



中国路桥工程有限责任公司
CHINA ROAD AND BRIDGE CORPORATION



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



OFERTA TÉCNICA

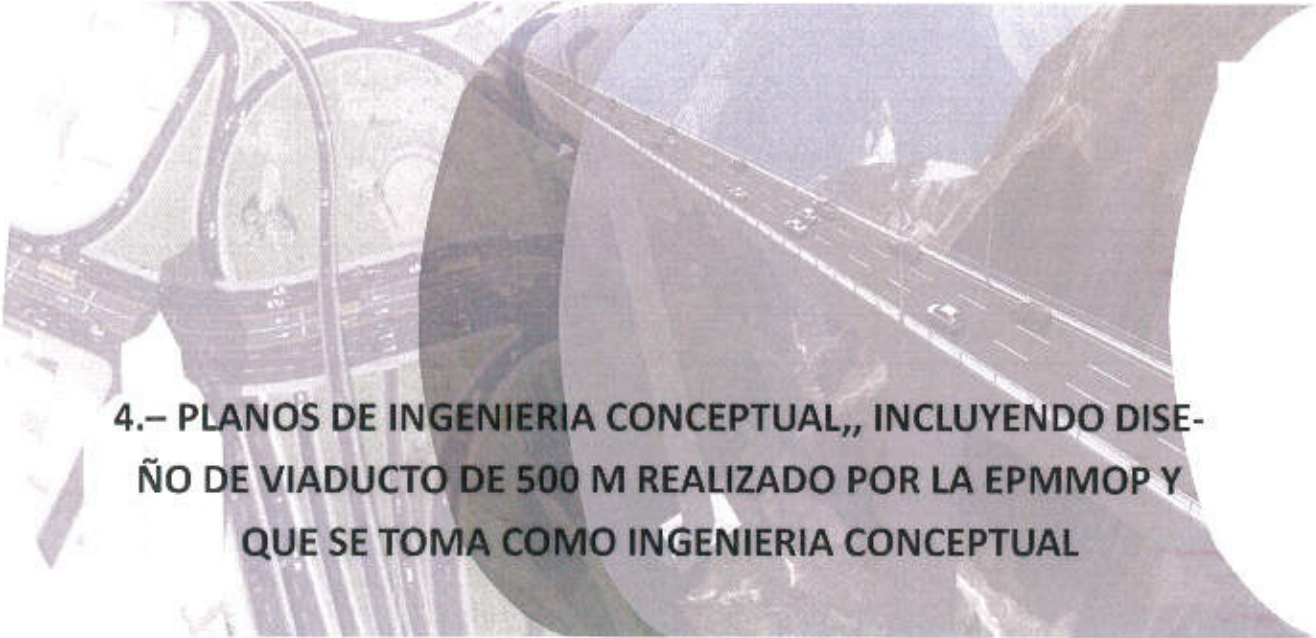
- 1 ESQUEMA GRÁFICO DEL PROYECTO
- 2 JUSTIFICATIVO DEL PROYECTO Y SUS OBRAS PRINCIPALES A EJECUTARSE
- 3 INFORME DE FACTIBILIDAD DE EGIS
- 4 PLANOS DE INGENIERIA CONCEPTUAL
- 5 LEVANTAMIENTO TOPOGRÁFICO
- 6 INFORME DE DISEÑO GEOMÉTRICO
- 7 ANALISIS DE TRAFICO
- 8 INFORME DE PAVIMENTOS Y RECOMENDACIONES GEOTÉCNICAS
 - 8.1 INFORME DE PAVIMENTOS
 - 8.2 RECOMENDACIONES GEOTÉCNICAS
- 9 REUBICACIÓN DE SERVICIOS PÚBLICOS
- 10 ILUMINACIÓN
- 11 SEÑALIZACIÓN HORIZONTAL Y VERTICAL
- 12 SEGURIDAD VIAL - GUARDAVIAS
- 13 EXPROPIACIONES
- 14 GESTION AMBIENTAL
- 15 SEGURIDAD Y SALUD LABORAL
- 16 ESQUEMA NUEVA ESTACIÓN DE PEAJE 8 CARRILES (ESQUEMA 6 CARRILES)
- 17 ANALISIS DE ESTACIÓN DE PEAJE
- 18 IMPLEMENTACIÓN DE PEAJE (FREE FLOW)
- 19 IMPLEMENTACIÓN DE SERVICIO DE LA ALIANZA ESTRATÉGICA
- 20 PLAN DE CONSERVACIÓN Y MANTENIMIENTO



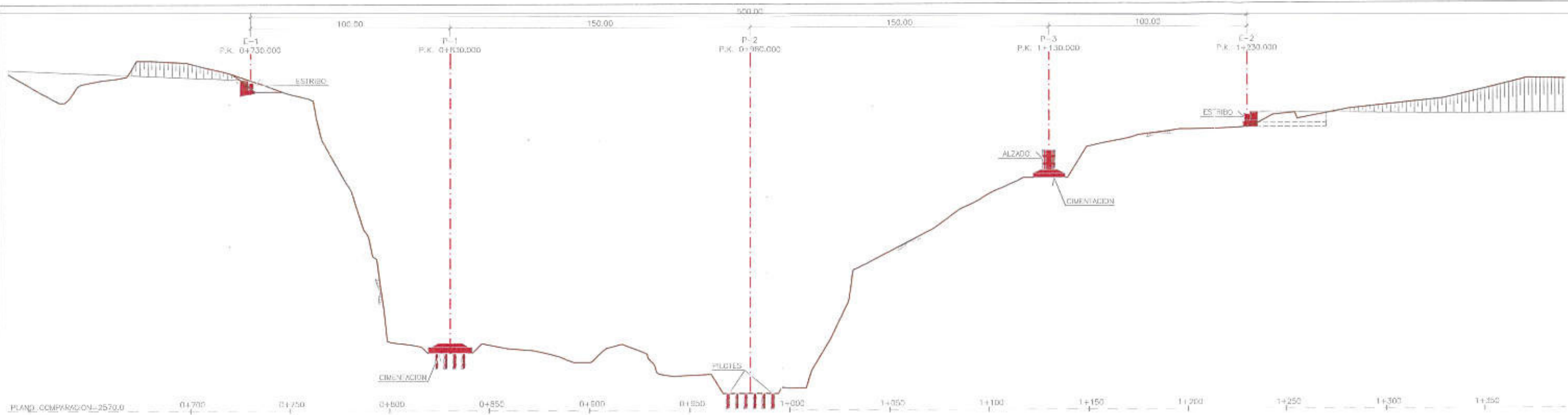
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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN

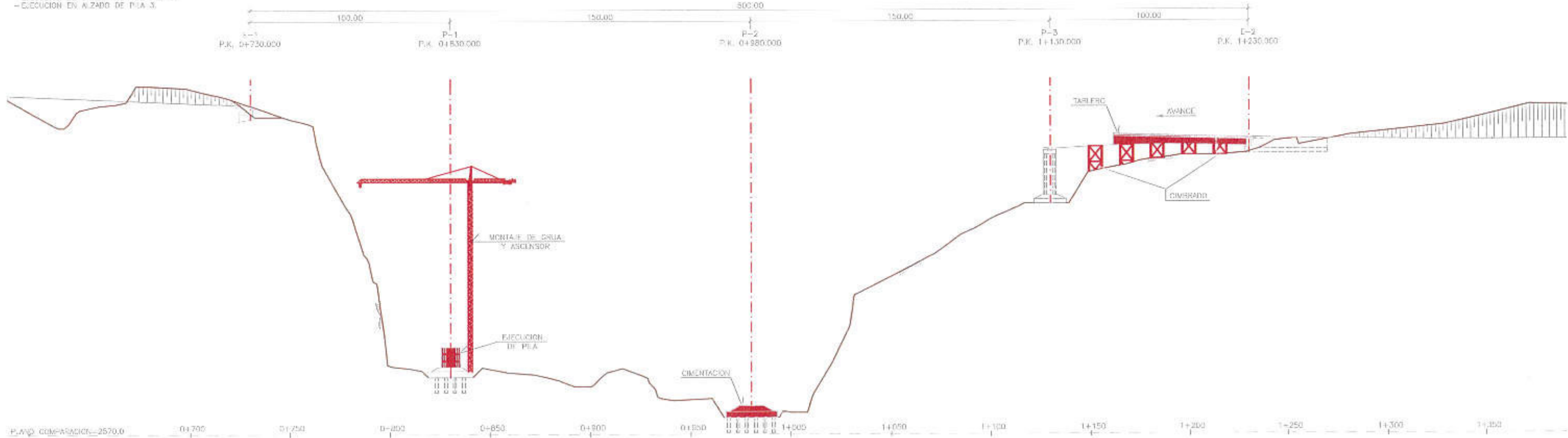


4.- PLANOS DE INGENIERIA CONCEPTUAL,, INCLUYENDO DISEÑO DE VIADUCTO DE 500 M REALIZADO POR LA EPMMOP Y QUE SE TOMA COMO INGENIERIA CONCEPTUAL



FASES 1 Y 2

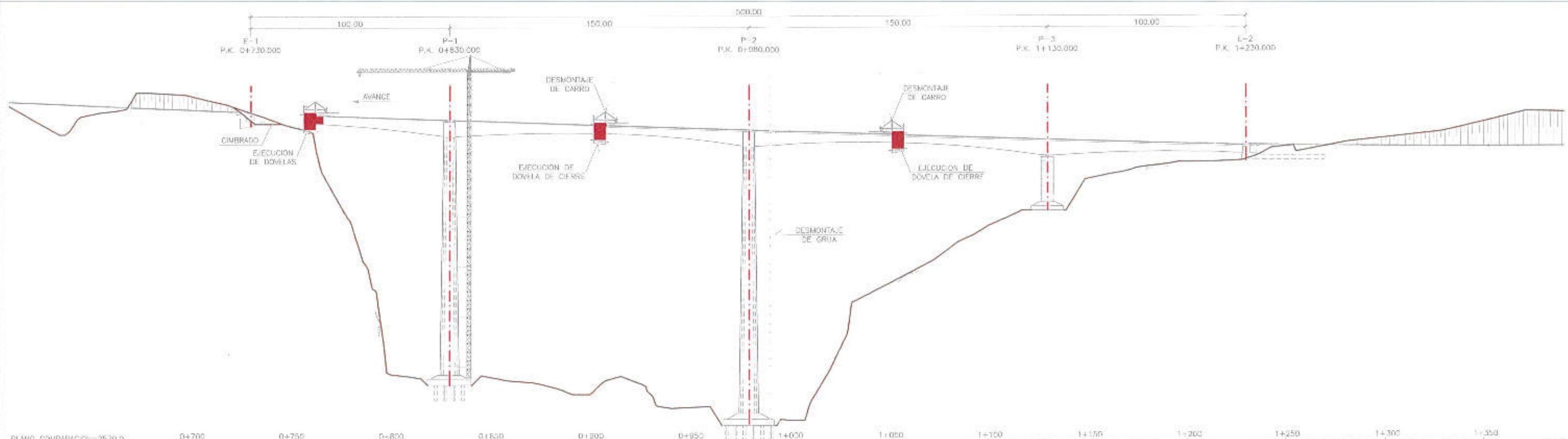
- ESCALA 1:1000
- TRABAJOS PREVIOS:
- EJECUCIÓN DE VÍAS DE ACCESO A PILAS Y ESTRIBOS.
 - ESTABILIZACIÓN LOCALIZADA DE TALUDES PARA GARANTIZAR LA SEGURIDAD DE LOS TRABAJOS.
 - REPLANTEO DE COMPROBACIÓN.
- EJECUCIÓN DE CIMENTACION DE PILAS Y ESTRIBOS:
- EJECUCIÓN DE PILOTES EN PILAS 1 Y 2.
 - EJECUCIÓN DE CIMENTACION DE PILA 1.
 - EJECUCIÓN DE CIMENTACION DE PILA 3.
 - EJECUCIÓN EN ALZADO DE PILA 3.



FASE 3

- ESCALA 1:1000
- EJECUCIÓN DEL TABLERO CORRESPONDIENTE A LA Tª DE LA PILA 3:
- MONTAJE DE CIERRA EN VANO 4.
 - EJECUCIÓN DE TABLERO DEL VANO 4.
 - EJECUCIÓN DEL ENCEPADO DE LA PILA 2.
 - MONTAJE DE GRUA Y ASCENSOR EN LA PILA 1.
 - COMIENZO DE EJECUCIÓN DE TREPAS DE LA PILA 1.

						DIVISIÓN: ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN	UBICACIÓN: PUENTE GUAYASAMIN	DISEÑO: INGENIEROS	ARCHIVO: DATA	LÍNEA: 2.3.0.01-PROCESO CONSTRUCTIVO (I) de
						PROYECTO: ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN	CONSTRUCCIÓN: PROCESO CONSTRUCTIVO (I)	FECHA: NOVIEMBRE 2014	DELIBERADO: FERNANDO ROMO CONSULTORES	LÍNEA: 1/4



PLANO COMPARACION=2570.0

FASE 8
ESCALA 1:1000

- EJECUCION DE LAS DOVELAS DE CIERRE:
- TERMINADAS LAS "T" DE LOS VANOS UNO Y DOS, SE PROCEDE A EJECUTAR LAS DOVELAS DE CIERRE DE LOS VANOS 2 Y 3.
 - CUANDO SE HA TERMINADO LA DOVELA DE CIERRE DEL VANO 2, SE COMIENZAN LAS DOS DOVELAS ULTIMAS DEL VANO 1.
 - SE PROCEDE A DESMONTAR LOS CARROS DE LOS VANOS 2 Y 3 Y LA GRUA DE LA PILA 2.

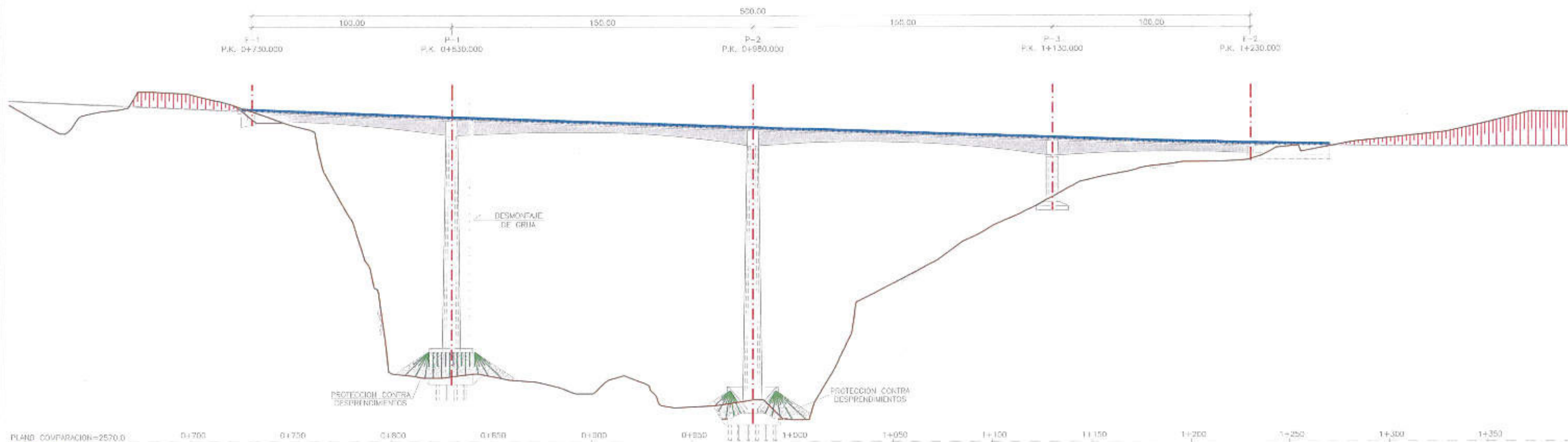


PLANO COMPARACION=2570.0

FASE 9
ESCALA 1:1000

- EJECUCION DEL TABLERO CIMBRADO DEL VANO 1:
- TERMINADAS LAS DOS DOVELAS ANTERIORES DEL VANO 1, SE PROCEDE A DESMONTAR EL CARRO.
 - EN ESTE MOMENTO, SE TERMINA LA PARTE DE TABLERO DEL VANO A EJECUTAR SOBRE CIMBRA.
 - SE EFECTUA EL PRETENSADO DE CONTINUIDAD.

