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A mi querido Padre
EDUARDO quien con sus valiosos consejos, esfuerzo, cariño y amor guía el camino de mi vida para salir adelante.

A mi querida Madre
GRACIELA por su dedicación, apoyo y amor que me da cada día.

A mi Hermano Eduardo cuya compañía y entusiasmo me da su cariño.

A todos ellos les estaré eternamente agradecida
Que Dios los bendiga...
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<td>Infraestructura de las estaciones de bombeo (cámara húmeda y seca)</td>
<td>Tableros de control, equipos de bombeo, deben estar asegurados para evitar movimientos vibratorios de un sismo.</td>
<td>La empresa debe tener preparado personal técnico, para un inmediato diagnóstico de equipo y asegurar el funcionamiento y evaluación su estado. El personal de mantenimiento y operación deben tener un programa de actividades en caso de presentarse una amenaza de sismo de gran magnitud. El mantenimiento de las estaciones de bombeo y cámara de rejas debe ser continuo para evitar problemas operacionales.</td>
<td>Los equipos de bombeo, tableros, equipos eléctricos deben contar con sus respectivos grupos electrocayales, instructivos operacionales y de mantenimiento.</td>
<td>Las estaciones de bombeo de EMAPACOP SA deben contar con sus respectivos grupos electrocayales para evitar inconvenientes operacionales. Debe contar con todos los elementos y equipos necesarios de limpieza y operación de los mismos.</td>
<td>EMAPACOP SA debe asegurar el funcionamiento continuo de las 3 estaciones de bombeo para evitar malestar con la población por la presencia residual de rebose de malos olores del agua y malestar en la ciudad, además de inspeccionar su operación y mantenimiento.</td>
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ANEXOS
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CONTROL DE CLORO RESIDUAL Y PRESIÓN EN REDES

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GERENCIA DE OPERACIONES
DPTO. CONTROL DE CALIDAD
CUADRO No A - 4
CONTROL DE CLORO RESIDUAL Y PRESIÓN EN REDES

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**SOLIDOS DISUELTOS**

|            | SP   | 148.0 | 175.0 | 155.0 | 153.0 |
|------------|------|-------|-------|-------|
| SP1        | 150.0| 194.0 |       |       |
| SP2        | 238.0| 217.0 |       |       |
| R1         | 159.0| 181.0 |       |       |
| R2         | 143.0| 187.0 |       |       |
| R3         | 150.0| 169.0 |       |       |

**TOTALES**

|            | SP   | 148.0 | 175.0 | 155.0 | 153.0 |
|------------|------|-------|-------|-------|
| SP1        | 150.0| 194.0 |       |       |
| SP2        | 238.0| 217.0 |       |       |
| R1         | 159.0| 181.0 |       |       |
| R2         | 143.0| 187.0 |       |       |
| R3         | 150.0| 169.0 |       |       |

**ALCALINIDAD**

|            | SP   | 148.0 | 175.0 | 155.0 | 153.0 |
|------------|------|-------|-------|-------|
| SP1        | 150.0| 194.0 |       |       |
| SP2        | 238.0| 217.0 |       |       |
| R1         | 159.0| 181.0 |       |       |
| R2         | 143.0| 187.0 |       |       |
| R3         | 150.0| 169.0 |       |       |

**DUREZA**

|            | SP   | 148.0 | 175.0 | 155.0 | 153.0 |
|------------|------|-------|-------|-------|
| SP1        | 150.0| 194.0 |       |       |
| SP2        | 238.0| 217.0 |       |       |
| R1         | 159.0| 181.0 |       |       |
| R2         | 143.0| 187.0 |       |       |
| R3         | 150.0| 169.0 |       |       |

**HIERRO**

|            | SP   | 148.0 | 175.0 | 155.0 | 153.0 |
|------------|------|-------|-------|-------|
| SP1        | 150.0| 194.0 |       |       |
| SP2        | 238.0| 217.0 |       |       |
| R1         | 159.0| 181.0 |       |       |
| R2         | 143.0| 187.0 |       |       |
| R3         | 150.0| 169.0 |       |       |

**CLORUROS**

|            | SP   | 148.0 | 175.0 | 155.0 | 153.0 |
|------------|------|-------|-------|-------|
| SP1        | 150.0| 194.0 |       |       |
| SP2        | 238.0| 217.0 |       |       |
| R1         | 159.0| 181.0 |       |       |
| R2         | 143.0| 187.0 |       |       |
| R3         | 150.0| 169.0 |       |       |

