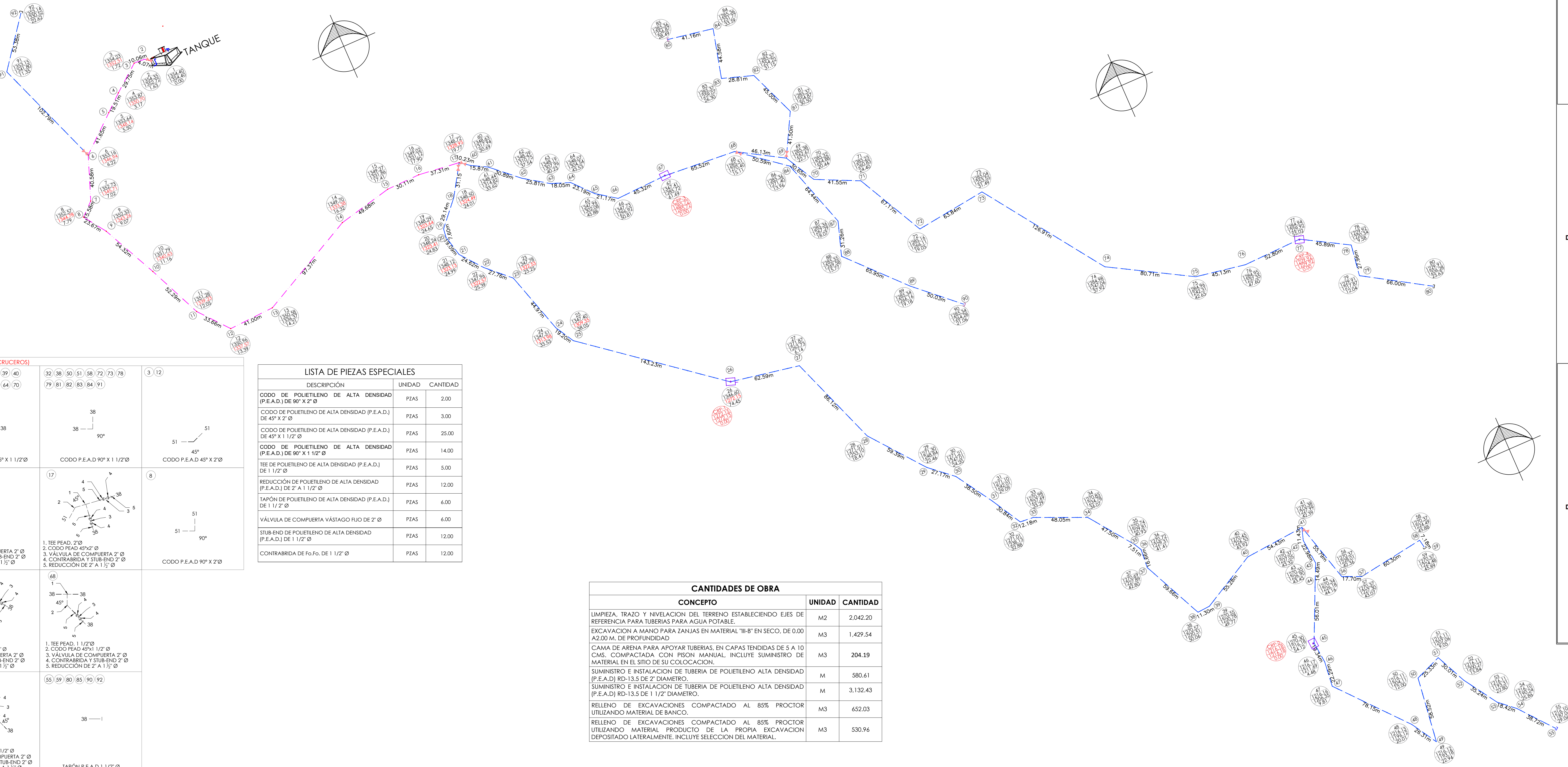
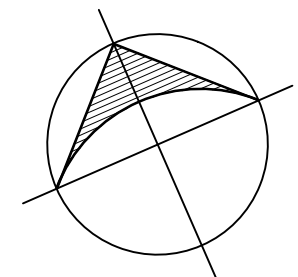