						<p>ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN</p>	<p>48 EXPON. PUENTE GUAYASAMIN</p>	<p>10/01/2014</p>	<p>ARCHIVO TECNICO 1</p>	<p>LAPSA</p>
							<p>10/01/2014</p>	<p>PROCESO CONSTRUCTIVO (IV)</p>	<p>NOVEMBRE 2014</p>	<p>1/5</p>



PLANO COMPARACION=2570.0

FASE 8

ESCALA 1:1000

ORDENES Y ACERCIADOS:

- EN ESTA FASE SE DESMONTA LA GRUA DE LA PILA 1.
- SE CONSTRUYEN LAS ACERAS, BARRANDILLAS Y BARRERAS.
- SE EXTIENDE EL PAVIMENTO.
- SE INSTALA LA LUMINACION.
- SE CONSTRUYEN LAS PROTECCIONES DE LAS PILAS CONTRA POSIBLES DESPRENDIMIENTOS DE ROCA.

						PROYECTO: ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN	ETAPAS: PUENTE GUAYASAMIN	ESCALAS: METROS	ARCHIVO DOPM: 0-10-000 PROCESO CONSTRUCTIVO (10)	LAMINA: 0/5
						CONTENIDO: PROCESO CONSTRUCTIVO (1)	FECHA: NOVIEMBRE 2014	ELABORADO: FERNANDO ROMO CONSULTORES		



ALZADO ESQUEMATICO
ESCALA 1:1000

NOTAS:

1- TRAZADO Y REPLANTEO DE LOS TENDONES.

- EL PRETENSADO DEL TABLERO ESTA FORMADO POR RECTAS Y PARABOLAS DE 2º GRADO.
- HAY QUE GARANTIZAR EL TRAZADO DE LOS TENDONES DEFINIDOS EN LOS PLANOS, LAS VARIAS SE SUCEDERAN A LA ARMADURA PASIVA DEL TABLERO A INTERVALOS NO MAYORES DE 1.0 m.

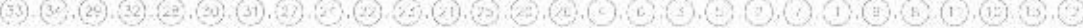
2- COLOCACION Y TENDIDO

- EL PRETENSADO DEL TABLERO ESTA FORMADO POR ACERO SUPERESTABILIZADO 15.24 mm DIAMETRO NOMINAL Y 140 mm² DE AREA NOMINAL, SEGUN NORMA ASTM A 416 SIENDO LA CARGA DE ROTURA POR CORDON DE 280 KN.
- LOS TENDONES SE ALOJARAN EN VANOS DE 10.0 cm. DE DIAMETRO INTERIORES.
- EN EL CUADRO SIGUIENTE SE INDICA EL NUMERO DE CORDONES POR TENDON DE CADA TIPO DE PRETENSADO.

PRETENSADO TIPO A

TENDON	TIPO DE TENDON	CARGA DE ROTURA (KN)	F. TENDIDO (KN)
1	15 T 15	3906	2929
2	15 T 15	3906	2929
3	15 T 15	3906	2929
4	15 T 15	3906	2929
5	15 T 15	3906	2929
6	15 T 15	3906	2929
7	15 T 15	3906	2929
8	15 T 15	3906	2929
9	15 T 15	3906	2929
10	15 T 15	3906	2929
11	15 T 15	3906	2929
12	15 T 15	3906	2929
13	15 T 15	3906	2929
14	15 T 15	3906	2929
15	15 T 15	3906	2929
16	15 T 15	3906	2929
17	15 T 15	3906	2929
18	15 T 15	3906	2929
19	15 T 15	3906	2929
20	15 T 15	3906	2929
21	15 T 15	3906	2929
22	15 T 15	3906	2929
23	15 T 15	3906	2929
24	15 T 15	3906	2929
25	15 T 15	3906	2929
26	15 T 15	3906	2929
27	15 T 15	3906	2929
28	15 T 15	3906	2929
29	15 T 15	3906	2929
30	15 T 15	3906	2929

EL ORDEN DE TENDIDO DE LOS TENDONES DE AMBAS ALAS DEL PRETENSADO TIPO A SERA:



PRETENSADO TIPO B

TENDON	TIPO DE TENDON	CARGA DE ROTURA (KN)	F. TENDIDO (KN)
1	19 T 15	4947	3711
2	19 T 15	4947	3711
3	19 T 15	4947	3711
4	19 T 15	4947	3711
5	19 T 15	4947	3711
6	19 T 15	4947	3711
7	19 T 15	4947	3711
8	19 T 15	4947	3711
9	19 T 15	4947	3711
10	19 T 15	4947	3711
11	19 T 15	4947	3711
12	19 T 15	4947	3711

EL ORDEN DE TENDIDO DE LOS TENDONES DE AMBAS ALAS DEL PRETENSADO TIPO B SERA:



PRETENSADO TIPO C

TENDON	TIPO DE TENDON	CARGA DE ROTURA (KN)	F. TENDIDO (KN)
1	31 T 15	8072	6054
2	31 T 15	8072	6054
3	31 T 15	8072	6054
4	31 T 15	8072	6054
5	31 T 15	8072	6054
6	31 T 15	8072	6054
7	31 T 15	8072	6054

EL ORDEN DE TENDIDO DE LOS TENDONES DE AMBAS ALAS DEL PRETENSADO TIPO C SERA:



- LA FUERZA DE TENDIDO FI CORRESPONDE A LA FUERZA EN EL CABLE.
- EN CUALQUIER CASO, LA TENSION DE LOS TENDONES DESPUES DEL ANCLAJE SERA SUPERIOR A 0.75 VECES LA CARGA DE ROTURA DEL TENDON.
- TAMBIEN LAS ARMADURAS ACTIVAS COMO EL APLICADOR DE PRETENSADO PRESENTARAN UN NIVEL DE GARANTIA ADICIONAL.

- SE COMENZARA POR EL TENDIDO CUANDO SE FORMIGON HAYA ALCANZADO LAS SIGUIENTES RESISTENCIAS MINIMAS A COMPRESION:
 - VANOS 1 Y 3 (ZONA DE ANCLAJE): 25 MPa
 - VANO 2 (PRETENSADO TIPO A): 32 MPa
 - VANO 2 (PRETENSADO TIPO B): 35 MPa

- LAS VARIAS CORRESPONDIENTES AL PRETENSADO TIPO A SE INYECTARAN POSEVAMENTE A LA CIRCUNFERENCIA DE LA DOVILA DE CIERRE UNA VEZ TENDIDOS LOS TENDONES.
- DESPUES DEL TENDIDO DE LOS TENDONES DEL PRETENSADO TIPO B SE INYECTARAN LAS VARIAS QUE LOS ALOJAN.

LOS ALARGAMIENTOS Y CORDONES ESPERADOS DE LOS TENDONES SON PRETENSADO TIPO A:

TENDON	ALARGAMIENTO 1 (mm)	ALARGAMIENTO 2 (mm)	TOTAL (mm)
1	218	-	218
2	683	-	683
3	638	-	638
4	634	-	634
5	684	-	684
6	637	-	637
7	718	-	718
8	751	-	751
9	751	-	751
10	805	-	805
11	835	-	835
12	688	-	688
13	688	-	688
14	687	-	687
15	652	-	652
16	611	-	611
17	593	-	593
18	630	-	630
19	687	-	687
20	725	-	725
21	599	-	599
22	563	-	563
23	489	-	489
24	506	-	506
25	592	-	592
26	526	-	526
27	447	-	447
28	707	-	707
29	722	-	722
30	722	-	722

PRETENSADO TIPO D

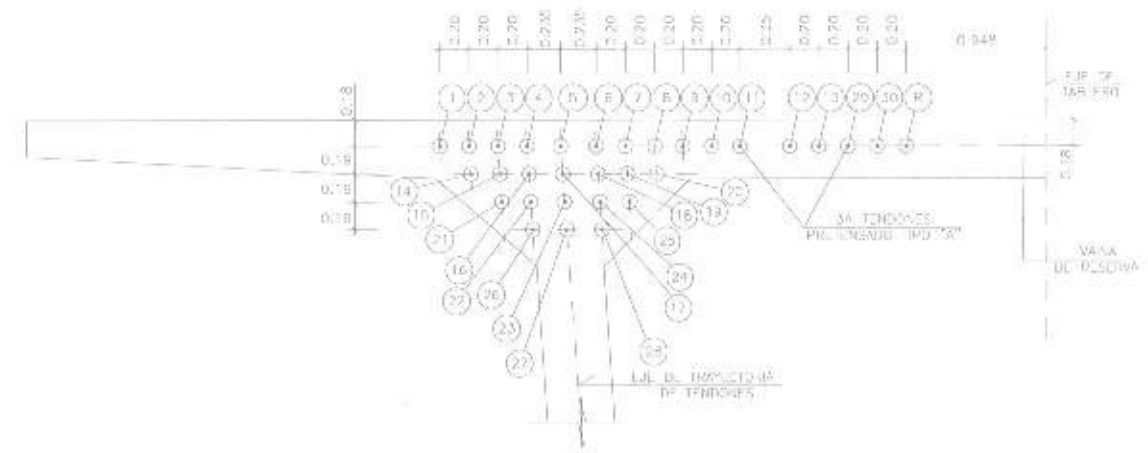
TENDON	ALARGAMIENTO 1 (mm)	ALARGAMIENTO 2 (mm)	TOTAL (mm)
1	647	-	647
2	642	-	642
3	575	-	575
4	570	-	570
5	508	-	508
6	518	-	518
7	445	-	445
8	418	-	418
9	380	-	380
10	380	-	380
11	313	-	313
12	313	-	313

PRETENSADO TIPO E

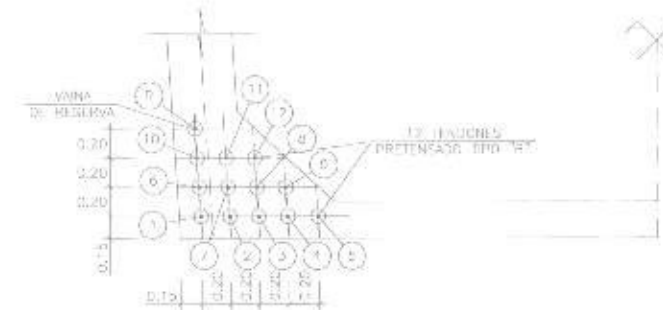
TENDON	ALARGAMIENTO 1 (mm)	ALARGAMIENTO 2 (mm)	TOTAL (mm)
1	491	-	491
2	450	-	450
3	427	-	427
4	395	-	395
5	392	-	392
6	330	-	330
7	297	-	297

3- VALORES CONSIDERADOS EN EL CALCULO

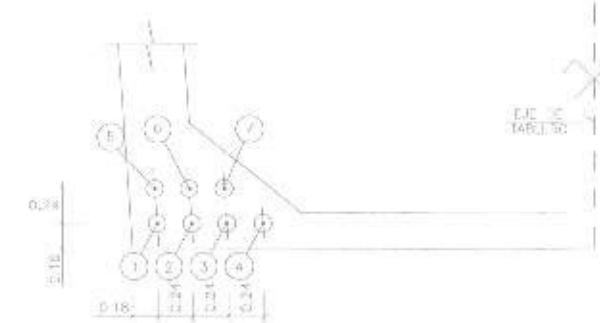
- MODULO DE ELASTICIDAD DEL ACERO DE PRETENSADO: $E_p = 190,000 \text{ MPa}$
- PENETRACION DE CABLES DE 5 mm.
- LAS PERDIDAS DE FUERZA POR FROTAMIENTO SE HAN CALCULADO CON LA EXPRESION: $\Delta P = P_0(1 - e^{-kx})$ SENDO: $k = 0.2$ y $\mu = 0.4$
- EL ACERO UTILIZADO SERA SUPERESTABILIZADO, CON UNA ARMADURA GARANTIZADA A 1000 HORAS Y PARA EL 70% DE ROTURA ($\sigma_{br} = 1660 \text{ N/mm}^2$) MENOR DEL 1.55



SECCION TRANSVERSAL
(SECCION 1-1)
ESCALA 1:125



SECCION TRANSVERSAL PRETENSADO TIPO B
(CENTRO DE VANOS 2 Y 3)
ESCALA 1:25



SECCION TRANSVERSAL PRETENSADO TIPO C
(VANOS 1 Y 4)
ESCALA 1:25

NOTA:

- VER LAS ESPECIFICACIONES TECNICAS DE LOS MATERIALES EN TERCERA PARTE DEL CAPITULO 1.



