**CONTRATISTA**

## CONSORCIO D-R COSTANERA

Curupayty 312 c/ 25 de Mayo - Asunción

## CONSTRUCCIÓN DE LA AVENIDA COSTANERA NORTE DE ASUNCIÓN, SEGUNDA ETAPA Y CONE

### CRONOGRAMA DE OBRA - CONVENIO MO

| Item | Descripcion | Unidad | mes 01 | mes 02 | mes 03 | mes 04 | mes 05 | mes 06 | mes 07 | mes 08 | mes 09 | mes 10 | mes 11 | mes 12 | mes 13 | mes 14 | mes 15 | mes 16 | mes 17 | mes 18 | mes 19 | mes 20 | mes 21 | mes 22 | mes 23 | mes 24 | mes 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | jun-16 | jul-16 | ago-16 | sept-16 | oct-16 | nov-16 | dic-16 | ene-17 | feb-17 | mar-17 | abr-17 | may-17 | jun-17 | jul-17 | ago-17 | sept-17 | oct-17 | nov-17 | dic-17 | ene-18 | feb-18 | mar-18 | abr-18 | may-18 | jun-18 |
| 4.14 | Caño PVC electroducto de 40mm - Alimentacion Baja Tension | m | | | | | | | | | | | | | | | | | | | | | | | | | |
| ITEM 6 | OBRAS COMPLEMENTARIAS | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.2 | Señalización | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.2.1 | Señalización horizontal | m² | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.2.2 | Señalización vertical | m² | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.2.3 | Tachas reflectantes | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.2.4 | Porticos de Señalización | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.2.5 | Semi-pórticos de señalización | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.3 | Empastado | m² | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.4 | Baranda de defensa metálica | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.5 | Remoción de empedrado existente | m² | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.7 | Traslado de estructuras de H° del servicio público | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.8 | Materiales para traslado de estructuras de Media Tensión | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.9 | Remoción y reposición de cañerías de essap, agua potable y alcantarillado sanitario (incluye ramales, registros y conexiones domiciliarias) y otros servicios | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.10 | Adecuacion de linea de MT subterranea y aerea Tramo 9+300 a 9+500 | Glb | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.1 | INGENIERIA DE PROYECTOS | Glb | | | | | | | | | | | | | | | | 15% | 15% | 15% | 15% | 15% | | | | | |
| C.2 | PASO A DESNIVEL - VIADUCTO FRENTE AL BOTANICO | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.1 | Excavación estructural en suelo | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.4 | Cabezales de Pilotes - fck 300kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.9 | Hormigón de limpieza y regularización - fck 90kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.14 | Separadores Tipo New Jersey Medianera - fck 240kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.15 | Separadores Tipo New Jersey Central - fck 240kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.16 | Zapatas de New Jersey - fck 240kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.17 | Cenefas | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.18 | Apoyos de neopreno para viaductos | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.19 | Drenaje | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.20 | Muro de Tierra Armada | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.21 | Acero para armaduras de refuerzos | tn | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.22 | Pilotes preperforados Ø 1,00m - fck 300kg/cm2 | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.23 | Pilotes preperforados Ø 1,20m - fck 300kg/cm2 | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.24 | Pila rectangular 1,70x1,00m Tipo A de longitud variable. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.25 | Pila rectangular 1,70x1,00m Tipo B de longitud variable. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.26 | Pila rectangular 1,70x1,00m Tipo C de longitud variable. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.27 | Pila rectangular 1,70x1,00m Tipo D de longitud variable. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.28 | Pila rectangular 1,70x1,00m Tipo E de longitud variable. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.29 | Ménsula 1,70x1,25x0,50m Tipo C. | Un. | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.30 | Ménsula 1,70x1,25x0,50m Tipo D. | Un. | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.31 | Losa de Aproximación - fck 250kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.32 | Murete - fck 250kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.33 | Dintel Tipo A de 18,60m de longitud. | Un. | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.34 | Dintel Tipo B de 18,60m de longitud. | Un. | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.35 | Dintel Tipo C de 18,60m de longitud. | Un. | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.36 | Dintel Tipo D de 18,60m de longitud. | Un. | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.37 | Dintel Tipo E de 18,60m de longitud. | Un. | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.38 | Dintel Tipo F de 17,60m de longitud. | Un. | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.39 | Dintel Tipo G de 17,60m de longitud. | Un. | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.40 | Hormigón para unión de dinteles Tipo F y Tipo G a las pilas - fck 450kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.41 | Vigas pretensadas serie BN150, canto 1,50m y 19,30m de longitud. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.42 | Vigas pretensadas serie BN150, canto 1,50m y 24,30m de longitud. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.43 | Vigas pretensadas serie BN150, canto 1,50m y 26,80m de longitud. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.44 | Vigas pretensadas serie BN180, canto 1,80m y 34,30m de longitud. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.45 | Montaje de estructura prefabricada de Viaducto. | Gl | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.46 | Tablero - fck 250kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.47 | Vigas Transversales centrales y extremas - fck 250kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.2.48 | Juntas de dilatacion tipo JNA-52 | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3 | PASO A DESNIVEL - VIADUCTO ACCESO 1ER PRESIDENTE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.1 | Excavación estructural en suelo | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.4 | Cabezales de Pilotes - fck 300kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.9 | Hormigón de limpieza y regularización - fck 90kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.14 | Separadores Tipo New Jersey Medianera - fck 240kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.15 | Separadores Tipo New Jersey Central - fck 240kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.16 | Zapatas de New Jersey - fck 240kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.17 | Cenefas | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.18 | Apoyos de neopreno para viaductos | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.19 | Drenaje | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.20 | Muro de Tierra Armada | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.21 | Acero para armaduras de refuerzos | tn | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.22 | Pilotes preperforados Ø 1,00m - fck 300kg/cm2 | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.23.1 | Pila rectangular 1,90x1,20m de longitud variable. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.23.2 | Pila rectangular 1,00x1,00m de longitud variable. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.24 | Losa de Aproximación - fck 250kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.25 | Murete - fck 250kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.26.1 | Dintel tipo martillo con sección central de 1,30x2,30 y 10,30m de longitud. | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.26.2 | Dintel de estribos con sección 1,40x1,10 y 9,70m de longitud. | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.27 | Vigas pretensadas serie BN180, canto 1,80m y longitud variable. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.27.2 | Vigas pretensadas serie BN150, canto 1,50m y longitud variable. | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.28 | Montaje de estructura prefabricada de Viaducto (Pilas, Dinteles y Vigas longitudinales) | gl | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.29 | Tablero - fck 250kg/cm3 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.30 | Vigas Transversales centrales y extremas - fck 250kg/cm2 | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.3.31 | Juntas de dilatacion tipo JNA-52 | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.4 | INSTALACION Y SERVICIOS ESPECIALIZADOS - COMPLEMENTO | Glb | | | | | | | | | | | | | | | | | | | 100% | | | | | | |
| C.5 | Traslado de reja Jardin Botanico | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.5.1 | Tala de arboles | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.5.2 | Compensación Arborización | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.5.3 | Traslado de Arboles | un | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.5.4 | Vallado perimetral | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6 | REFUERZO DE CALLES DE DESVIO | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.1 | Sub-base granular estabilizada | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.2 | Base Granular | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.3 | Riego de imprimación | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.4 | Riego de liga | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.5 | Regularización asfáltica | tn | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.6 | Carpeta de Concreto Asfáltico | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.7 | Excavación no clasificada | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.8 | Excavación de bolsones | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.9 | Terraplén | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.10 | Pedraplén berma, para paseo y ciclovia | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.11 | Badenes de hormigón | m3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.12 | Cordón de hormigón | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.13 | Cordon Cuneta | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.14 | Pavimento tipo empedrado | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.15 | Señalización horizontal | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.16 | Señalización vertical | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.17 | Remoción y reposición de cañerias de essap, agua potable y alcantarillado sanitario (incluye ramales | ml | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.6.18 | Cruce Semaforico | gl | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.7 | CICLOVIA Y VEREDA | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.7.1 | Vereda | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.7.1.1 | Contrapiso de H° pobre sobre terreno natural | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.7.1.2 | Mosaico granitico lavado antideslizante de 40x40 en dos colores de base gris, colocación de acuerdo a detalle. Incluye juntas de dilatación | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.7.2 | Ciclovia | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.7.2.1 | Piso de H°A° alisado mecánico c/ endurecedor superficial, espesor 0,12 mts., antideslizante de acuerdo a detalle | m2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| C.8 | Traslado de Pórtico Existente Jardin Botánico | Gl | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ejecutado Mensual | | 1.29% | 1.26% | 0.96% | 1.62% | 0.83% | 0.83% | 1.33% | 1.66% | 1.33% | 2.34% | 2.51% | 2.68% | 2.42% | 2.72% | 3.54% | 3.07% | 3.18% | 2.71% | 3.28% | 2.69% | 2.25% | 2.24% | 2.26% | 3.10% | 1.89% |
| | Ejecutado Acumulado | | 1.29% | 2.54% | 3.50% | 5.11% | 5.95% | 6.78% | 8.11% | 9.77% | 11.10% | 13.44% | 15.95% | 18.63% | 21.04% | 23.76% | 27.30% | 30.37% | 33.55% | 36.24% | 39.54% | 42.23% | 44.48% | 46.72% | 48.98% | 52.08% | 53.97% |