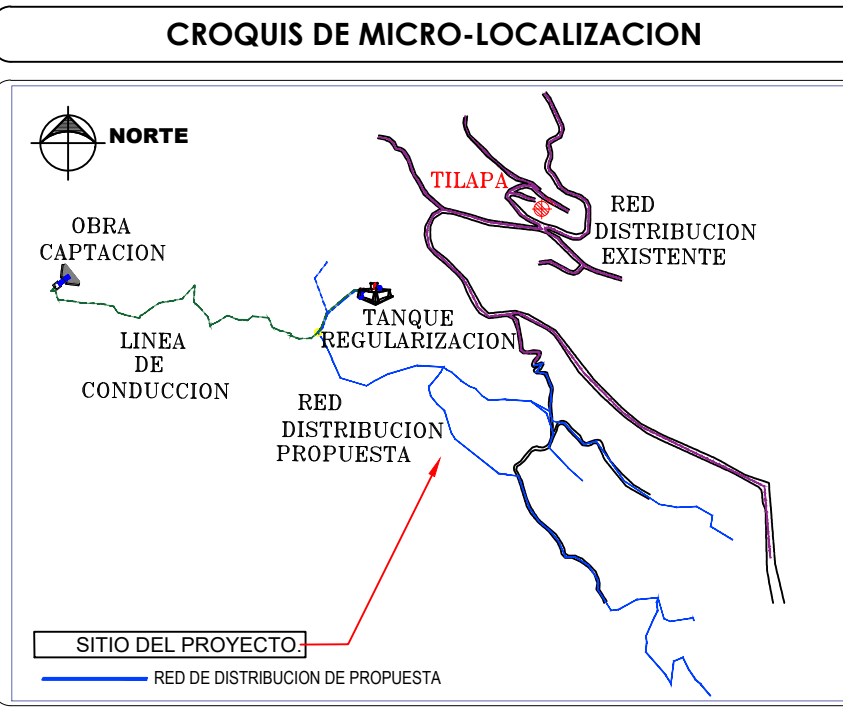


| RED 1 [DISEÑO DE CRUCES]                                                                                                                                                                                                                  |  |  |                                                                                                                                                                                                                                                                |  |  |                                       |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|---------------------------------------|--|--|--|
| <p>19 23 26 34 36 37 39 40</p> <p>42 43 47 49 56 57 64 70</p> <p>71 77 86 87 88</p>                                                                                                                                                       |  |  | <p>32 38 50 51 58 72 73 78</p> <p>79 81 82 83 84 91</p>                                                                                                                                                                                                        |  |  | <p>3 12</p>                           |  |  |  |
| <p>CODO P.E.A.D 45° X 1 1/2"</p>                                                                                                                                                                                                          |  |  | <p>CODO P.E.A.D 90° X 1 1/2"</p>                                                                                                                                                                                                                               |  |  | <p>CODO P.E.A.D 45° X 2"</p>          |  |  |  |
| <p>6</p> <ol style="list-style-type: none"> <li>1. TEE PEAD, 2" Ø</li> <li>2. CODO PEAD 45°x2" Ø</li> <li>3. VALVULA DE COMPUERTA 2" Ø</li> <li>4. CONTRABIDIA Y STUB-END 2" Ø</li> <li>5. REDUCCION DE 2" A 1 1/2" Ø</li> </ol>          |  |  | <p>17</p> <ol style="list-style-type: none"> <li>1. TEE PEAD, 2" Ø</li> <li>2. CODO PEAD 45°x2" Ø</li> <li>3. VALVULA DE COMPUERTA 2" Ø</li> <li>4. CONTRABIDIA Y STUB-END 2" Ø</li> <li>5. REDUCCION DE 2" A 1 1/2" Ø</li> </ol> <p>CODO P.E.A.D 90° X 2"</p> |  |  | <p>8</p> <p>CODO P.E.A.D 90° X 2"</p> |  |  |  |
| <p>41</p> <ol style="list-style-type: none"> <li>1. TEE PEAD, 1 1/2" Ø</li> <li>2. CODO PEAD 45°x1 1/2" Ø</li> <li>3. VALVULA DE COMPUERTA 2" Ø</li> <li>4. CONTRABIDIA Y STUB-END 2" Ø</li> <li>5. REDUCCION DE 2" A 1 1/2" Ø</li> </ol> |  |  | <p>68</p> <ol style="list-style-type: none"> <li>1. TEE PEAD, 1 1/2" Ø</li> <li>2. CODO PEAD 45°x1 1/2" Ø</li> <li>3. VALVULA DE COMPUERTA 2" Ø</li> <li>4. CONTRABIDIA Y STUB-END 2" Ø</li> <li>5. REDUCCION DE 2" A 1 1/2" Ø</li> </ol>                      |  |  |                                       |  |  |  |
| <p>69</p> <ol style="list-style-type: none"> <li>1. TEE PEAD, 1 1/2" Ø</li> <li>2. CODO PEAD 45°x1 1/2" Ø</li> <li>3. VALVULA DE COMPUERTA 2" Ø</li> <li>4. CONTRABIDIA Y STUB-END 2" Ø</li> <li>5. REDUCCION DE 2" A 1 1/2" Ø</li> </ol> |  |  | <p>55 59 80 85 90 92</p> <p>TAPÓN P.E.A.D 1 1/2" Ø</p>                                                                                                                                                                                                         |  |  |                                       |  |  |  |