Empresa Pública Metropolitana
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FERNANDO ROMO
INGENIERO CIVIL



ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

PROYECTO: PUENTE GUAYASAMIN

ESTRUCTURA: TABLERO PRETENSADO TIPO A, TIPO B Y TIPO C

INGENIERO: INDIAGAS

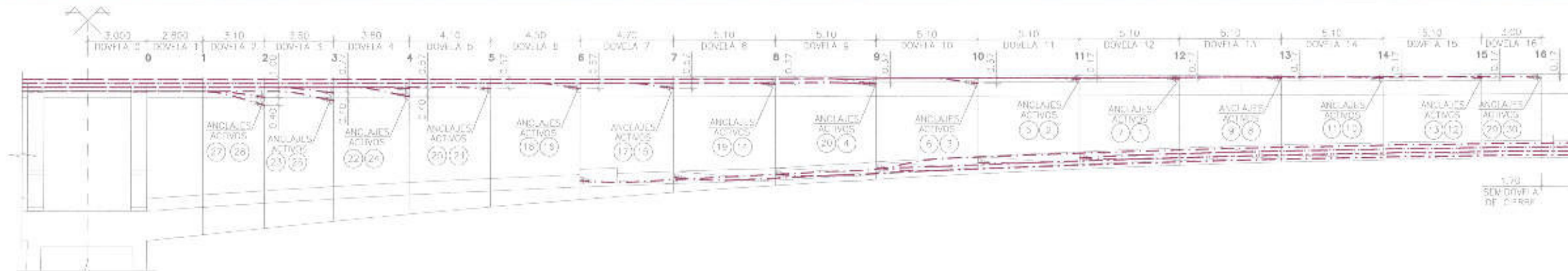
FECHA: NOVIEMBRE 2014

ACTIVO NO. 01

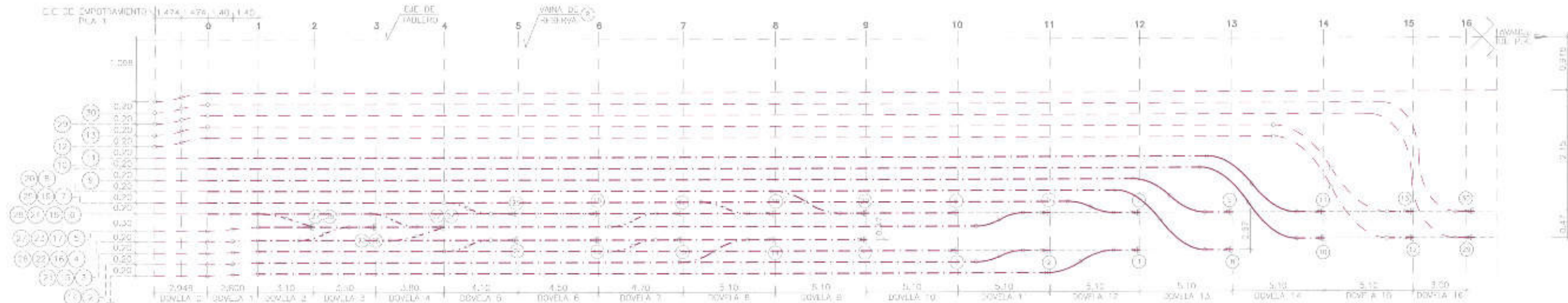
06.06.001-PRETENSADO TIPO A, B Y C.dwg

HOJA: 1/14

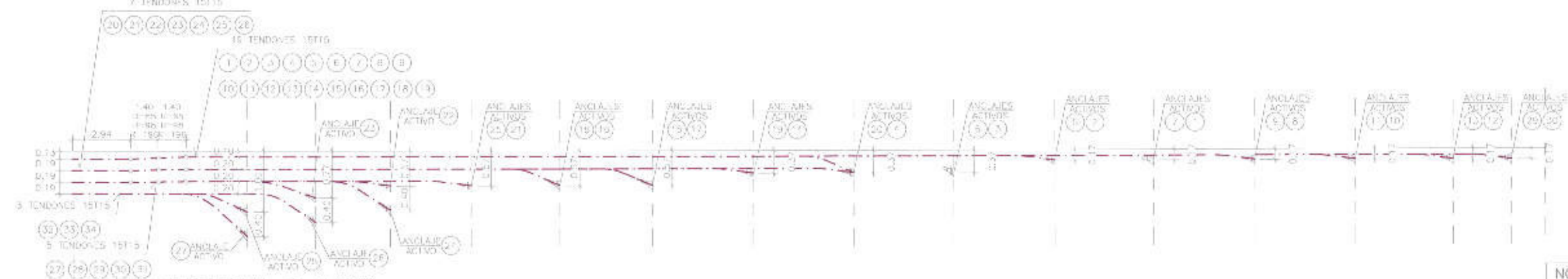
FERNANDO ROMO CONSULTORES



ALZADO LONGITUDINAL
PRETENSADO TIPO A EN ZONA DE VOLADIZOS
ESCALA 1:125

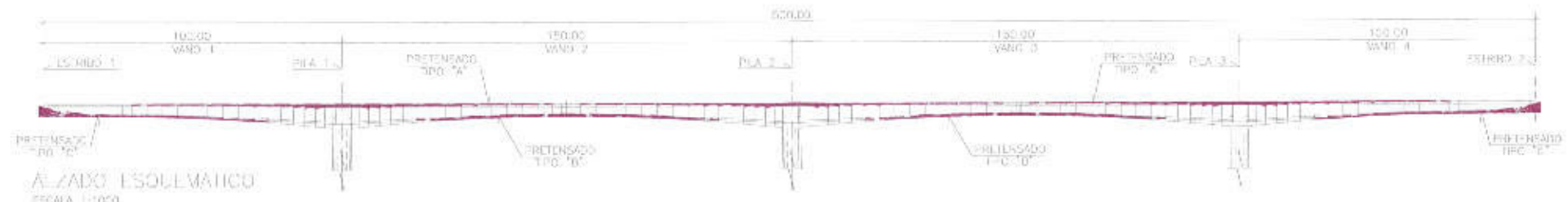


ESQUEMA LONGITUDINAL EN PLANTA
PRETENSADO TIPO "A" EN ZONA DE VOLADIZOS
ESCALA 1/125
ESCALA 1/20



ESQUEMA LONGITUDINAL EN ALZADO
PRETENSADO TIPO "A" EN ZONA DE VOLADIZOS
ESCALA 1/125
ESCALA 1/20

NOTA:
- VER ESPECIFICACIONES TÉCNICAS DE MATERIALES EN NORMA 572 DEL CÓDIGO 1.



ALZADO ESQUEMATICO
ESCALA 1:1000



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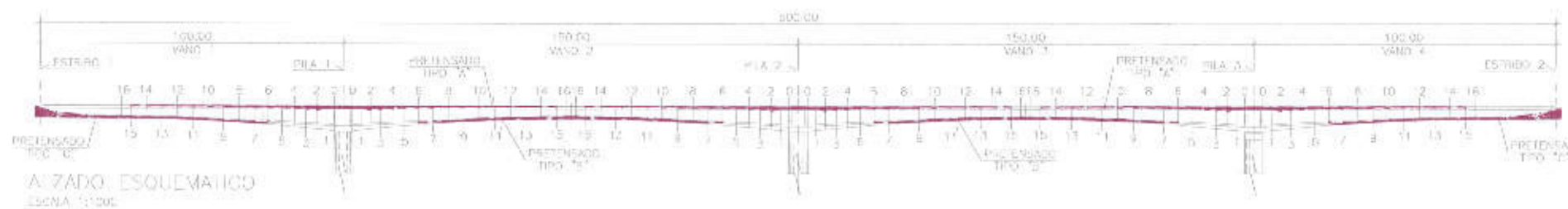
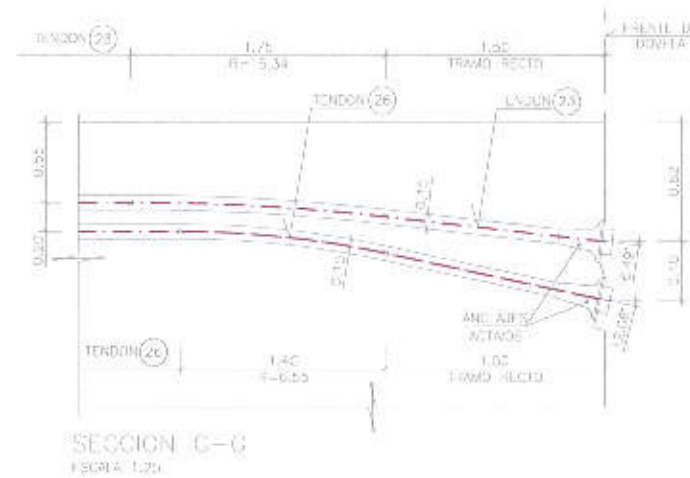
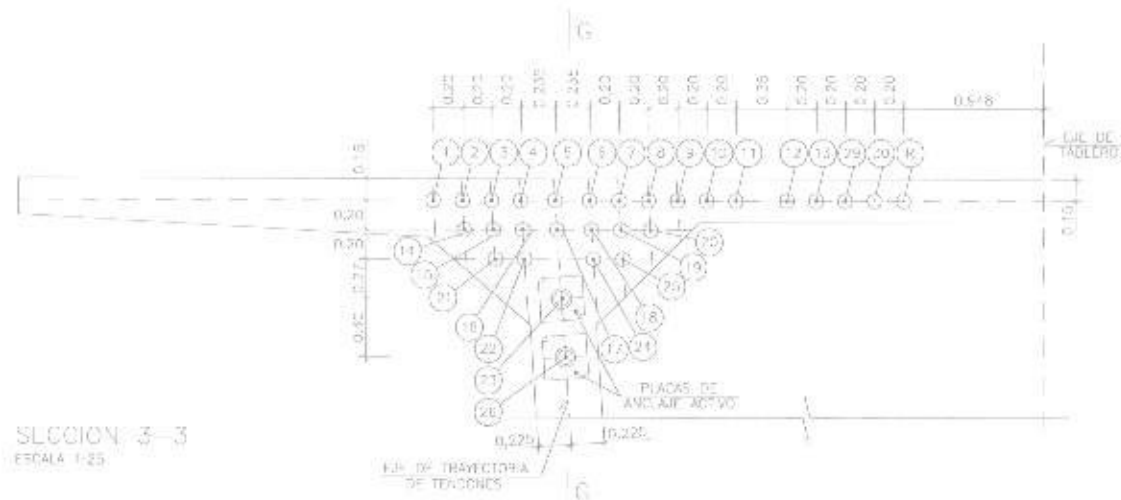
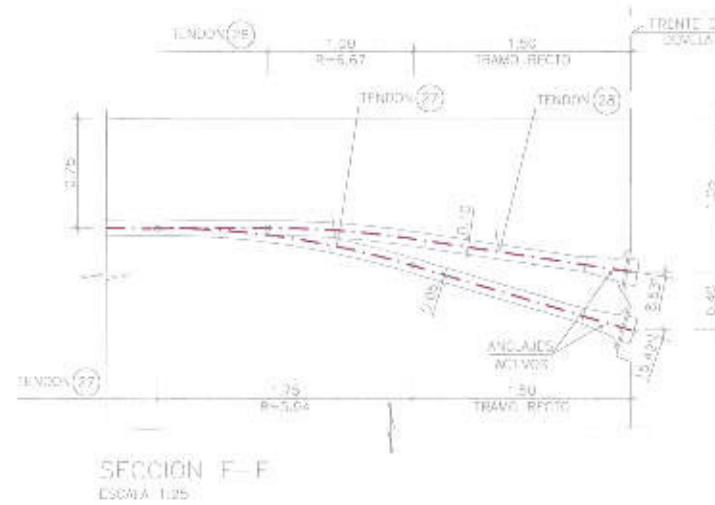
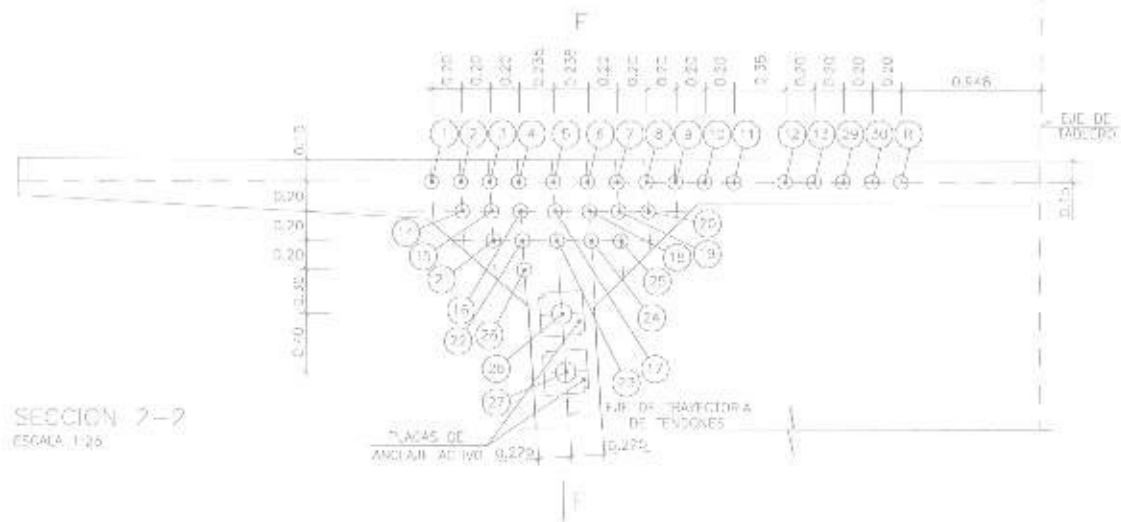
DR. FERNANDO ROMO
INGENIERO EN OBRAS PÚBLICAS

DR. FERNANDO ROMO
INGENIERO EN OBRAS PÚBLICAS

DR. FERNANDO ROMO
INGENIERO EN OBRAS PÚBLICAS

ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

PROYECTO:	RUEDE GUAYASAMIN	ESCALA:	INDICADAS	RECIBO:	06.01.025-PRETENSADO TIPO A (1) de 2/11
FECHA:	TABLERO PRETENSADO PRETENSADO TIPO "A" (2)	FECHA:	NOVIEMBRE 2014	DE:	FERNANDO ROMO CONSULTORES



NOTA:
- V.R. ESPECIFICACIONES TECNICAS DE
MATERIALS EN HOJA N°2 DEL CAPITULO 1.



Empresa Pública Metropolitana
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Obras Públicas



REVISOR
REVISOR
PROYECTISTA

ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

PROYECTO

PUENTE GUAYASAMIN

CONTRATO

TALLER DE PRETENSADO
PRETENSADO TIPO "A" (III)