ELECTROPAR
Ingenieros Consultore R.L.

DA. PRIMER PRESIDENTE) CON LA RUTA NACIONAL Nº 9

RIO Nº 5

CONSORCIO D-R COSTANERA

0700393

Ing. Cristobal Cohene C.
Supervisor de Obra
DV - MOPC

Consorcio D-R COSTANERA
Ing. CÉSAR DANIEL DELGADO
Representante Legal

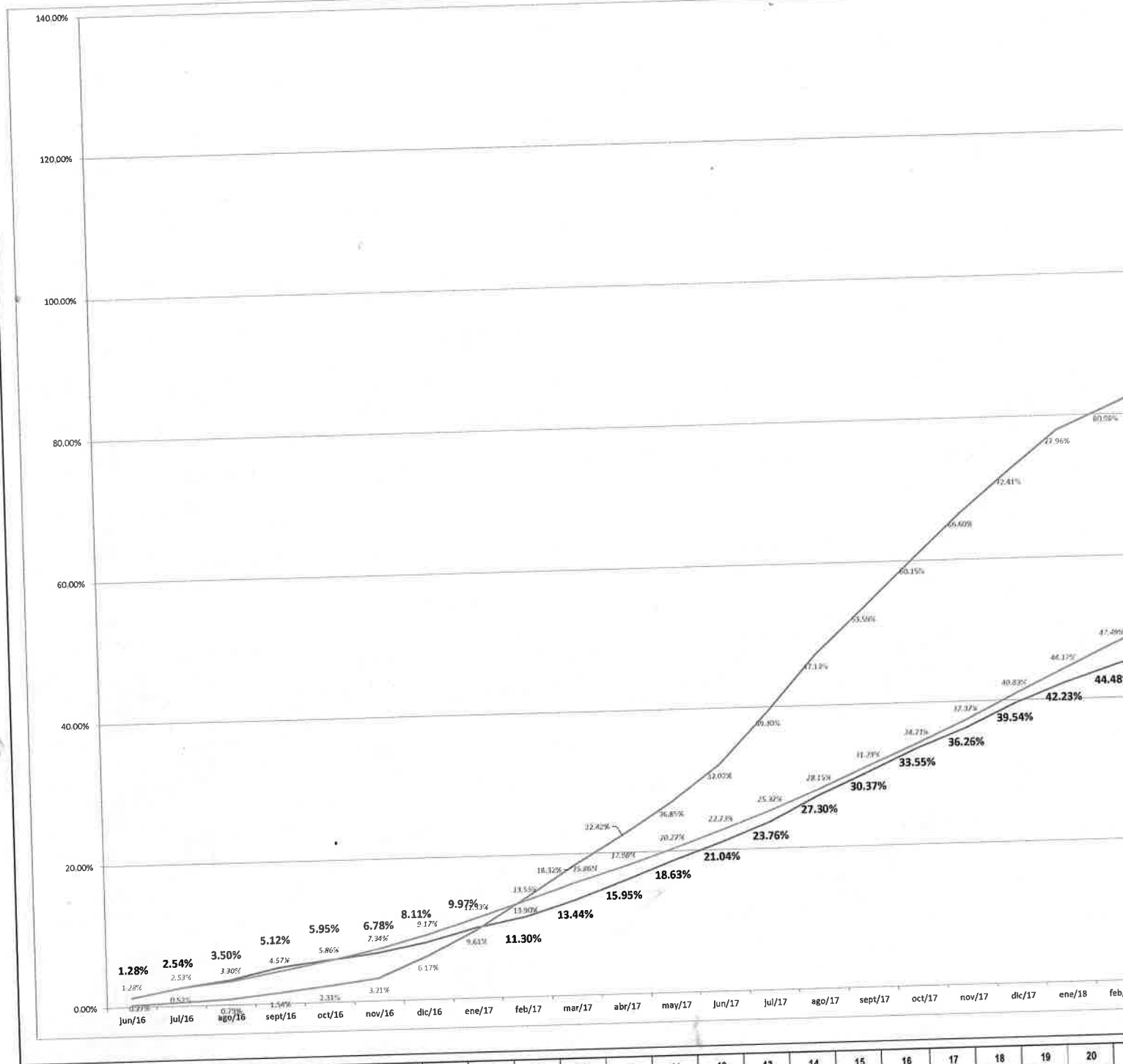
**CONTRATISTA**

**CONSORCIO D-R COSTANERA**

Curupayty 312 c/ 25 de Mayo - Asunción

# CONSTRUCCIÓN DE LA AVENIDA COSTANE

**FECHA DE ORDEN DE INICIO = 27.05.2016**




| | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | jun/16 | jul/16 | ago/16 | sept/16 | oct/16 | nov/16 | dic/16 | ene/17 | feb/17 | mar/17 | abr/17 | may/17 | jun/17 | jul/17 | ago/17 | sept/17 | oct/17 | nov/17 | dic/17 | ene/18 |
| Acumulado Contractual | 0.27% | 0.52% | 0.79% | 1.54% | 2.31% | 3.21% | 6.17% | 9.61% | 13.90% | 18.32% | 22.42% | 26.85% | 32.02% | 39.30% | 47.13% | 53.59% | 60.15% | 66.60% | 72.41% | 77.96% |
| Acumulado CMN°2 | 1.28% | 2.53% | 3.30% | 4.57% | 5.86% | 7.34% | 9.17% | 11.33% | 13.55% | 15.86% | 17.98% | 20.27% | 22.73% | 25.32% | 28.15% | 31.23% | 34.21% | 37.37% | 40.83% | 44.17% |
| Acumulado CMN°5 | 1.28% | 2.54% | 3.50% | 5.12% | 5.95% | 6.78% | 8.11% | 9.97% | 11.30% | 13.44% | 15.95% | 18.63% | 21.04% | 23.76% | 27.30% | 30.37% | 33.55% | 36.26% | 39.54% | 42.23% |