| LISTA DE PIEZAS ESPECIALES                                          |        |          |
|---------------------------------------------------------------------|--------|----------|
| DESCRIPCIÓN                                                         | UNIDAD | CANTIDAD |
| CODO DE POLIETILENO DE ALTA DENSIDAD (P.E.A.D.) DE 90° X 1/2"       | PZAS   | 2.00     |
| CODO DE POLIETILENO DE ALTA DENSIDAD (P.E.A.D.) DE 45° X 2"         | PZAS   | 3.00     |
| CODO DE POLIETILENO DE ALTA DENSIDAD (P.E.A.D.) DE 90° X 1 1/2"     | PZAS   | 25.00    |
| CODO DE POLIETILENO DE ALTA DENSIDAD (P.E.A.D.) DE 90° X 1 1/2"     | PZAS   | 14.00    |
| TEE DE POLIETILENO DE ALTA DENSIDAD (P.E.A.D.) DE 1 1/2"            | PZAS   | 5.00     |
| REDUCCIÓN DE POLIETILENO DE ALTA DENSIDAD (P.E.A.D.) DE 2" A 1 1/2" | PZAS   | 12.00    |
| TAPÓN DE POLIETILENO DE ALTA DENSIDAD (P.E.A.D.) DE 1 1/2"          | PZAS   | 6.00     |
| VÁLVULA DE COMPUERTA VÁSTAGO RUJO DE 2"                             | PZAS   | 6.00     |
| STUB-END DE POLIETILENO DE ALTA DENSIDAD (P.E.A.D.) DE 1 1/2"       | PZAS   | 12.00    |
| CONRRABARRA DE Fo.Fo. DE 1 1/2"                                     | PZAS   | 12.00    |

| CANTIDADES DE OBRA                                                                                                                                              |        |          |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|--|
| CONCEPTO                                                                                                                                                        | UNIDAD | CANTIDAD |  |
| LIMPIEZA, TRAZO Y NIVELACION DEL TERRENO ESTABLECIENDO EJE DE REFERENCIA PARA TUBERIAS PARA AGUA POTABLE.                                                       | M2     | 2,042.20 |  |
| EXCAVACION A MANO PARA ZANJAS EN MATERIAL "B" EN SECO, DE 0.00 A2.00 M, DE PROFUNDIDAD                                                                          | M3     | 1,429.54 |  |
| CAMA DE ARENA PARA APOYAR TUBERIAS, EN CAPAS TENDIDAS DE 5 A 10 CMS, COMPACTADA CON PISON MANUAL, INCLUYE SUMINISTRO DE MATERIAL EN EL SITIO DE SU COLOCACION.  | M3     | 204.19   |  |
| SUMINISTRO E INSTALACION DE TUBERIA DE POLIETILENO ALTA DENSIDAD (P.E.AD) RD-13.5 DE 12" DIAMETRO.                                                              | M      | 580.61   |  |
| SUMINISTRO E INSTALACION DE TUBERIA DE POLIETILENO ALTA DENSIDAD (P.E.AD) RD-13.5 DE 12" DIAMETRO.                                                              | M      | 3,132.43 |  |
| RELLENO DE EXCAVACIONES COMPACTADO AL 85% PROCTOR UTILIZANDO MATERIAL DE BANCO.                                                                                 | M3     | 652.03   |  |
| RELLENO DE EXCAVACIONES COMPACTADO AL 85% PROCTOR UTILIZANDO MATERIAL PRODUCTO DE LA PROPIA EXCAVACION DEPOSITADO LATERALMENTE, INCLUYE SELECCION DEL MATERIAL. | M3     | 530.96   |  |