ESTADO

INICIADAS

NOVIEMBRE 2014

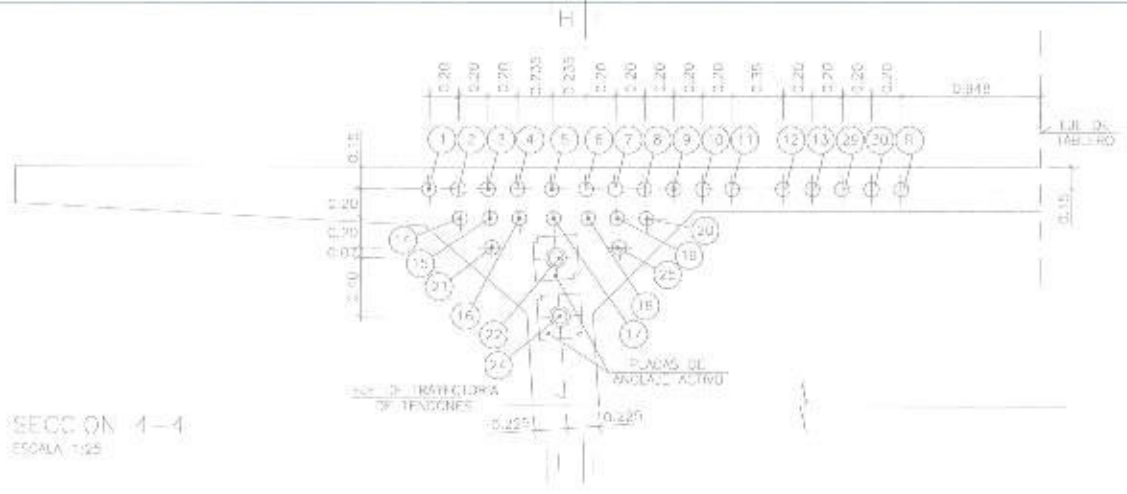
ARTICULO DE OBRAS

06.06.024-PRETENSADO TIPO A (III) day

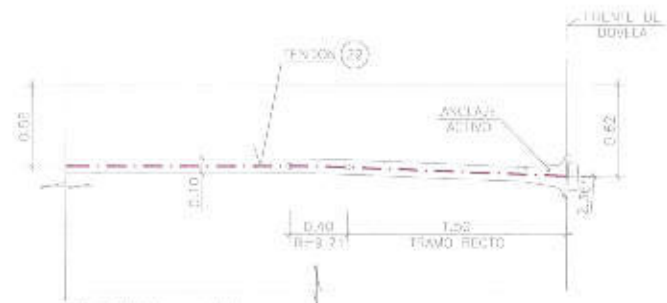
FECHA

FERNANDO ROMO CONSULTORES

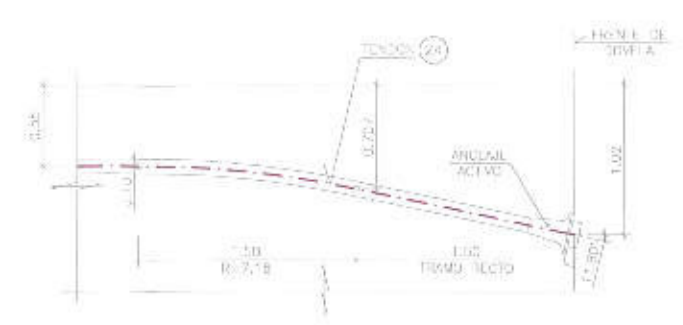
SECCION 4-4
ESCALA 1:25



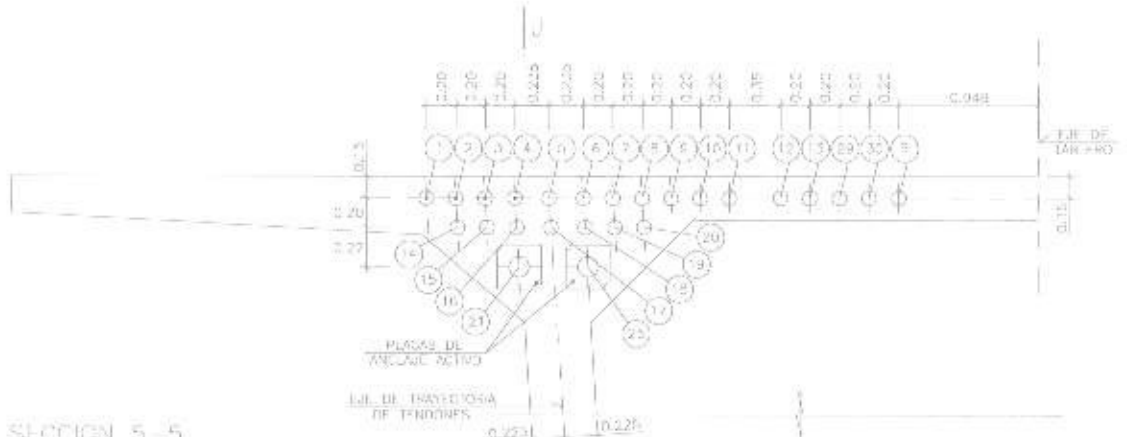
SECCION 4-H
ESCALA 1:25



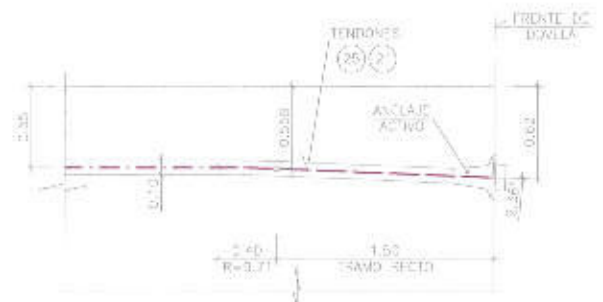
SECCION 4-I
ESCALA 1:25



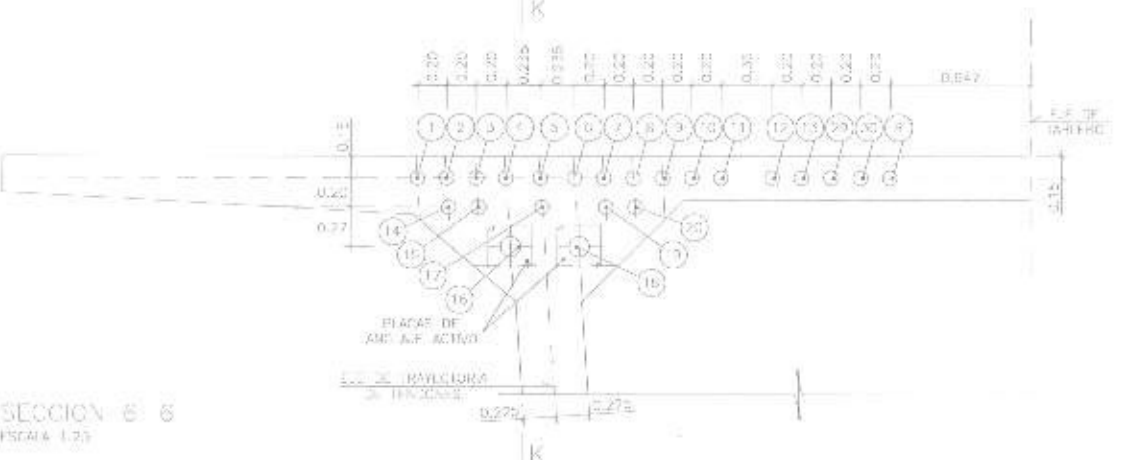
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ESCALA 1:25



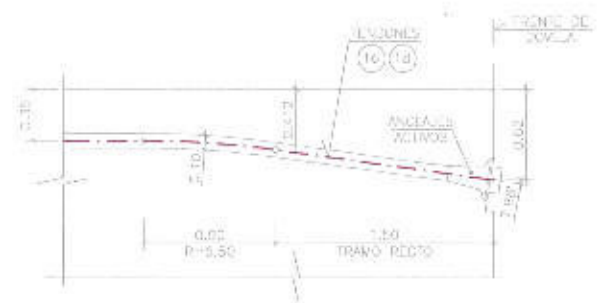
SECCION 5-J
ESCALA 1:25



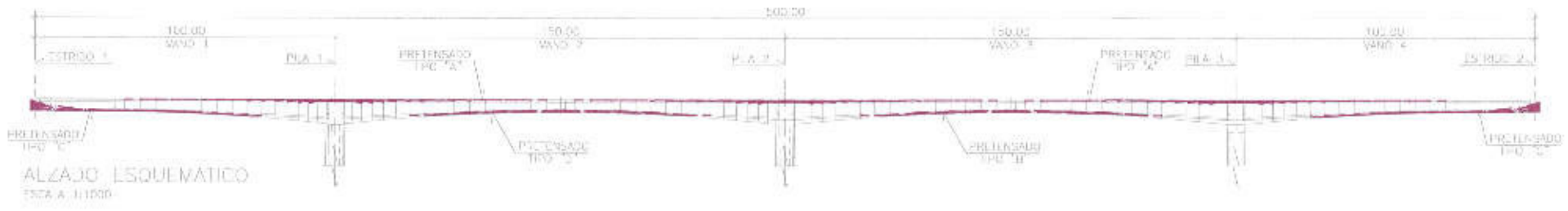
SECCION 6-6
ESCALA 1:25



SECCION 6-K
ESCALA 1:25



NOTA:
- V-R: ESPESORES EXTERNOS TENDONES DE MATERIALS DE TOLA, R2 3L, CAP. ULT. 1.



ALZADO ESQUEMATICO
ESCALA 1:1000



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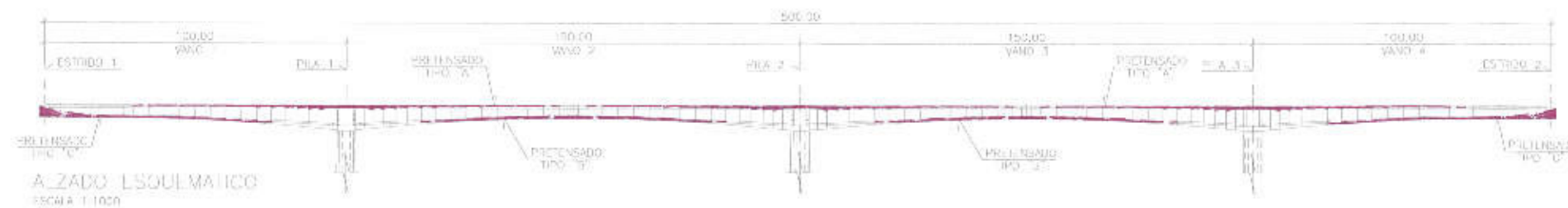
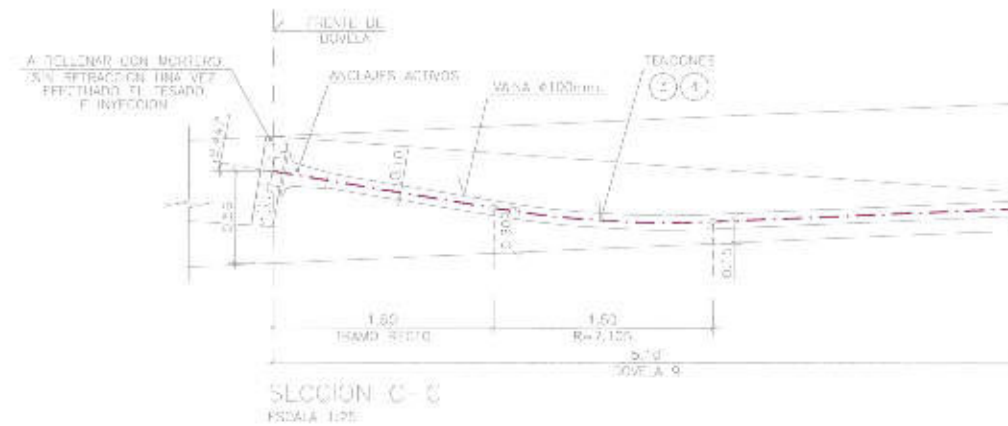
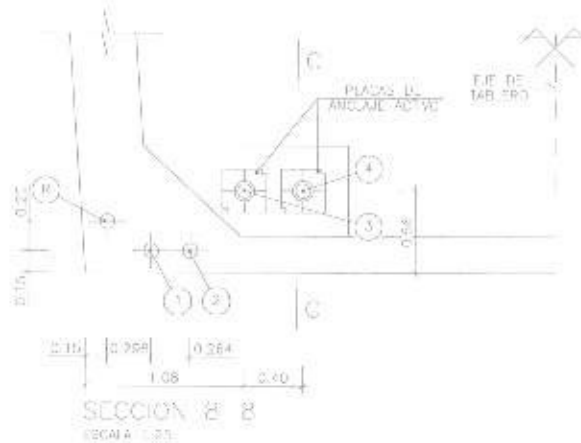
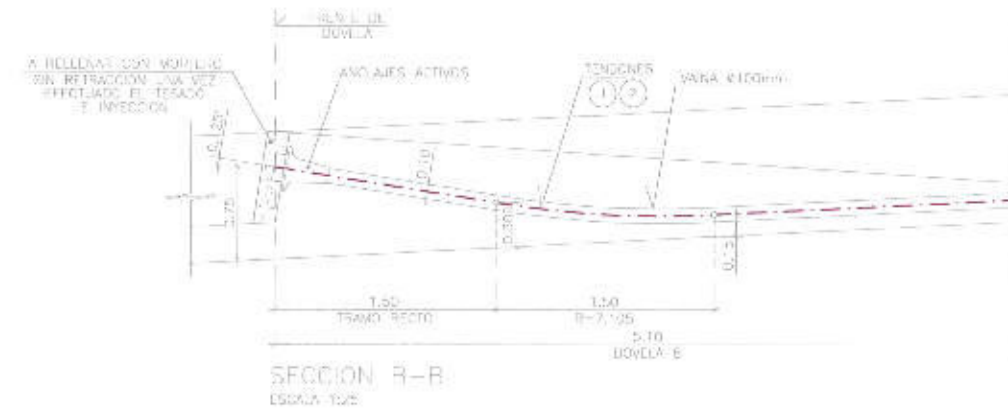
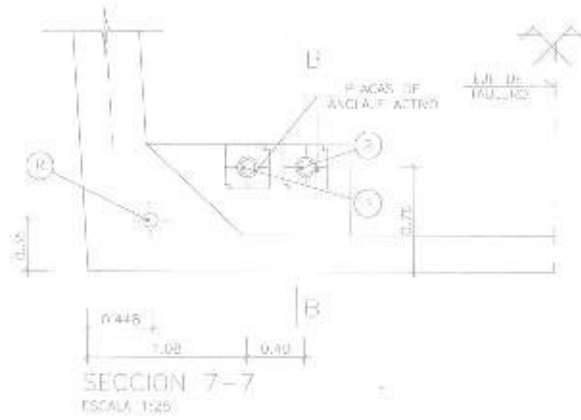
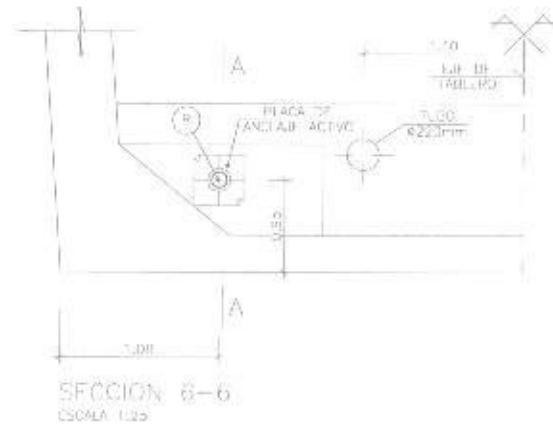


FERNANDO ROMO
CONSULTORES

EL TENDONADO DEL
FRONTE DE PRETENDIDO
DEL TENDONADO DEL
FRONTE DE PRETENDIDO

ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

UBICACION:	PUENTE GUAYASAMIN	ESCALA:	INDICADOS	ACTIVO:	06.06.05-PRETENSADO TIPO 1 (IV) Ag
CONTENIDO:	TARDEO PRETENSADO PRETENSADO TIPO 1 (IV)	FECHA:	NOVIEMBRE 2014	TRABAJOS:	FERNANDO ROMO CONSULTORES