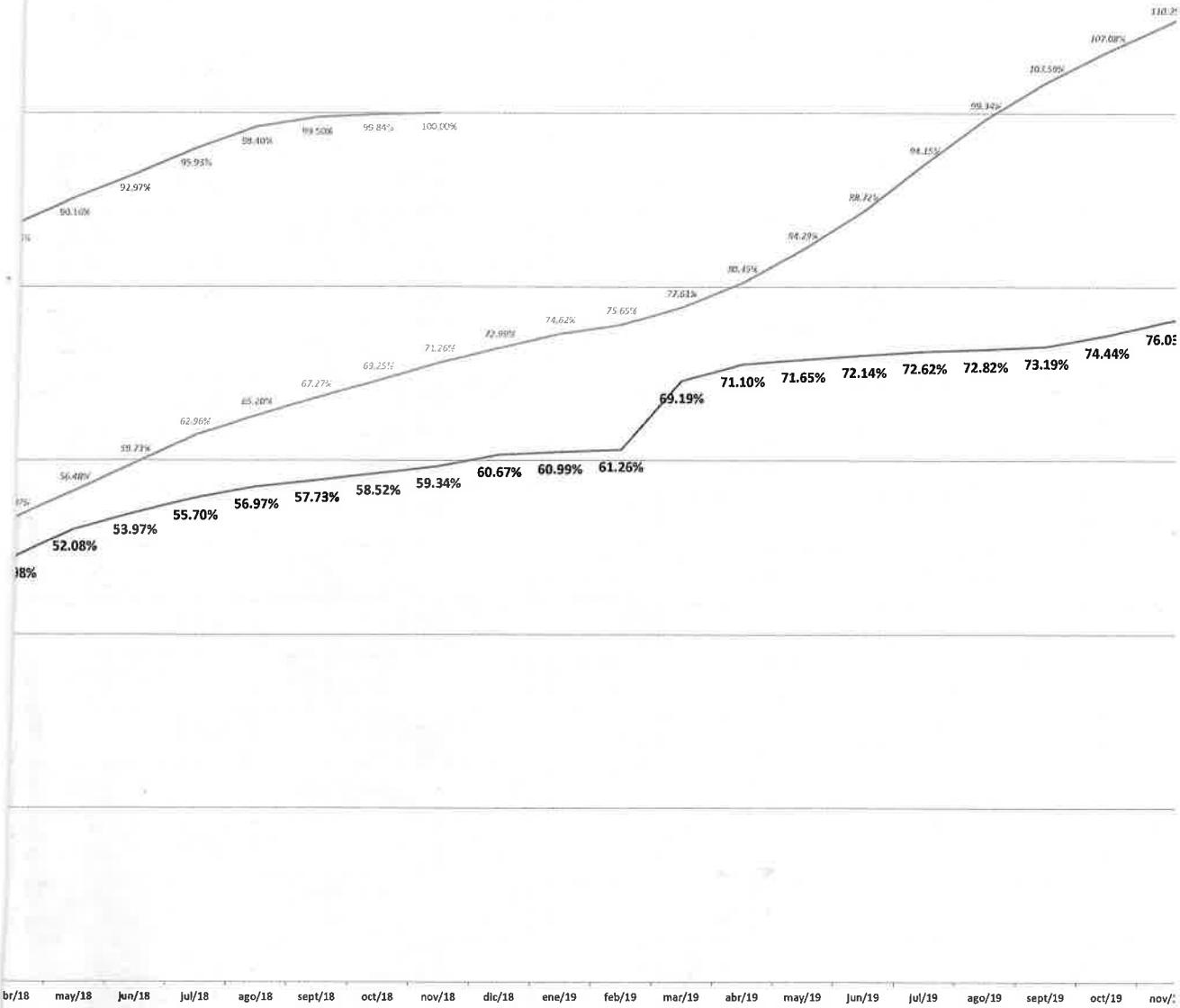
CONSORCIO D-R COSTANERA
ING. Fernando Antona
Superintendente

RTE DE ASUNCIÓN, SEGUNDA ETAPA Y CONEXIÓN (AVDA. PRIMER PRESIDENTE) CON LA R

3900392

## CURVA DE AVANCE FISICO FINANCIERO DE OBRA

## CMN°5




br/18 may/18 jun/18 jul/18 ago/18 sept/18 oct/18 nov/18 dic/18 ene/19 feb/19 mar/19 abr/19 may/19 jun/19 jul/19 ago/19 sept/19 oct/19 nov/

| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| abr/18 | may/18 | jun/18 | jul/18 | ago/18 | sept/18 | oct/18 | nov/18 | dic/18 | ene/19 | feb/19 | mar/19 | abr/19 | may/19 | jun/19 | jul/19 | ago/19 | sept/19 | oct/19 | nov/19 |
| 87.18% | 90.16% | 92.97% | 95.93% | 98.40% | 99.50% | 99.84% | 100.00% | | | | | | | | | | | | |
| 53.47% | 56.48% | 59.73% | 62.96% | 65.20% | 67.27% | 69.25% | 71.26% | 72.99% | 74.62% | 75.65% | 77.61% | 80.45% | 84.29% | 88.72% | 94.15% | 99.34% | 103.59% | 107.08% | 110.25% |
| 48.98% | 52.08% | 53.97% | 55.70% | 56.97% | 57.73% | 58.52% | 59.34% | 60.67% | 60.99% | 61.26% | 69.19% | 71.10% | 71.65% | 72.14% | 72.62% | 72.82% | 73.19% | 74.44% | 76.03% |

Ing. ELECTROPAR
Ingenieros Consultores S.R.L.