| COORDENADAS UTM RED DE DISTRIBUCIÓN |       |       |    |           |             |             |
|-------------------------------------|-------|-------|----|-----------|-------------|-------------|
| OBRA                                | PUNTO | TRAMO |    | DISTANCIA | ESTE (X)    | NORTE (Y)   |
| TANQUE                              | 1     |       |    |           | 607139.08   | 1897167.95  |
|                                     | 2     | 1     | 2  | 4.07      | 607135.98   | 1897170.59  |
|                                     | 3     | 2     | 3  | 10.06     | 607125.88   | 1897171.09  |
|                                     | 4     | 3     | 4  | 29.75     | 607102.57   | 1897152.6   |
|                                     | 5     | 4     | 5  | 19.51     | 607087.85   | 1897140.02  |
|                                     | 6     | 5     | 6  | 41.65     | 607056.18   | 1897112.97  |
|                                     | 7     | 6     | 7  | 15.88     | 607040.29   | 189707.95   |
|                                     | 8     | 7     | 8  | 15.88     | 607030.4813 | 1897064.488 |
|                                     | 9     | 8     | 9  | 23.67     | 607043.88   | 1897044.97  |
|                                     | 10    | 9     | 10 | 54.32     | 607067.32   | 1896995.97  |
| RED DE DISTRIBUCIÓN                 | 11    | 10    | 11 | 52.29     | 607088.52   | 1896948.17  |
|                                     | 12    | 11    | 12 | 33.66     | 607103.099  | 1896922.28  |
|                                     | 13    | 12    | 13 | 41        | 607150.9823 | 1896924.374 |
|                                     | 14    | 13    | 14 | 67.337    | 607237.7656 | 1896940.925 |
|                                     | 15    | 14    | 15 | 49.68     | 607281.1    | 1896979.51  |
|                                     | 16    | 15    | 16 | 30.11     | 607316.1317 | 1896980.222 |
|                                     | 17    | 16    | 17 | 37.31     | 607353.35   | 1896975.77  |
|                                     | 18    | 17    | 18 | 31.15     | 607336.68   | 1896949.46  |
|                                     | 19    | 18    | 19 | 29.14     | 607317.33   | 1896927.67  |
|                                     | 20    | 19    | 20 | 7.6       | 607316.81   | 1896920.14  |
| RED DE DISTRIBUCIÓN                 | 21    | 20    | 21 | 19.29     | 607330.726  | 1896912.36  |
|                                     | 22    | 21    | 22 | 24.62     | 607336.08   | 1896887.29  |
|                                     | 23    | 22    | 23 | 27.76     | 607356.28   | 1896863.63  |
|                                     | 24    | 23    | 24 | 44.97     | 607373.05   | 1896808.13  |
|                                     | 25    | 24    | 25 | 19.2      | 607382.61   | 1896791.48  |
|                                     | 26    | 25    | 26 | 143.23    | 607494.97   | 1896702.66  |
|                                     | 27    | 26    | 27 | 62.59     | 607556.52   | 1896697.55  |
|                                     | 28    | 27    | 28 | 86.12     | 607586.51   | 1896610.553 |
|                                     | 29    | 28    | 29 | 59.37     | 607623.45   | 1896564.03  |
|                                     | 30    | 29    | 30 | 27.19     | 607645.97   | 1896546.21  |
| RED DE DISTRIBUCIÓN                 | 31    | 30    | 31 | 38.5      | 607644.56   | 1896513.68  |
|                                     | 32    | 31    | 32 | 30.84     | 607679.81   | 1896486.87  |
|                                     | 33    | 32    | 33 | 12.18     | 607691.94   | 1896485.83  |
|                                     | 34    | 33    | 34 | 48.05     | 607735.97   | 1896446.58  |
|                                     | 35    | 34    | 35 | 47.5      | 607764.15   | 1896428.34  |
|                                     | 36    | 35    | 36 | 7.81      | 607767.49   | 1896421.72  |
|                                     | 37    | 36    | 37 | 16.66     | 607766.29   | 1896405.11  |
|                                     | 38    | 37    | 38 | 59.66     | 607791.46   | 1896351.03  |
|                                     | 39    | 38    | 39 | 11.3      | 607802.73   | 1896351.75  |
|                                     | 40    | 39    | 40 | 55.28     | 607851.32   | 1896378.12  |
| RED DE DISTRIBUCIÓN                 | 41    | 40    | 41 | 54.43     | 607905.54   | 1896387.83  |
|                                     | 42    | 41    | 42 | 11.43     | 607901.98   | 1896371.66  |
|                                     | 43    | 42    | 43 | 22.98     | 607904.02   | 1896349.07  |
|                                     | 44    | 43    | 44 | 14.49     | 607897.81   | 1896335.98  |
|                                     | 45    | 44    | 45 | 56.01     | 607874.46   | 1896285.08  |