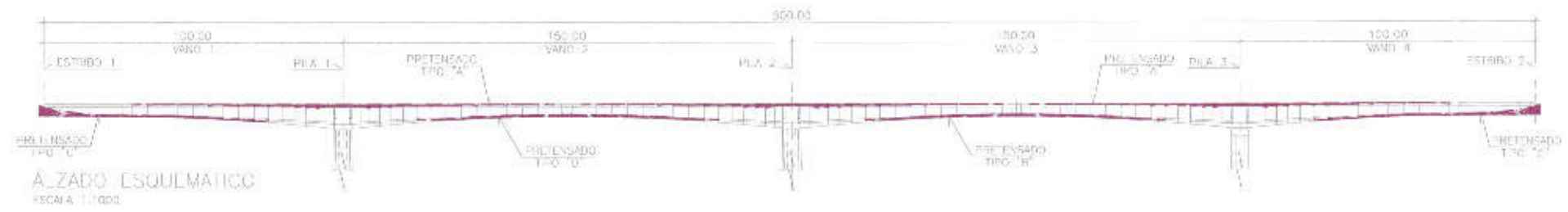
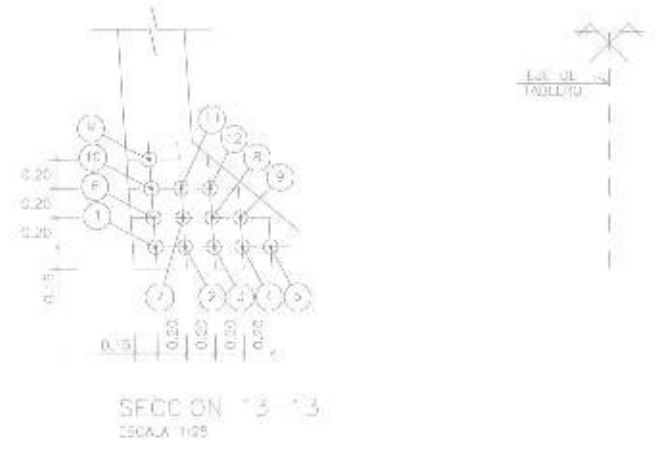
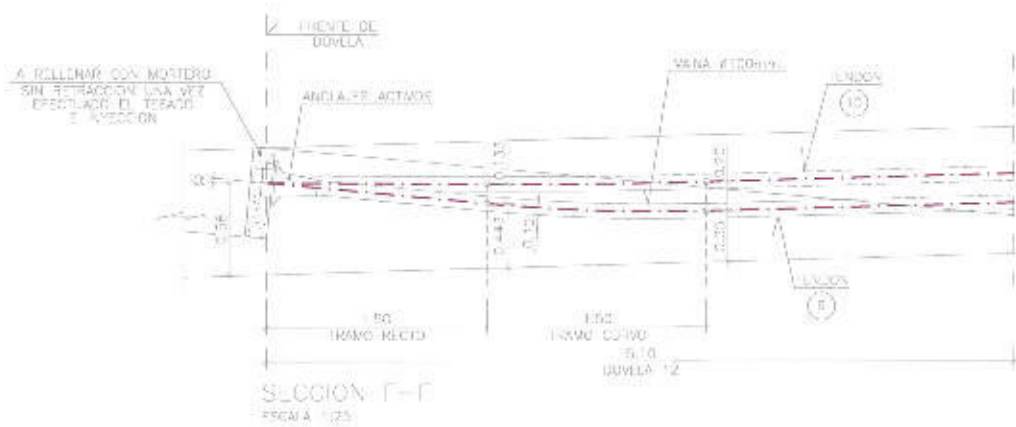
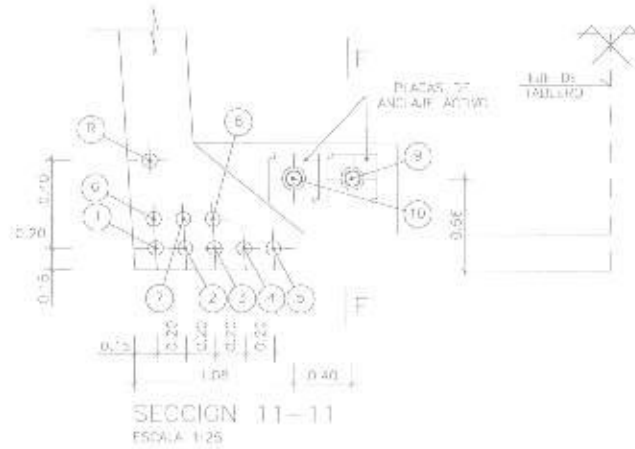
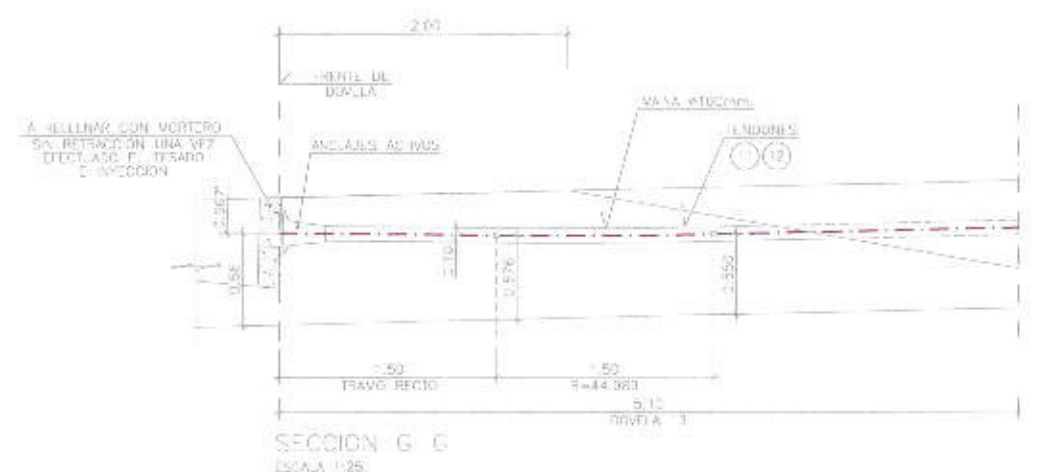
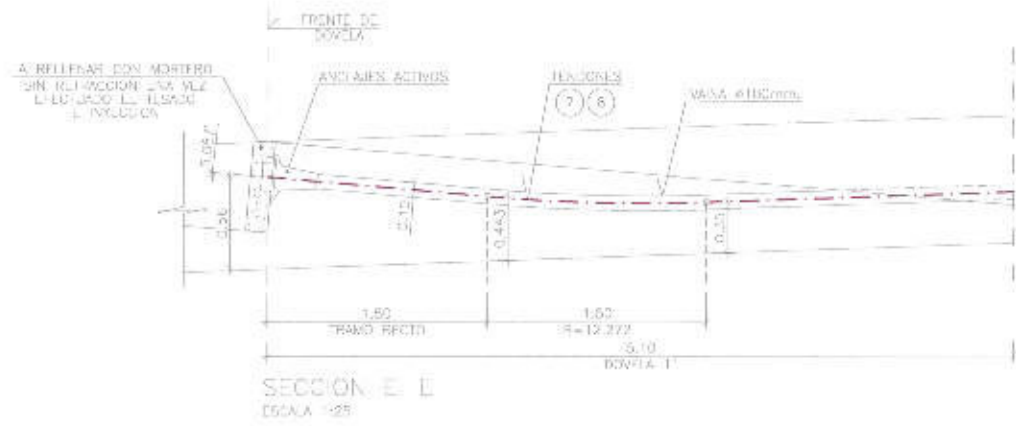
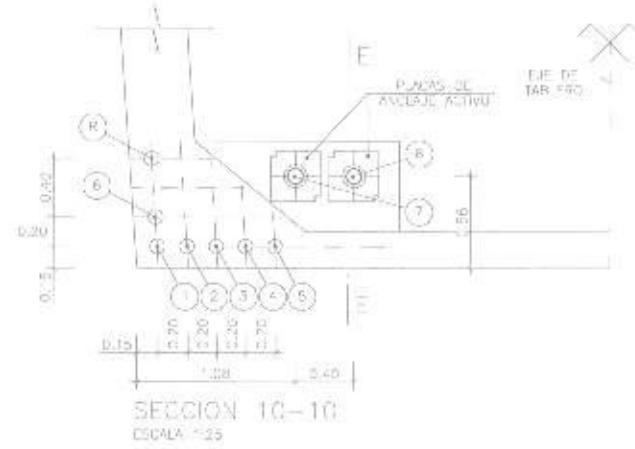
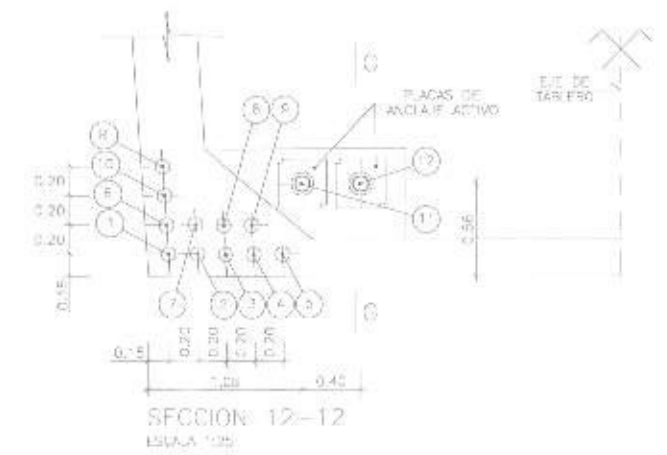
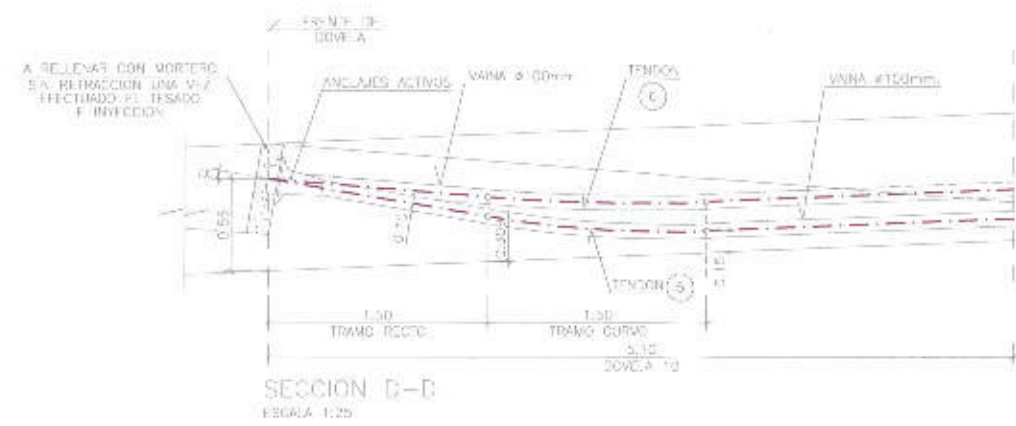
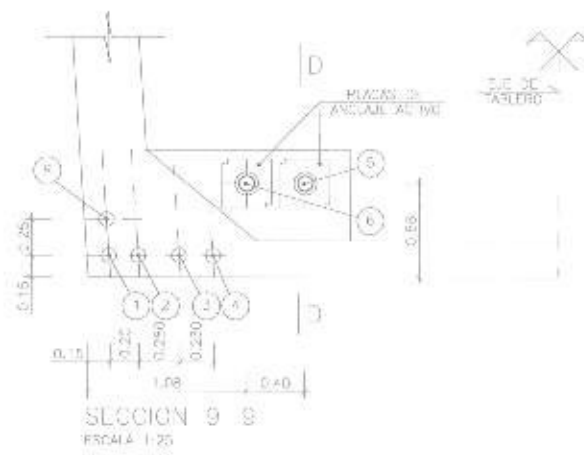


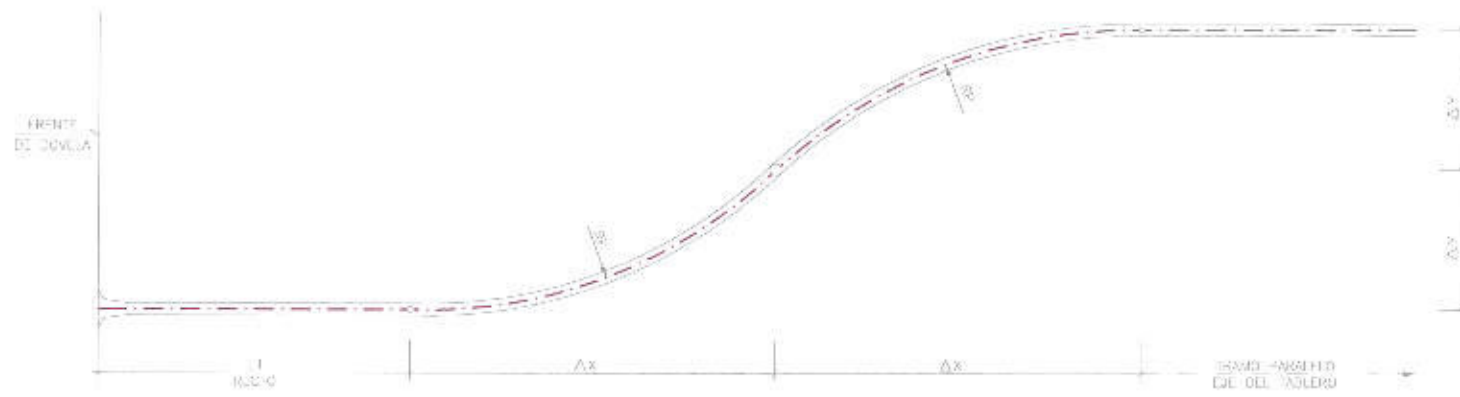
Empresa Pública Metropolitana
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Obras Públicas



ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

UBICACION:	PUNTO GUAYASAMIN	INDICACION:	INDICACION	ARCHIVO: E.C.O.P.A.	06,05,010-PRE-TENSADO TIPO B (II).dwg	LAMINA:	10/14
CONTENIDO:	TABLERO PRETENSADO PRETENSADO TIPO B VANO 2 Y 3 (II)	FECHA:	NOVIEMBRE 2014	DEDILLO:	FERNANDO ROMO CONSULTORES		

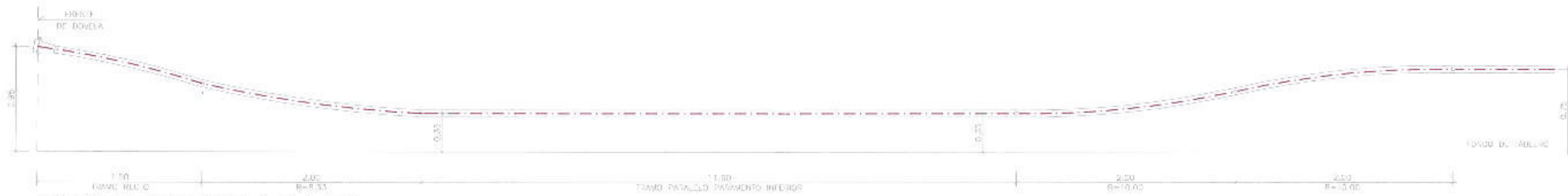




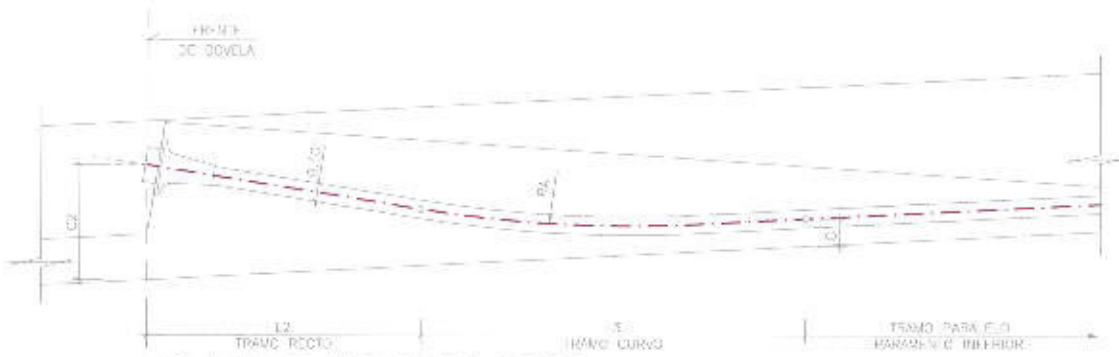
ESQUEMA DESPLAZAMIENTO EN PLANTA
(PRETENSADO TIPO B) (TENDONES 1,2,3,4)
5/ESCALA