Ing. Cristobal Colle
Supervisor de Obra
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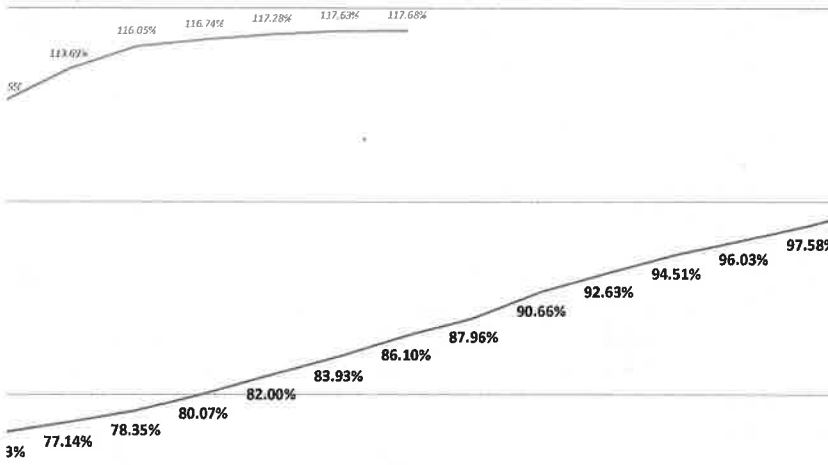
Consorcio D-R COSTANERA
Ing. CÉSAR DANIEL DE
Representante Legal

# RUTA NACIONAL Nº 9




ORDEN DE INICIO : 27/0
FIN DE OBRA CM 5 : 27
El Cronograma está elal
avance acumulado llega
de la obra.

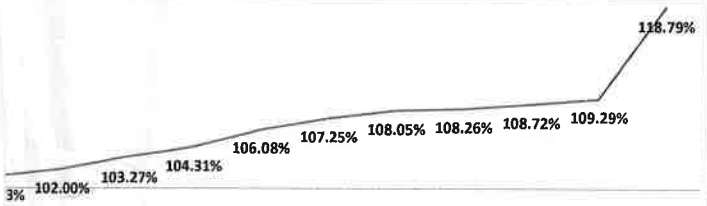
19 dic/19 ene/20 feb/20 mar/20 abr/20 may/20 jun/20 jul/20 ago/20 sept/20 oct/20 nov/20

| 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| dic/19 | ene/20 | feb/20 | mar/20 | abr/20 | may/20 | jun/20 | jul/20 | ago/20 | sept/20 | oct/20 | nov/2 |
| | | | | | | | | | | | |
| 113.69% | 116.05% | 116.74% | 117.28% | 117.63% | 117.68% | | | | | | |
| 77.14% | 78.35% | 80.07% | 82.00% | 83.93% | 86.10% | 87.96% | 90.66% | 92.63% | 94.51% | 96.03% | 97.58 |

ING. Cristóbal COHENE
Director de Obra

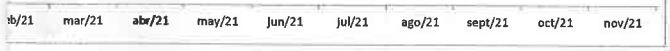
**CONSORCIO D-R COSTANERA**

3000391




ctual

derar el Ítem A.11.1 Indemnizaciones, por lo cual el
n de que permita realizar el seguimiento al avance




| 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |
|---|---|---|---|---|---|---|---|---|---|
| eb/21 | mar/21 | abr/21 | may/21 | jun/21 | jul/21 | ago/21 | sept/21 | oct/21 | nov/21 |
| | | | | | | | | | |
| | | | | | | | | | |
| 00% | 103.27% | 104.31% | 106.08% | 107.25% | 108.05% | 108.26% | 108.72% | 109.29% | 118.79% |

ELECTROPAR
Ingenieros Consultores S.R.L.

Ing. Cristobal Cohene C.
Supervisor de Obra
DV - MOPC

Consorcio D-R COSTANERA
Ing. CÉSAR DANIEL DELGADO
Representante Legal