156,33 | 1156,33 | 0,18 | | 0,80 | | 0.60 | 1156,33 | | 1156.32 | | | | | | | | | | | | | | | | | | | 0.20 | 1156,71 | 0.00 | 1.01 | 10,36 | | |
| P(TAN-GAS)R | 1.20 | 0.36 | 3,60 | 0.60 | 1172,39 | 1172,41 | 0,36 | | 5,00 | 12.93 | 0.60 | 1172,29 | 1172,33 | 1172.26 | | | | | | | | | | | | | | | | | | | 0.25 | 1173,02 | 0.00 | 1.49 | 5,38 | | |
| P(COR)R2 | 1.20 | 0.18 | 7,30 | 0.60 | 1189,91 | 1189,95 | 0,18 | | 11,20 | | 0.60 | 1189,91 | | 1189.84 | | | | | | | | | | | | | | | | | | | 0.20 | 1190,33 | 0.00 | 1.05 | 3,79 | | |
| P(COR)R3 | 1.20 | 0.18 | 11,20 | 0.60 | 1183,91 | 1183,98 | 0,18 | | 13,40 | | 0.60 | 1183,91 | | 1183.83 | | | | | | | | | | | | | | | | | | | 0.20 | 1184,36 | 0.00 | 1.09 | 3,79 | | |
| P(COR)R4 | 1.20 | 0.18 | 13,40 | 0.60 | 1175,86 | 1175,94 | 0,18 | | 4,30 | 8.93 | 0.60 | 1175,86 | 1175,89 | 1175.84 | | | | | | | | | | | | | | | | | | | 0.20 | 1176,33 | 0.00 | 1.10 | 3,91 | | |
| P(EST-SEP)4 | 1.20 | 0.36 | 11,00 | 0.60 | 1180,31 | 1180,37 | 0,18 | | 11,50 | 11.75 | 0.60 | 1180,30 | 1180,30 | 1180.23 | | | | | | | | | | | | | | | | | | | 0.25 | 1186,70 | 231.72 | 8.18 | 22,39 | | |
| P(SIM)R15 | 1.20 | 0.18 | 11,50 | 0.60 | 1173,86 | 1173,93 | 0,18 | | 3,00 | 7.10 | 0.60 | 1173,86 | 1173,89 | 1173.85 | | | | | | | | | | | | | | | | | | | 0.20 | 1174,31 | 0.00 | 1.09 | 3,91 | | |
| P(EST-SEP)5 | 1.20 | 0.41 | 12,00 | 0.60 | 1163,47 | 1163,54 | 0,18 | | 12,00 | 13.94 | 0.60 | 1163,45 | 1163,46 | 1163.37 | | | | | | | | | | | | | | | | | | | 0.25 | 1164,20 | 0.00 | 1.45 | 15,15 | | |
| P(OCM)R7 | 1.20 | 0.23 | 0,70 | 0.60 | 1156,38 | 1156,38 | 0,23 | | 0,70 | 0.77 | 0.60 | 1156,38 | 1156,38 | 1156.36 | | | | | | | | | | | | | | | | | | | 0.20 | 1156,81 | 0.00 | 1.08 | 11,25 | | |
| P(OCM)R8 | 1.20 | 0.23 | 0,70 | 0.60 | 1156,20 | 1156,20 | 0,23 | | 0,70 | 0.77 | 0.60 | 1156,20 | 1156,20 | 1156.19 | | | | | | | | | | | | | | | | | | | 0.20 | 1156,63 | 0.00 | 1.08 | 10,70 | | |
| P(OCM)R9 | 1.20 | 0.23 | 0,70 | 0.60 | 1155,80 | 1155,81 | 0,23 | | 0,70 | 0.77 | 0.60 | 1155,80 | 1155,80 | 1155.80 | | | | | | | | | | | | | | | | | | | 0.20 | 1156,23 | 0.00 | 1.08 | 8,61 | | |
| P(OCM)R10 | 1.20 | 0.23 | 0,70 | 0.60 | 1155,31 | 1155,32 | 0,23 | | 0,70 | | 0.60 | 1154,70 | | 1154.70 | | | | | | | | | | | | | | | | | | | 0.20 | 1155,74 | 0.00 | 1.81 | 8,87 | | |
| P(OCM)R11 | 1.20 | 0.23 | 0,70 | 0.60 | 1154,56 | 1154,56 | 0,23 | | 0,70 | 0.77 | 0.60 | 1154,56 | 1154,56 | 1154.55 | | | | | | | | | | | | | | | | | | | 0.20 | 1154,99 | 0.00 | 1.08 | 4,69 | | |
| P(OCM)R12 | 1.20 | 0.23 | 0,70 | 0.60 | 1154,21 | 1154,22 | 0,23 | | 0,70 | 0.77 | 0.60 | 1154,21 | 1154,21 | 1154.21 | | | | | | | | | | | | | | | | | | | 0.20 | 1154,64 | 0.00 | 1.08 | 7,35 | | |