ESQUEMA DESPLAZAMIENTO EN PLAN A
(PRETENSADO TIPO B) (TENDONES 5 A 12)
5/ESCALA



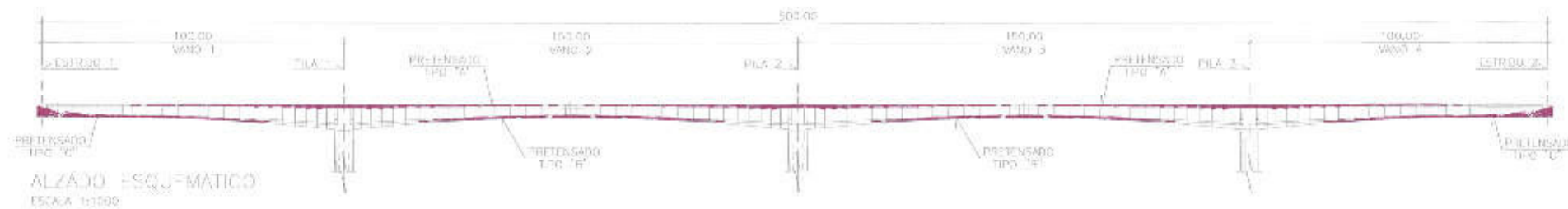
ESQUEMA DE DESPLAZAMIENTO EN ALZADO
(VAINA DE RESERVA)
5/ESCALA



ESQUEMA DE ANCLAJE EN ALZADO
(PRETENSADO TIPO B)
5/ESCALA

CUADRO DEFINICION GEOMETRICA ANCLAJES
(PRETENSADO TIPO B VANOS 2. ZONA VOLADIZOS)

TENDONES	DATOS EN PLANTA					DATOS EN ALZADO					
	AX [m]	AY [m]	RP [m]	RI [m]	α [°]	L1 [m]	L2 [m]	C1 [m]	L3 [m]	α [°]	RA [m]
1	1	0.465	0.65	1.5	-	1.5	1.5	0.15	0.75	6.181	7.105
2	1	0.556	0.95	1.5	-	1.5	1.5	0.15	0.75	6.181	7.105
3	2.5	0.256	11.49	1.5	-	1.5	1.5	0.15	0.75	6.495	7.105
4	2.5	0.356	8.55	1.5	-	1.5	1.5	0.15	0.75	6.495	7.105
5	2.1	0.530	10.11	1.5	11.241	1.5	1.5	0.15	0.75	6.810	7.105
6	2.1	0.930	3.25	1.5	20.017	1.5	1.5	0.15	0.75	4.776	32.272
7	2.1	0.730	2.31	1.5	15.945	1.5	1.5	0.15	0.75	5.124	32.272
8	2.1	0.930	5.75	1.5	20.017	1.5	1.5	0.15	0.75	5.124	32.272
9	2.1	0.730	2.31	1.5	15.945	1.5	1.5	0.15	0.75	5.440	32.272
10	2.1	0.930	3.75	1.5	20.017	1.5	1.5	0.15	0.75	6.750	44.989
11	2.1	0.730	2.31	1.5	15.945	1.5	1.5	0.15	0.75	6.682	44.989
12	2.1	0.930	5.75	1.5	20.017	1.5	1.5	0.15	0.75	6.682	44.989
13	3	0.465	0.65	1.5	-	-	-	-	-	0.681	44.989



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ING. FERNANDO ROMO
PROYECTO

REVISOR 1



ING. OSCAR ZOLA TORRES
INGENIERO

REVISOR 2



ING. OSCAR F. OCHOA TORRES
INGENIERO DE DISEÑO

PROYECTO

ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

UBICACION

PUENTE GUAYASAMIN

ESCALA

TABLERO PRETENSADO
PRETENSADO TIPO B VANO 2 Y 3 (2V)

FECHA DE

INDICADAS

FECHA

NOVIEMBRE 2014

ARCHIVO DATA

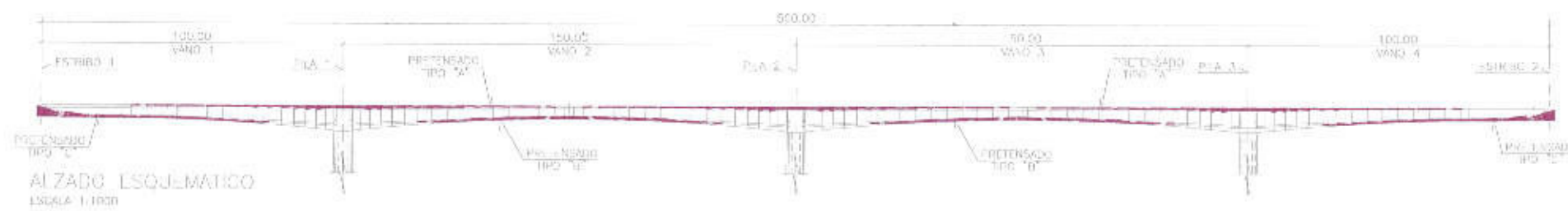
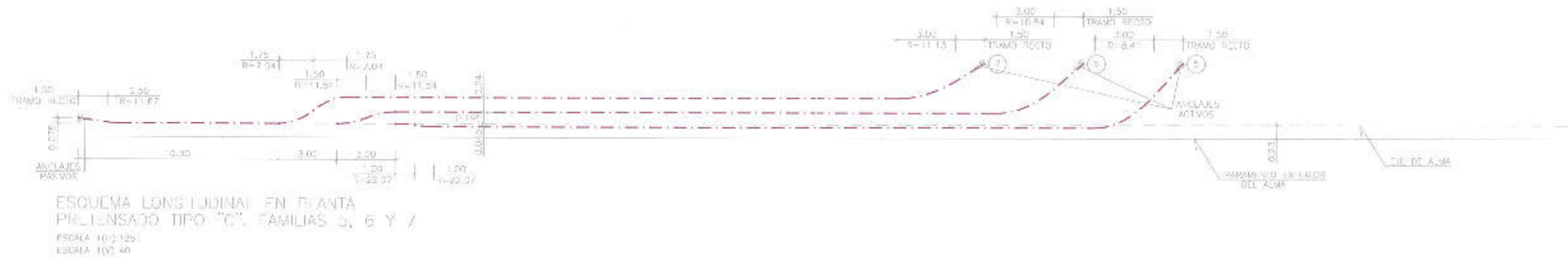
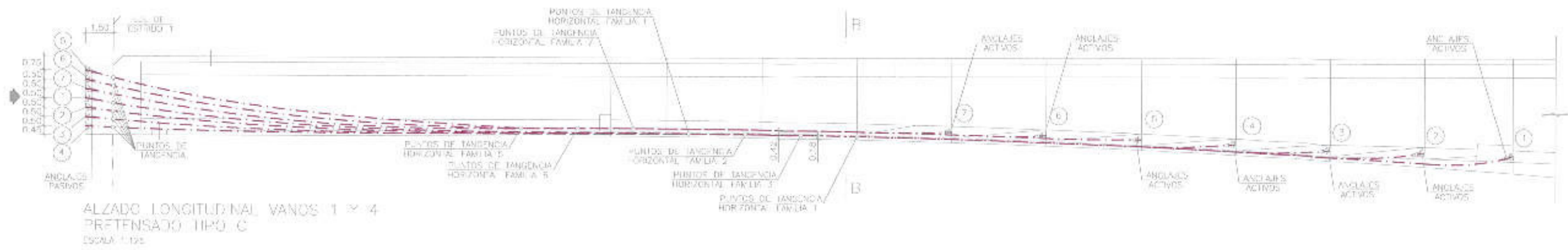
01.01.012-PR-TENSADO TIPO B (2V).dwg

DE DISEÑO

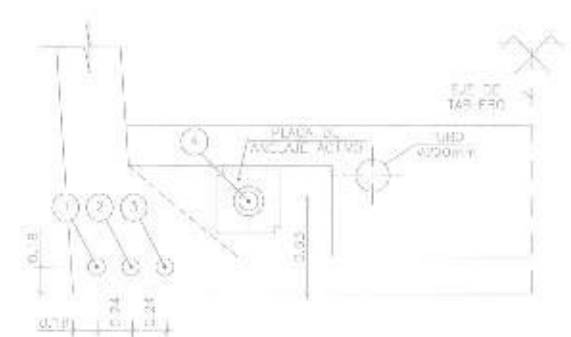
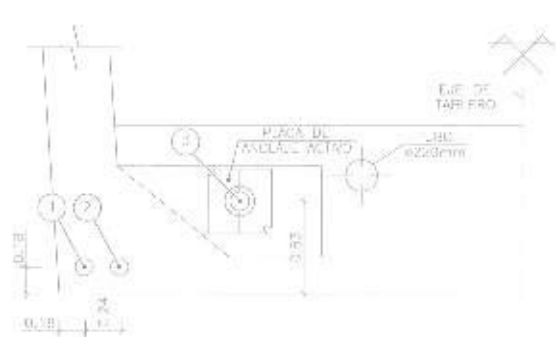
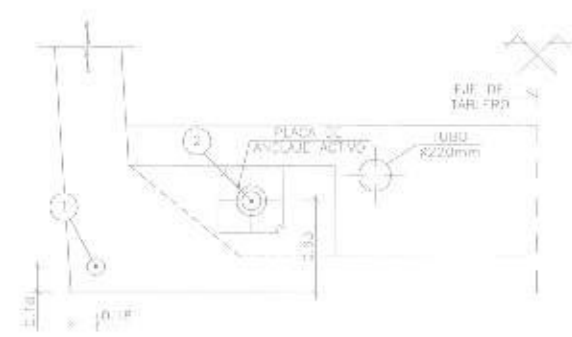
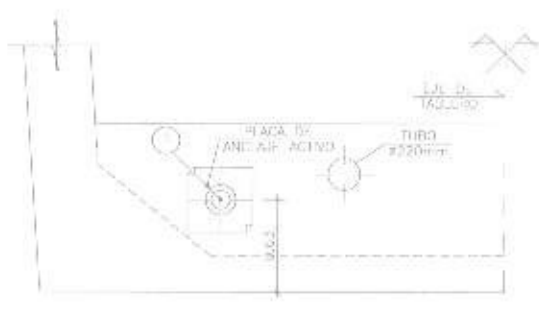
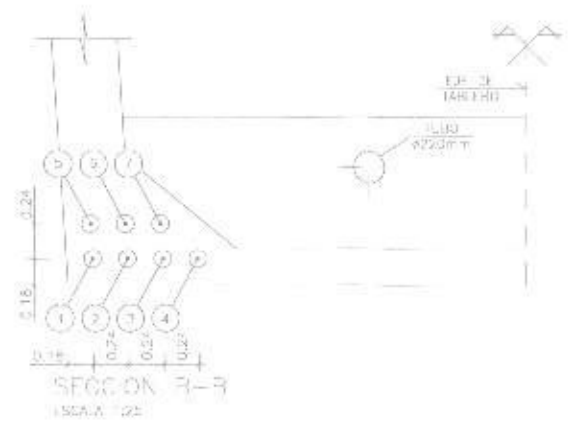
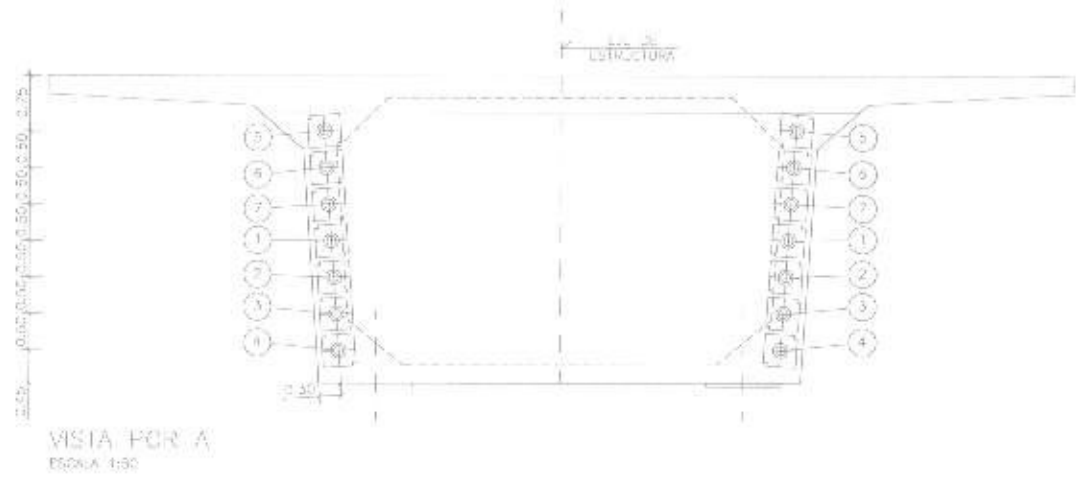
FERNANDO ROMO CONSULTORES

LAMINA

18/14



NOTA:
VER ESPECIFICACIONES TECNICAS DE
MATERIALES EN LA HOJA N°2 DEL CAPITULO 1.

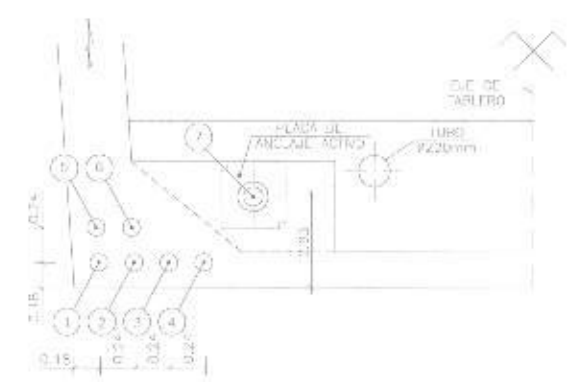
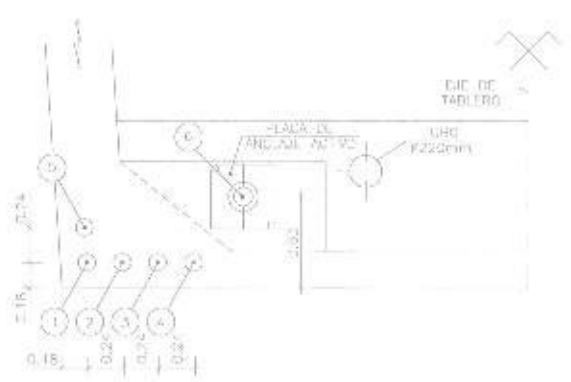
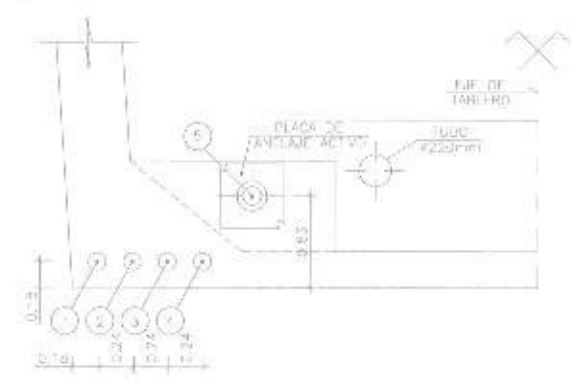