**CALCIO**

|            | SP   | 148.0 | 175.0 | 155.0 | 153.0 |
|------------|------|-------|-------|-------|
| SP1        | 150.0| 194.0 |       |       |
| SP2        | 238.0| 217.0 |       |       |
| R1         | 159.0| 181.0 |       |       |
| R2         | 143.0| 187.0 |       |       |
| R3         | 150.0| 169.0 |       |       |
CUADRO A - 10

RESUMEN MENSUAL DE ANALISIS CON FRECUENCIA SEMANAL
MES DE OCTUBRE - 2000

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C : Agua cruda superficial  
SP : Salida de planta  
SP1: Salida del pozo 1  
SP2: Salida del pozo 2  
C : Salida del pozo 1  
SP : Salida del pozo 2  
R1 : Reservorio de 750 m3  
R2 : Reservorio de 5103 m3  
R3 : Reservorio de 5130 m3
## ANEXO No 11

EMAPACOP SA

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### Presupuesto del Sistema de Alcantarillado

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### Presupuesto del Sistema de Drenaje Pluvial

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Presupuesto
# PRESUPUESTO CASETA BOMBEO Y EQUIPAMIENTO DEL POZO

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**COSTO DIRECTO**: S/ 212,676,63

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**RESUMEN**

**COSTO DIRECTO**: S/ 212,676,63
PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA

PRESUPUESTO LINEA DE IMPULSION DE AGUA

| OBRA | PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA |
| DEPARTAM. | UCAYALI |
| LOCAL. | PUCALLPA |
| FECHA | DIC. 2000 |

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COSTO DIRECTO SI. 1,984,09

PRESUPUESTO
PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA

PRESUPUESTO RESERVORIO ELEVADO V = 2000 m³

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**COSTO DIRECTO**

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**PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA**

**PRESUPUESTO REDES DE DISTRIBUCION DE AGUA**

**OBRA** : PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA  
**DEPARTAM.** : UCAYALI  
**LOCAL.** : PUCALLPA  
**FECHA** : DIC. 2000  

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**COSTO DIRECTO**  
S/. 1,336,206,20  

**PRESUPUESTO**
PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AÄH DEL SECTOR NOROESTE DE PUCALLPA

PRESUPUESTO DE CONEXIONES DOMICILIARIAS DE AGUA

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COSTO DIRECTO: S/. 935.979,49
# PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 A&AHH DEL SECTOR NOROESTE DE PUCALLPA

## PRESUPUESTO DE LINEA DE IMPULSION No III

**OBRA**: PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 A&AHH DEL SECTOR NOROESTE DE PUCALLPA  
**DEPARTAM.**: UCAYALI  
**LOCAL.**: PUCALLPA  
**FECHA**: DIC. 2000

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**COSTO DIRECTO**  
S/. 282,056,56

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**PRESUPUESTO**
# PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA

## PRESUPUESTO DE LINEA DE IMPULSION No 1

### OBRA
- PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA

### DEPARTAM.
- UCAYALI

### LOCAL.
- PUCALLPA

### FECHA
- DIC. 2000

## Item | Descripción | Unidad | Metro | P. Unitario | P. Parcial | P. Total
--- | --- | --- | --- | --- | --- | ---
1,00 | MOVIMIENTO DE TIERRA | m³ | 940,00 | 0,51 | 479,40 |
1,10 | Trazo, niveles y replanteo | m³ | 940,00 | 6,91 | 6,496,40 |
1,20 | Excavación zanja c/equipo | m³ | 940,00 | 0,91 | 855,40 |
1,30 | Refile, nivelación zanja A = 0,6 | m³ | 940,00 | 1,44 | 1,353,60 |
1,40 | Cama de arena gruesa 0,10x0,60 TN | m³ | 940,00 | 12,76 | 11,994,40 |
1,50 | Relleno compactado c/pl vib | m³ | 94,00 | 5,45 | 512,30 |
1,60 | Eliminación material excedente | m³ | 94,00 | 0,91 | 655,40 |
2,00 | SUM. E INSTALAC. TUBERIAS | m³ | 940,00 | 68,89 | 64,756,60 |
3,09 | SUM. E INSTALAC. DE ACCESORIOS | m³ | 940,00 | 68,89 | 64,756,60 |
3,10 | Codo FF mzz 22.50 x 8 pulg. | und | 5,00 | 321,55 | 1,607,75 |
3,20 | Codo FF mzz 450 x 8 pulg. | und | 2,00 | 336,85 | 673,70 |
3,30 | Codo FF mzz 900 x 8 pulg. | und | 3,00 | 350,75 | 1,052,25 |
3,40 | Instal. Acce. Fho 8 pulg. | und | 10,00 | 81,02 | 810,20 |
3,50 | Dado concreto 175 +anclaje=10 pulg. | und | 10,00 | 79,30 | 793,00 |
3,60 | Válvulas de aire 1/2pulg. | und | 2,00 | 3,663,42 | 7,326,84 |
3,70 | Válvulas de purga 4pulg. | und | 1,00 | 6,759,83 | 6,759,83 |