|                                     | 46    | 45    | 46 | 19.34     | 607876.37   | 1896265.83  |
|                                     | 47    | 46    | 47 | 22.29     | 607873.83   | 1896243.69  |
|                                     | 48    | 47    | 48 | 78.15     | 607924.77   | 1896184.43  |
|                                     | 49    | 48    | 49 | 26.31     | 607938.41   | 1896167.93  |
|                                     | 50    | 49    | 50 | 58.52     | 607946.07   | 1896219.95  |
| RED DE DISTRIBUCIÓN                 | 51    | 50    | 51 | 25.33     | 607969.53   | 1896229.25  |
|                                     | 52    | 51    | 52 | 30.01     | 607982.23   | 1896202.1   |
|                                     | 53    | 52    | 53 | 35.24     | 608001.42   | 1896172.55  |
|                                     | 54    | 53    | 54 | 18.42     | 608015.21   | 1896160.34  |
|                                     | 55    | 54    | 55 | 38.73     | 608030.73   | 1896130.37  |
|                                     | 56    | 55    | 56 | 55.79     | 607920.29   | 1896032.02  |
|                                     | 57    | 56    | 57 | 17.7      | 607936.5    | 1896321.91  |
|                                     | 58    | 57    | 58 | 60.3      | 607996.13   | 1896330.85  |
|                                     | 59    | 58    | 59 | 7.18      | 607997.33   | 1896333.78  |
|                                     | 60    | 17    | 60 | 10.23     | 607361.48   | 1896969.55  |
| RED DE DISTRIBUCIÓN                 | 61    | 60    | 61 | 15.87     | 607375.28   | 1896961.71  |
|                                     | 62    | 61    | 62 | 30.89     | 607398.21   | 1896941.03  |
|                                     | 63    | 62    | 63 | 25.81     | 607419.62   | 1896926.64  |
|                                     | 64    | 63    | 64 | 18.05     | 607436.41   | 1896920.06  |
|                                     | 65    | 64    | 65 | 23.19     | 607451.91   | 1896902.88  |
|                                     | 66    | 65    | 66 | 17.17     | 607469.13   | 1896889.23  |
|                                     | 67    | 66    | 67 | 45.32     | 607514.48   | 1896892.47  |
|                                     | 68    | 67    | 68 | 65.52     | 607579.81   | 1896887.38  |
|                                     | 69    | 68    | 69 | 46.13     | 607619.41   | 1896863.73  |
|                                     | 70    | 69    | 70 | 30.65     | 607634.1    | 1896836.84  |
| RED DE DISTRIBUCIÓN                 | 71    | 70    | 71 | 41.55     | 607671.64   | 1896819.03  |
|                                     | 72    | 71    | 72 | 67.17     | 607707.27   | 1896797.25  |
|                                     | 73    | 72    | 73 | 33.84     | 607765.6    | 1896767.8   |
|                                     | 74    | 73    | 74 | 126.91    | 607838.37   | 1896663.33  |
|                                     | 75    | 74    | 75 | 80.71     | 607908.34   | 1896623.11  |
|                                     | 76    | 75    | 76 | 45.13     | 607952.78   | 1896615.26  |
|                                     | 77    | 76    | 77 | 52.8      | 608005.56   | 1896616.77  |
|                                     | 78    | 77    | 78 | 45.89     | 608045.22   | 1896593.76  |
|                                     | 79    | 78    | 79 | 27.94     | 608041.072  | 1896564.33  |
|                                     | 80    | 79    | 80 | 66.00     | 608097.13   | 1896531.37  |
| RED DE DISTRIBUCIÓN                 | 81    | 69    | 81 | 41.50     | 607639.16   | 1896900.24  |
|                                     | 82    | 81    | 82 | 45.00     | 607622.43   | 1896924.01  |
|                                     | 83    | 82    | 83 | 28.81     | 607595.1    | 1896951.12  |
|                                     | 84    | 83    | 84 | 44.58     | 607606      | 1896994.35  |
|                                     | 85    | 84    | 85 | 41.16     | 607565.48   | 1897001.62  |
|                                     | 86    | 85    | 86 | 50.59     | 607419.4828 | 1896851.87  |
|                                     | 87    | 86    | 87 | 44.44     | 607438.95   | 1896794.57  |
|                                     | 88    | 87    | 88 | 31.26     | 607629.27   | 1896744.86  |
|                                     | 89    | 88    | 89 | 65.95     | 607674.1    | 1896716.42  |
|                                     | 90    | 89    | 90 | 50.03     | 607711.16   | 1896682.87  |
| RED DE DISTRIBUCIÓN                 | 91    | 6     | 91 | 102.79    | 607019.75   | 1897208.98  |
|                                     | 92    | 91    | 92 | 53.38     | 607058.15   | 1897259.83  |