VISTA FRONTAL ANCLAJE PASIVO FAMILIA 1 ESCALA 1:25

VISTA FRONTAL ANCLAJE PASIVO FAMILIA 2 ESCALA 1:25

VISTA FRONTAL ANCLAJE PASIVO FAMILIA 3 ESCALA 1:25

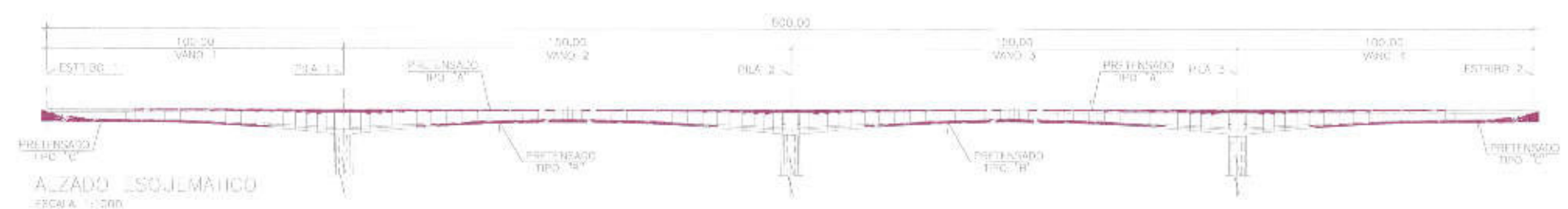
VISTA FRONTAL ANCLAJE PASIVO FAMILIA 4 ESCALA 1:25



VISTA FRONTAL ANCLAJE PASIVO FAMILIA 5 ESCALA 1:25

VISTA FRONTAL ANCLAJE PASIVO FAMILIA 6 ESCALA 1:25

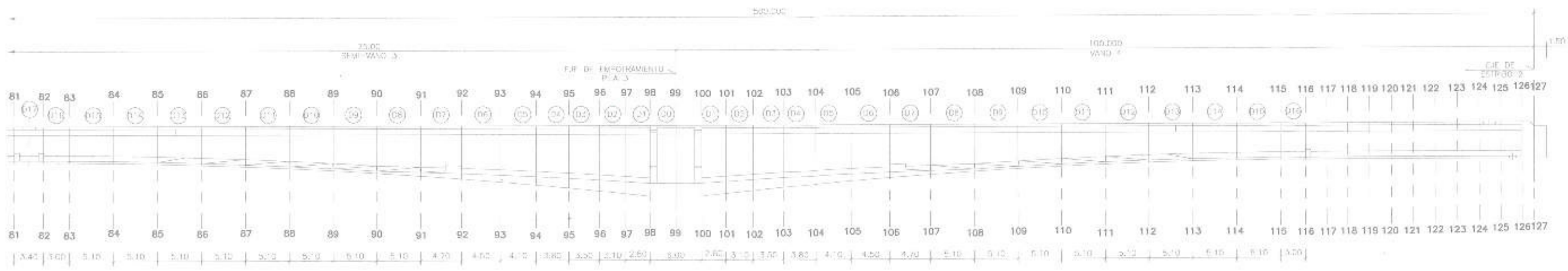
VISTA FRONTAL ANCLAJE PASIVO FAMILIA 7 ESCALA 1:25



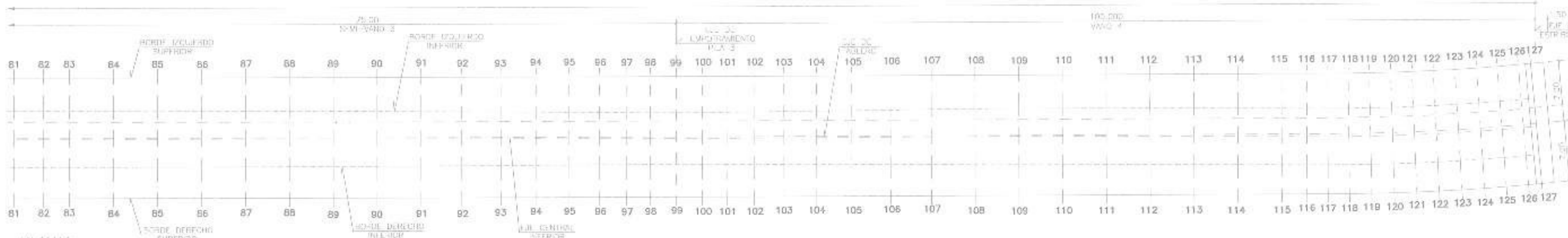
ALZADO ESQUEMATICO ESCALA 1:100

NOTA:
VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N° 01 CARTON 1.

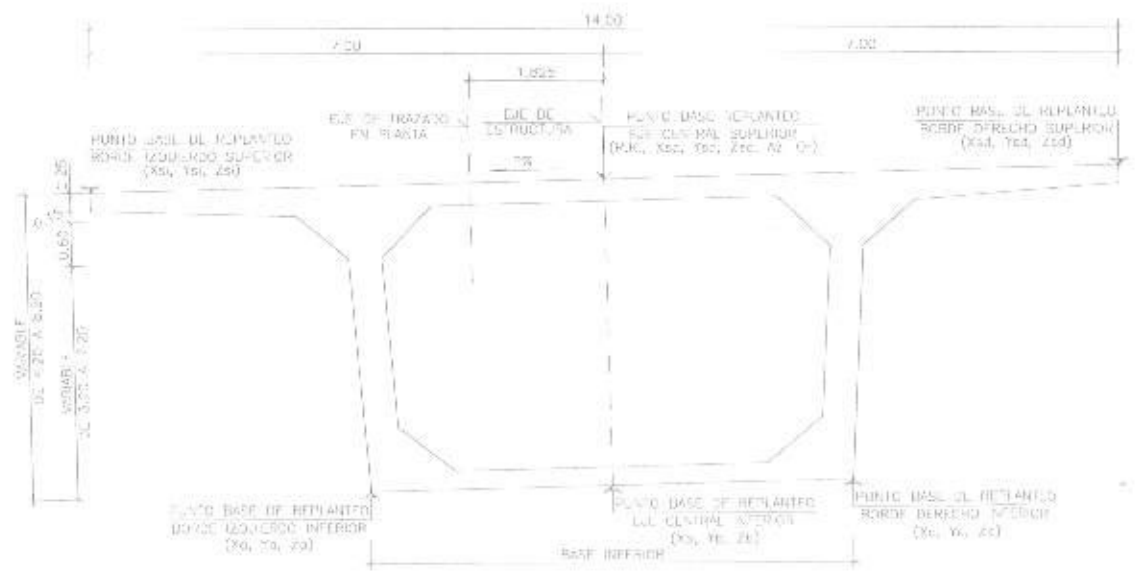
					ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN	AUTOR: PUENTE GUAYASAMIN	ESCALA: 2/3000	ARCHIVO: 05.06.014-PRESTENSADO TIPO C (03).dwg	
						DISEÑADOR: TABLERO PRETENSADO TIPO C (03)	FECHA: NOVIEMBRE 2014	DISEÑADOR: FERNANDO ROMO CONSULTORES	



ALZADO
ESCALA 1:200



PLANTA
ESCALA 1:250



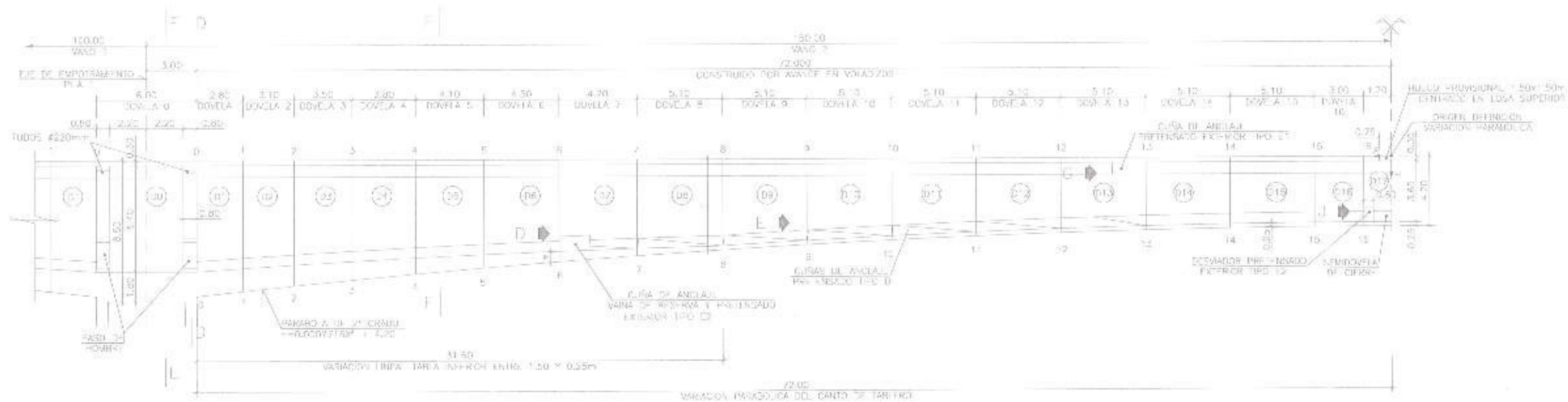
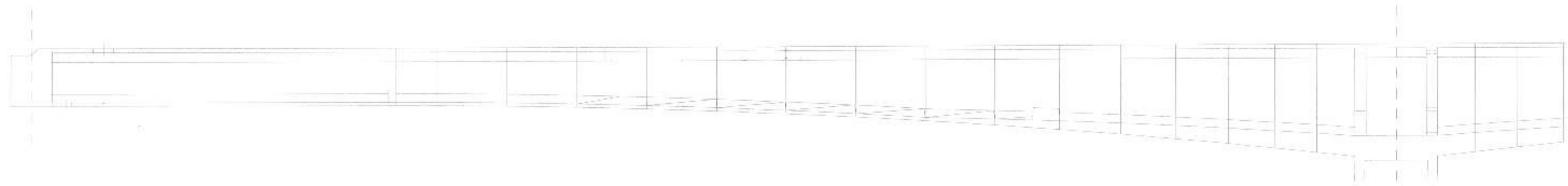
SECCION TIPO
ESCALA 1:50

— LÍMITES DE MEDICIÓN Y PAGO DE CADA UNO DE LOS ÍTEMES SEGUN VERIFICACIONES TÉCNICAS.

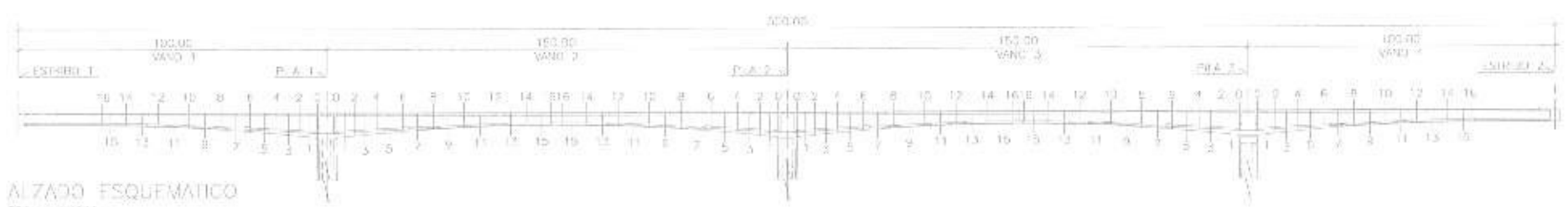
		<p>ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMÍN</p>	<p>PROYECTO: PUENTE GUAYASAMÍN</p>	<p>ESTADO: INDICADAS</p>	<p>ARCHIVO ELECTRÓNICO: 04.05.03-1944 REPLAN7000001.dwg</p>	<p>HOJA: 3/5</p>
			<p>CONTIENE: TABLERO DE REPLANEO (02)</p>	<p>FECHA: NOVIEMBRE 2014</p>	<p>ELABORADO: FERNANDO ROMO CONSULTORES</p>	