**COSTO DIRECTO**

| SI | 105,470,67 |
## PRESUPUESTO DE LINEA DE IMPULSION No II

**OBRA:** PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA  
**DEPARTAM.:** UCAYALI  
**LOCAL:** PUCALLPA  
**FECHA:** DIC. 2000

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**COSTO DIRECTO**  
S/. **88.579,59**

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**PRESUPUESTO**
## PRESUPUESTO DE REDES Y BUZONES DE ALCANTARILLADO

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**3.00 SUMINISTRO E INSTALACION DE TUBERIA**

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**COSTO DIRECTO**

Si. 4,463,720,08
### PRESUPUESTO DE CAMARA DE BOMBEO DE DESAGUE No 1

**OBRA:** PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA  
**DEPARTAM.:** UCAYALI  
**LOCAL.:** PUCALLPA  
**FECHA:** DIC. 2000

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**COSTO DIRECTO**

| | | | | | | |
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| | | | | | |
| | | | | | |

**PRESUPUESTO**

Si: 231,908.93
### PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAMH DEL SECTOR NOROESTE DE PUCALLPA

### PRESUPUESTO DE CAMARA DE BOMBEO DE DESAGUE No 2

**OBRA**: PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAMH DEL SECTOR NOROESTE DE PUCALLPA  
**DEPARTAM.**: UCAYALI  
**LOCAL.**: PUCALLPA  
**FECHA**: DIC. 2000

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PRESUPUESTO
### PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA

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<th>Costo Unitario</th>
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#### COSTO DIRECTO

| SI. | 495,235,14 |
## PRESUPUESTO DE CAMARA DE BOMBEO DE DESAGUE No 3

**OBRA:** PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA  
**DEPARTAM.:** UCAYALI  
**LOCAL:** PUCALLPA  
**FECHA:** DIC. 2000

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?eró fy = 4200 kg/cm2 | kg  | 8,725,00| 5,04        | 43,974,00  | 93,187,93|
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| 4,10 | Muro ladrillo KK arcilla cabeza | m2  | 39,00   | 69,88       | 2,725,32   |          |
| 4,20 | Muro ladrillo KK arcilla canto | m2  | 7,00    | 35,79       | 250,53     |          |
| 4,30 | Tarrajeo forjado | m2  | 118,00  | 23,46       | 2,768,28   |          |
| 4,40 | Tarrajeo en cielo raso | m2  | 34,20   | 24,22       | 828,32     |          |
| 4,50 | Piso cemento pulido E = 0,05 | m2  | 27,00   | 14,19       | 383,13     |          |
| 4,60 | Tarrajeo climpermeabilizante E = 0,01 | m2  | 82,00   | 31,00       | 1,922,00   | 8,877,58 |
| 5,00 | VARIOS |     |         |             |            |          |
| 5,10 | Puerta fierro /plancha metalica | m2  | 3,15    | 368,97      | 1,225,26   |          |
| 5,20 | Ventana fierro | m2  | 6,90    | 171,36      | 1,182,38   |          |
| 5,30 | Escalera marinera | m1  | 8,00    | 286,39      | 2,291,12   |          |
| 5,40 | Tapa concreto 0,70 x1,00 x0,10 | unid | 1,00    | 120,11      | 120,11     | 4,818,87 |
| 6,00 | INSTALACIONES HIDRAULICAS |     |         |             |            |          |
| 6,10 | Sum. instal. hidráulicas | GLB | 1,00    | 94,323,89   | 94,323,89  | 40,890,00|

**PRESUPUESTO**
### PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA

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COSTO DIRECTO                                          S/. 1.449.440,23

PRESUPUESTO
# PRESUPUESTO DE DRENAJE PLUVIAL

**OBRA:** PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA  
**DEPARTAM.:** UCAYALI  
**LOCAL:** PUCALLPA  
**FECHA:** DIC. 2000

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Por favor, revisa en detalle el presupuesto detallado para el proyecto de drenaje pluvial.
**PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAH+ DEL SECTOR NOROESTE DE PUCALLPA**

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**5.00 RED DE DESAGUE PLUVIAL**

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**PRESUPUESTO**
## PROYECTO DE AGUA POTABLE Y ALCANTARILLADO DE 16 AAHH DEL SECTOR NOROESTE DE PUCALLPA

### SUMINISTRO E INSTALACIÓN DE TUBERÍA

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### BUZONES

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**COSTO DIRECTO**

|               | S/ | 5.993.590,81 |

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