| P(OCM)R13 | 1.20 | 0.23 | 0,70 | 0.60 | 1154,06 | 1154,06 | 0,23 | | 0,70 | | 0.60 | 1154,06 | | 1154.06 | | | | | | | | | | | | | | | | | | | 0.20 | 1154,49 | 0.00 | 1.07 | 7,98 | | |
| P(OCM)R14 | 1.20 | 0.23 | 0,70 | 0.60 | 1153,94 | 1153,94 | 0,23 | | 0,70 | | 0.60 | 1153,94 | | 1153.94 | | | | | | | | | | | | | | | | | | | 0.20 | 1154,37 | 0.00 | 1.07 | 8,25 | | |
| P(OCM)R15 | 1.20 | 0.23 | 0,70 | 0.60 | 1153,75 | 1153,75 | 0,23 | | 0,70 | 0.77 | 0.60 | 1153,75 | 1153,75 | 1153.74 | | | | | | | | | | | | | | | | | | | 0.20 | 1154,18 | 0.00 | 1.08 | 6,75 | | |
| P(OCM)R16 | 1.20 | 0.23 | 0,70 | 0.60 | 1153,40 | 1153,40 | 0,23 | | 1,00 | | 0.60 | 1153,03 | | 1153.03 | | | | | | | | | | | | | | | | | | | 0.20 | 1153,83 | 0.00 | 1.51 | 9,33 | | |
| P(OCM)R17 | 1.20 | 0.23 | 1,00 | 0.60 | 1152,57 | 1152,58 | 0,23 | | 1,20 | | 0.60 | 1151,52 | | 1151.52 | | | | | | | | | 1,05 | 0,20 | | | | | | | | | 0.20 | 1153,00 | 0.00 | 2.52 | 7,94 | 1.26 | 2.00 |
| P(OCM)R18 | 1.20 | 0.23 | 1,20 | 0.60 | 1151,07 | 1151,08 | 0,23 | | 0,70 | | 0.60 | 1151,08 | | 1151.08 | | | | | | | | | | | | | | | | | | | 0.20 | 1151,51 | 0.00 | 1.08 | 4,63 | | |
| P(OCM)R19 | 1.20 | 0.23 | 0,70 | 0.60 | 1150,58 | 1150,59 | 0,23 | | 0,70 | | 0.60 | 1150,20 | | 1150.20 | | | | | | | | | | | | | | | | | | | 0.20 | 1151,01 | 0.00 | 1.54 | 8,14 | | |
| P(EST-SEP)1 | 1.20 | 0.36 | 5,00 | 0.60 | 1192,57 | 1192,60 | 0,18 | | 7,30 | | 0.60 | 1190,68 | | 1190.64 | | | | | | | | | 1,89 | 0,30 | | | | | | | | | 0.25 | 1193,21 | 0.00 | 3.98 | 4,85 | 2.39 | 2.00 |
| P(EST-SEP)2 | 1.20 | 0.36 | 5,00 | 0.60 | 1171,73 | 1171,76 | 0,18 | | 19,20 | | 0.60 | 1171,73 | | 1171.62 | | | | | | | | | | | | | | | | | | | 0.25 | 1172,39 | 0.00 | 1.32 | 4,24 | | |
| P(EST-SEP)3 | 1.20 | 0.23 | 0,70 | 0.60 | 1156,43 | 1156,44 | 0,18 | | 0,80 | 1.03 | 0.60 | 1156,43 | 1156,43 | 1156.42 | | | | | | | | | | | | | | | | | | | 0.20 | 1156,86 | 0.00 | 1.07 | 6,80 | | |
| P(PIN)R13 | 1.20 | 0.18 | 12,00 | 0.60 | 1162,33 | 1162,40 | 0,18 | | 7,50 | 9.43 | 0.60 | 1162,33 | 1162,35 | 1162.29 | | | | | | | | | | | | | | | | | | | 0.20 | 1162,78 | 0.00 | 1.09 | 7,80 | | |
| P(EST-SEP)6 | 1.20 | 0.23 | 1,00 | 0.60 | 1153,86 | 1153,86 | 0,18 | | 0,80 | | 0.60 | 1153,86 | | 1153.86 | | | | | | | | | | | | | | | | | | | 0.20 | 1154,29 | 0.00 | 1.08 | 3,92 | | |
| P(EST-SEP)7 | 1.20 | 0.36 | 1,90 | 0.60 | 1156,74 | 1156,75 | 0,23 | | 0,70 | 1.01 | 0.60 | 1156,74 | 1156,74 | 1156.74 | | | | | | | | | | | | | | | | | | | 0.25 | 1157,36 | 0.00 | 1.31 | 4,22 | | |