UBICACIÓN:  
LOCALIDAD TILAPA, MUNICIPIO SANTIAGO JUXTLAHUACA,  
OAXACA. C.P. 69700.  
COORDENADAS: 17°09'29.834"N, 97°59'15.387"W

## SIMBOLOGÍA

RED DE DISTRIBUCIÓN

TUBERÍA PEAD DE 2" Ø RD=15.5 (100.00 KG/CMZ)

TUBERÍA PEAD DE 1 1/2" Ø RD=15.5 (100.00 KG/CMZ)

N: NÚMERO DE NODO  
 C.P.: COTIZACIÓN  
 T.N.: TERRENO NATURAL  
 C.O.: CARGA DISPONIBLE

CAJA ROMPEDORA DE PRESIÓN (C.R.P.)

NÚMERO DE NODO

VALVULAS DE SECCIONAMIENTO

| CONCEPTO                          | CANTIDAD | UNIDAD         |
|-----------------------------------|----------|----------------|
| POBLACION ACTUAL (2004)           | 623      | HAB.           |
| POBLACION DE PROYECTO (2030)      | 553      | HAB.           |
| PERIODO ECONOMICO DE PROTECCION   | 10       | AÑOS           |
| DOTACION                          | 1.000    | LTS/HAB./DIA   |
| GASTO AFORADO                     | 3.26     | L.P.S.         |
| GASTO MEDIO DIARIO                | 0.64     | L.P.S.         |
| GASTO MAXIMO DIARIO               | 0.90     | L.P.S.         |
| GASTO MAXIMO HORARIO              | 1.40     | L.P.S.         |
| COEFICIENTE DE VARIACION DIARIA   | 1.40     |                |
| COEFICIENTE DE VARIACION HORARIA  | 1.55     |                |
| GASTO LA FUENTE                   | 3.26     | L.P.S.         |
| FUENTE DE ABASTECIMIENTO          |          | MANANTIAL      |
| TIPO DE CAFFACION                 |          | CAJA COLECTORA |
| COEFICIENTE DE REGULACION         | 13.12    |                |
| CAPACIDAD DE TANQUE DE REGULACION | 13.13    | M3             |



PROYECTO: "AMPLIACIÓN DEL SISTEMA DE AGUA POTABLE EN LA LOCALIDAD TILAPA, MUNICIPIO SANTIAGO JUXTLAHUACA "

H. AYUNTAMIENTO CONSTITUCIONAL DE "SANTIAGO JUXTLAHUACA".

|                       |                           |
|-----------------------|---------------------------|
| ESTADO: (020) OAXACA  | MUNICIPIO: (469) SANTIAGO |
| DISTRITO: (008)       | JUXTLAHUACA.              |
| JUXTLAHUACA.          |                           |
| REGIÓN: (004) MIXTECA | LOCALIDAD: (0041) TILAPA. |

\_\_\_\_\_  
POR LA AUTORIDAD MUNICIPAL

C.LIC.ARSenio LORENZO MEJIA GARCIA  
PRESIDENTE MUNICIPAL CONSTITUCIONAL

ING. VICTOR JAVIER CRUZ HERNANDEZ  
DIRECTOR RESPONSABLE DE OBRA.  
CED. PROF. 6472958 D.R.O. A-2417-I

ING. RAMIRO DANIEL PERALTA ROBLES  
PROYECTISTA CFD PROF. 8352247

PLANO:  
PLANTA RED DE DISTRIBUCION.

|         |               |                         |         |
|---------|---------------|-------------------------|---------|
| ESCALA: | 1:1000        | Nº DE PLANO PARTICULAR: | 01 de 0 |
| FECHA:  | JULIO DE 2024 | Nº DE PLANO GENERAL:    | 06 de 1 |