NOTAS:

1. Todas las dimensiones no especificadas están dadas en metros.
2. El valor mínimo de LPD y LPI será para tubería de gres y de la tangencia (T) no inferior a 0.60 para tubería de concreto.
3. Para tubería de concreto de radio de curvatura R tendrá una dimensión mínima igual a 6 veces Ø e.
4. El corte A-A corresponde a una diferencia entre la cota de entrada (Ce) y la cota de salida (Cs) inferior a 0.30; el corte B-B a una diferencia superior a 0.80; el corte C-C a una diferencia entre 0.30 y 0.80.

   Las cotas de entrada y salida (Ce y Cs) corresponden a la proyección de la pendiente de los colectores de entrada y salida, respectivamente en el eje del pozo. Las consideraciones especificadas en los cortes B-B y C-C, son aplicables al corte principal A-A.
5. El concreto tendrá una resistencia a los 28 días de f'c= 3000 psi.
6. Las excavaciones deben ajustarse estrictamente a las necesidades de colocación del concreto, y sus dimensiones deberán ser aprobadas por el Interventor antes de su ejecución.
7. Cualquier cambio de dimensiones debe ser aprobado por el Interventor.
8. La tubería embebida en el concreto debe limpiarse cuidadosamente antes de colocar el concreto.
9. La tubería sanitaria de PVC deberá cumplir con la norma ICONTEC-382 y se instalará en los pozos indicados en el cuadro de dimensiones.
10. Se deberá construir el cilindro del pozo en concreto reforzado, para los pozos que presentan diferencias entre cotas de rasante y de fondo superiores a 6.00m.
    El concreto reforzado se llevará hasta 2.00 m por debajo de la cota de rasante. El recubrimiento mínimo de refuerzo será 4 cm.
11. Acero de refuerzo ***fy***=2.394 Kg/cm$^2$ para Ø ≤3/8" y ***fy***= 4.200 Kg/cm$^2$ para Ø≥1/2".
12. El valor de ***t*** será=0.20 para tubería de gres y 0.30 para tuberías de concreto.
13. L mt=0, para tubería de gres y de PVC L mt=1 para tubería de concreto (Ø ≥24")

EMPRESA DE SERVICIOS PUBLICOS DE SANTANDER S.A. E.S.P.

DISEÑO Y CALCULO: ING.OSCAR Y. GARCIA SANABRIA Mat. 68202-121954 STD.

REVISO: FAVIO EMERSON GARCIA PATIÑO Mat. 15202-115631 BYC.

DIBUJO : L.F.A.B.
LEV. TOP. : J.A.G.S.
FECHA : Abril del 2014
ESCALA : SIN ESCALA

APROBADO: FAVIO EMERSON GARCIA PATIÑO Mat. 15202-115631 BYC.

REVISIONES

| REFERENCIA | FECHA | RESPONS. |
|---|---|---|
| | | |

**CONSTRUCCION Y OPTIMIZACION DEL SISTEMA DE ALCANTARILLADO SANITARIO, PLUVIAL Y SISTEMA DE TRATAMIENTO DE AGUAS RESIDUALES DEL MUNICIPIO DE CHARALA - DPTO SANTANDER (CONTRATO PLAN - FASE I SIN PTAR)**

# POZO DE INSPECCION

ESTRUCTURA EN CONCRETO

## DISEÑO SANITARIO MUNICIPIO DE CHARALA

PLANO: 1

SON: 1

Est-pozo.dwg