SECCIÓN	P.K. [m]	REPLANTEO CARA SUPERIOR											SECCIÓN		REPLANTEO BASE INFERIOR										
		BORDE IZQUIERDO			EJE CENTRAL				BORDE DERECHO				CANTO [m]	BASE INFERIOR [m]	BORDE IZQUIERDO		EJE CENTRAL		BORDE DERECHO						
		Zsi [m]	Ysi [m]	Zsi [m]	Xsc [m]	Ysc [m]	Zsc [m]	PERALTE [%]	Az [grad]	Or [grad]	Xsd [m]	Ysd [m]			Zsd [m]	Zli [m]	Yli [m]	Zli [m]	Xic [m]	Yic [m]	Zic [m]	Xid [m]	Yid [m]	Zid [m]	
ESTRIBO 1	1	0+730,000	502922,729	9978729,229	2735,286	502919,352	9978723,098	2735,846	-8,000	132,054	32,054	502915,975	9978716,967	2736,406	4,200	6,556	502920,772	9978725,676	2731,251	502919,190	9978722,805	2731,533	502917,609	9978719,994	2731,776
	2	0+731,500	502923,980	9978728,552	2735,227	502920,695	9978722,371	2735,787	-8,000	131,029	31,029	502917,430	9978716,190	2736,347	4,200	6,556	502922,076	9978724,970	2731,192	502920,538	9978722,075	2731,454	502919,000	9978719,381	2731,717
	3	0+734,000	502926,304	9978727,458	2735,128	502922,976	9978721,195	2735,688	-8,000	129,494	29,494	502919,848	9978714,933	2736,748	4,200	6,556	502924,291	9978723,878	2731,093	502922,836	9978720,895	2731,355	502921,367	9978717,953	2731,618
	4	0+736,500	502928,257	9978726,416	2735,029	502925,285	9978720,078	2735,589	-8,000	127,916	27,916	502922,313	9978713,740	2736,149	4,200	6,556	502926,534	9978722,742	2730,991	502925,145	9978719,775	2731,256	502923,251	9978726,807	2731,519
	5	0+739,000	502930,539	9978725,346	2734,931	502927,567	9978719,008	2735,491	-8,000	127,916	27,916	502924,595	9978712,672	2736,051	4,200	6,556	502928,816	9978721,612	2730,896	502927,425	9978718,705	2731,158	502926,034	9978715,737	2731,421
	6	0+741,580	502932,620	9978724,276	2734,833	502929,848	9978717,938	2735,393	-8,000	127,916	27,916	502926,876	9978711,605	2735,953	4,200	6,556	502931,097	9978720,502	2730,798	502929,406	9978717,635	2731,000	502928,314	9978724,667	2731,273
	7	0+744,100	502934,802	9978723,206	2734,735	502932,130	9978716,858	2735,295	-8,000	127,916	27,916	502929,158	9978710,530	2735,855	4,200	6,556	502933,379	9978719,539	2730,700	502931,988	9978716,568	2730,962	502930,596	9978713,597	2731,225
	8	0+746,620	502937,384	9978722,136	2734,637	502934,411	9978715,798	2735,197	-8,000	127,916	27,916	502931,439	9978709,461	2735,757	4,200	6,556	502935,661	9978720,462	2730,602	502934,269	9978715,495	2730,864	502932,877	9978712,527	2731,127
	9	0+749,140	502939,665	9978721,066	2734,557	502936,693	9978714,728	2735,099	-7,664	127,916	27,916	502933,721	9978708,391	2735,630	4,200	6,556	502941,945	9978719,405	2730,515	502936,557	9978714,437	2730,766	502935,165	9978711,470	2731,017
	10	0+751,660	502941,947	9978719,996	2734,487	502938,925	9978713,658	2734,987	-7,140	127,916	27,916	502946,003	9978707,321	2735,486	4,200	6,556	502944,240	9978718,255	2730,433	502943,848	9978713,387	2730,667	502942,456	9978709,369	2730,785
	11	0+754,180	502944,228	9978718,926	2734,417	502941,256	9978712,588	2734,880	-6,617	127,916	27,916	502938,284	9978706,251	2735,343	4,200	6,556	502942,530	9978715,305	2730,351	502941,138	9978712,237	2730,568	502940,747	9978709,369	2730,785
	12	0+756,700	502946,510	9978717,856	2734,347	502943,538	9978711,548	2734,774	-6,093	127,916	27,916	502940,566	9978705,181	2735,200	4,200	6,556	502944,821	9978714,254	2730,271	502943,430	9978711,287	2730,471	502942,038	9978708,319	2730,670
	13	0+759,220	502949,226	9978716,782	2734,264	502946,254	9978710,245	2734,648	-5,470	127,916	27,916	502943,282	9978703,907	2735,030	4,200	6,555	502947,548	9978713,005	2730,173	502946,357	9978710,037	2730,352	502944,765	9978707,070	2730,531
	14	0+761,740	502951,508	9978715,712	2734,182	502949,811	9978709,079	2734,434	-4,411	127,916	27,916	502947,899	9978701,742	2734,742	4,217	6,553	502951,783	9978710,877	2729,999	502950,792	9978707,911	2730,140	502949,401	9978704,991	2730,285
	15	0+764,260	502953,790	9978714,642	2734,105	502952,811	9978708,000	2734,281	-3,852	127,916	27,916	502952,517	9978699,576	2734,456	4,274	6,545	502955,818	9978709,747	2729,925	502954,828	9978705,784	2729,779	502953,428	9978702,221	2729,998
	16	0+766,780	502956,072	9978713,570	2734,028	502955,833	9978706,914	2734,103	-3,292	127,916	27,916	502955,517	9978698,461	2734,188	4,371	6,542	502959,045	9978708,607	2729,815	502958,060	9978704,650	2729,597	502956,673	9978700,693	2729,679
	17	0+769,300	502958,354	9978712,500	2733,951	502959,854	9978705,844	2733,921	-2,730	127,916	27,916	502959,211	9978697,346	2734,068	4,469	6,531	502962,273	9978707,439	2729,707	502961,273	9978703,581	2729,489	502959,894	9978698,533	2729,550
	18	0+771,820	502960,636	9978711,430	2733,874	502962,855	9978704,778	2733,844	-2,170	127,916	27,916	502962,569	9978696,229	2733,956	4,568	6,488	502965,501	9978706,230	2729,599	502964,501	9978702,463	2729,371	502963,004	9978699,467	2729,631
	19	0+774,340	502962,918	9978710,360	2733,807	502965,874	9978703,712	2733,811	-1,610	127,916	27,916	502965,869	9978695,111	2733,869	4,666	6,488	502968,733	9978705,013	2729,491	502967,511	9978700,291	2729,263	502966,017	9978692,401	2729,700
	20	0+776,860	502965,200	9978709,290	2733,730	502968,924	9978702,646	2733,811	-1,050	127,916	27,916	502968,121	9978694,000	2733,927	4,764	6,488	502971,597	9978703,805	2729,383	502970,279	9978698,112	2729,135	502969,514	9978689,278	2729,868
	21	0+779,380	502967,482	9978708,220	2733,659	502971,994	9978701,580	2733,811	-0,490	127,916	27,916	502971,404	9978692,889	2734,014	4,862	6,488	502974,471	9978702,597	2729,275	502973,153	9978694,004	2728,987	502971,727	9978686,515	2729,957
	22	0+781,900	502969,764	9978707,150	2733,588	502975,068	9978700,514	2733,811	0,070	127,916	27,916	502974,797	9978691,778	2734,100	4,959	6,488	502977,344	9978701,389	2729,167	502976,026	9978690,824	2728,879	502974,281	9978683,847	2729,990
	23	0+784,420	502972,046	9978706,080	2733,517	502978,162	9978699,448	2733,811	0,610	127,916	27,916	502978,111	9978690,667	2734,182	5,056	6,488	502980,211	9978700,181	2729,059	502976,909	9978694,536	2728,771	502975,004	9978680,111	2729,990
	24	0+786,940	502974,328	9978705,010	2733,446	502981,256	9978698,382	2733,811	1,150	127,916	27,916	502981,020	9978689,556	2734,264	5,153	6,488	502983,088	9978699,013	2728,951	502981,701	9978690,247	2728,663	502979,817	9978676,217	2729,990
	25	0+789,460	502976,610	9978703,940	2733,375	502984,350	9978697,316	2733,811	1,690	127,916	27,916	502984,477	9978688,440	2734,346	5,250	6,488	502985,945	9978698,471	2728,843	502984,522	9978685,368	2728,575	502982,246	9978673,401	2729,990
	26	0+791,980	502978,892	9978702,870	2733,304	502987,444	9978696,250	2733,811	2,230	127,916	27,916	502987,598	9978687,324	2734,428	5,347	6,488	502987,811	9978697,353	2728,735	502987,193	9978684,297	2728,487	502984,939	9978669,431	2729,990
	27	0+794,500	502981,174	9978701,800	2733,233	502990,538	9978695,184	2733,811	2,770	127,916	27,916	502990,711	9978686,208	2734,510	5,444	6,488	502990,020	9978696,282	2728,627	502990,805	9978683,190	2728,300	502988,064	9978664,511	2729,990
	28	0+797,020	502983,456	9978700,730	2733,162	502993,632	9978694,118	2733,811	3,310	127,916	27,916	502993,885	9978685,092	2734,592	5,541	6,488	502993,129	9978695,205	2728,519	502994,487	9978682,072	2728,112	502991,997	9978659,441	2729,990
29	0+800,000	502985,740	9978699,660	2733,091	502996,726	9978693,052	2733,811	3,850	127,916	27,916	502997,138	9978683,966	2734,674	5,638	6,488	502995,367	9978694,129	2728,411	502997,770	9978680,954	2727,904	502995,990	9978654,511	2729,990	
30	0+802,520	502988,024	9978698,590	2733,020	503000,820	9978691,986	2733,811	4,390	127,916	27,916	503000,451	9978682,840	2734,756	5,735	6,488	502997,601	9978693,061	2728,303	502998,103	9978680,842	2727,805	502998,613	9978649,441	2729,990	
31	0+805,040	502990,308	9978697,520	2732,949	503003,914	9978690,910	2733,811	4,930	127,916	27,916	503003,684	9978681,714	2734,838	5,830	6,488	502999,832	9978692,150	2728,195	503000,335	9978679,724	2727,707	502999,125	9978644,511	2729,990	
32	0+807,560	502992,592	9978696,450	2732,878	503007,008	9978689,840	2733,811	5,470	127,916	27,916	503007,957	9978680,584	2734,920	5,925	6,488	503002,065	9978691,041	2728,085	503002,567	9978678,614	2727,609	503001,417	9978639,441	2729,990	
33	0+810,080	502994,876																							

SECCIÓN	P.K. [m]	REPLANTEO CARA SUPERIOR											SECCIÓN		REPLANTEO BASE INFERIOR										
		BORDE IZQUIERDO			EJE CENTRAL					BORDE DERECHO			CANTO [m]	BASE INFERIOR [m]	BORDE IZQUIERDO		EJE CENTRAL		BORDE DERECHO						
		Zsl [m]	Ysl [m]	Zsl [m]	Xsc [m]	Ysc [m]	Zsc [m]	PERALTE [%]	Az [grad]	Or [grad]	Xsd [m]	Ysd [m]			Zsd [m]	Zll [m]	Yll [m]	Zll [m]	Xic [m]	Yic [m]	Zic [m]	Xid [m]	Yid [m]	Zid [m]	
PILA 2	64	0+980,000	503148,683	9978623,047	2726,795	503145,711	9978616,709	2726,971	-2,500	127,916	27,916	503142,739	9978610,371	2727,146	8,200	6,000	503146,898	9978619,240	2718,653	503145,624	9978616,529	2718,728	503144,350	9978613,807	2718,803
	65	0+983,000	503151,399	9978621,773	2726,697	503148,427	9978615,435	2726,872	-2,500	127,916	27,916	503145,455	9978609,097	2727,047	8,200	6,000	503149,614	9978617,956	2718,554	503148,340	9978615,249	2718,629	503147,066	9978612,533	2718,704
	66	0+985,800	503153,934	9978620,584	2726,604	503150,962	9978614,246	2726,779	-2,500	127,916	27,916	503147,990	9978607,909	2726,954	7,895	6,042	503152,161	9978616,803	2718,766	503150,878	9978614,067	2718,842	503149,595	9978611,332	2718,917
	67	0+988,900	503156,741	9978619,268	2726,502	503153,769	9978612,930	2726,677	-2,500	127,916	27,916	503150,797	9978606,592	2726,852	7,571	6,087	503154,981	9978615,514	2718,986	503153,689	9978612,759	2719,062	503152,396	9978610,003	2719,138
	68	0+992,400	503159,910	9978617,782	2726,387	503156,938	9978611,444	2726,562	-2,500	127,916	27,916	503153,966	9978605,106	2726,737	7,224	6,136	503158,164	9978614,058	2719,218	503156,861	9978611,281	2719,295	503155,559	9978608,503	2719,371
	69	0+996,200	503163,350	9978616,168	2726,262	503160,378	9978609,831	2726,437	-2,500	127,916	27,916	503157,406	9978603,493	2726,612	6,868	6,185	503161,618	9978612,476	2719,448	503160,305	9978609,676	2719,525	503158,992	9978606,876	2719,603
	70	1+000,300	503167,053	9978614,428	2726,126	503164,090	9978608,090	2726,301	-2,500	127,916	27,916	503161,118	9978601,752	2726,476	6,509	6,235	503165,345	9978610,765	2719,671	503164,021	9978607,943	2719,749	503162,697	9978605,120	2719,827
	71	1+004,800	503171,137	9978612,517	2725,978	503168,165	9978606,179	2726,153	-2,500	127,916	27,916	503165,193	9978599,842	2726,328	6,144	6,285	503169,434	9978608,885	2719,886	503168,100	9978606,040	2719,964	503166,765	9978603,195	2720,043
	72	1+009,500	503175,392	9978610,521	2725,823	503172,420	9978604,184	2725,998	-2,500	127,916	27,916	503169,448	9978597,846	2726,173	5,797	6,334	503173,703	9978606,920	2720,077	503172,358	9978604,063	2720,156	503171,014	9978601,186	2720,236
	73	1+014,600	503180,010	9978608,356	2725,655	503177,038	9978602,018	2725,830	-2,500	127,916	27,916	503174,065	9978595,681	2726,005	5,459	6,381	503178,335	9978604,783	2720,247	503176,980	9978601,894	2720,326	503175,625	9978599,006	2720,406
	74	1+019,700	503184,627	9978606,191	2725,487	503181,655	9978599,853	2725,662	-2,500	127,916	27,916	503178,683	9978593,515	2725,837	5,161	6,422	503182,963	9978602,643	2720,376	503181,600	9978599,736	2720,456	503180,237	9978596,829	2720,536
	75	1+024,800	503189,245	9978604,025	2725,319	503186,272	9978597,688	2725,494	-2,500	127,916	27,916	503183,300	9978591,350	2725,669	4,904	6,458	503187,591	9978600,500	2720,465	503186,220	9978597,577	2720,546	503184,849	9978594,654	2720,627
	76	1+029,900	503193,862	9978601,860	2725,151	503190,890	9978595,522	2725,326	-2,500	127,916	27,916	503187,918	9978589,184	2725,501	4,686	6,488	503192,218	9978598,353	2720,514	503190,840	9978595,416	2720,595	503189,446	9978592,479	2720,676
	77	1+035,000	503198,480	9978599,695	2724,983	503195,507	9978593,357	2725,158	-2,500	127,916	27,916	503192,535	9978587,019	2725,333	4,509	6,513	503196,842	9978596,203	2720,523	503195,459	9978593,255	2720,605	503194,076	9978590,307	2720,686
	78	1+040,100	503203,097	9978597,529	2724,815	503200,125	9978591,191	2724,990	-2,500	127,916	27,916	503197,153	9978584,854	2725,165	4,371	6,532	503201,465	9978594,049	2720,492	503200,079	9978591,092	2720,574	503198,692	9978588,135	2720,656
	79	1+045,200	503207,715	9978595,364	2724,647	503204,742	9978589,026	2724,822	-2,500	127,916	27,916	503201,770	9978582,688	2724,997	4,274	6,545	503206,086	9978591,892	2720,421	503204,697	9978588,929	2720,503	503203,307	9978585,966	2720,585
	80	1+050,300	503212,332	9978593,198	2724,478	503209,360	9978586,861	2724,653	-2,500	127,916	27,916	503206,388	9978580,523	2724,828	4,217	6,553	503210,706	9978589,732	2720,310	503209,315	9978586,766	2720,392	503207,924	9978583,799	2720,474
	81	1+053,300	503215,048	9978591,925	2724,379	503212,076	9978585,587	2724,554	-2,500	127,916	27,916	503209,104	9978579,249	2724,740	4,202	6,555	503213,423	9978588,459	2720,226	503212,031	9978585,492	2720,308	503210,640	9978582,524	2720,390
	82	1+056,700	503218,126	9978590,481	2724,267	503215,154	9978584,143	2724,442	-2,500	127,916	27,916	503212,182	9978577,806	2724,617	4,202	6,555	503216,501	9978587,015	2720,114	503215,109	9978584,048	2720,196	503213,718	9978581,080	2720,278
	83	1+059,700	503220,843	9978589,207	2724,169	503217,871	9978582,870	2724,344	-2,500	127,916	27,916	503214,898	9978576,532	2724,519	4,217	6,553	503219,218	9978585,741	2720,000	503217,826	9978582,775	2720,082	503216,435	9978579,808	2720,164
	84	1+064,800	503225,460	9978587,042	2724,001	503222,488	9978580,704	2724,176	-2,500	127,916	27,916	503219,516	9978574,366	2724,351	4,274	6,545	503223,832	9978583,570	2719,775	503222,443	9978580,607	2719,857	503221,053	9978577,644	2719,939
	85	1+069,900	503230,078	9978584,877	2723,832	503227,106	9978578,539	2724,007	-2,500	127,916	27,916	503224,133	9978572,201	2724,182	4,371	6,532	503228,446	9978581,397	2719,510	503227,060	9978578,440	2719,592	503225,673	9978575,483	2719,674
	86	1+075,000	503234,695	9978582,711	2723,664	503231,723	9978576,373	2723,839	-2,500	127,916	27,916	503228,751	9978570,036	2724,014	4,509	6,513	503233,058	9978579,219	2719,205	503231,675	9978576,271	2719,287	503230,293	9978573,323	2719,368
	87	1+080,100	503239,313	9978580,546	2723,496	503236,340	9978574,208	2723,671	-2,500	127,916	27,916	503233,968	9978567,870	2723,846	4,686	6,488	503237,068	9978577,039	2718,860	503236,290	9978574,102	2718,941	503234,913	9978571,165	2719,022
	88	1+085,200	503243,940	9978578,380	2723,328	503240,958	9978572,043	2723,503	-2,500	127,916	27,916	503237,986	9978565,705	2723,678	4,904	6,458	503242,277	9978574,855	2718,475	503240,906	9978571,932	2718,556	503239,535	9978569,009	2718,637
	89	1+090,300	503248,548	9978576,215	2723,160	503245,575	9978569,877	2723,335	-2,500	127,916	27,916	503242,603	9978563,540	2723,510	5,161	6,422	503246,884	9978572,667	2718,049	503245,520	9978569,760	2718,129	503244,157	9978566,853	2718,209
	90	1+095,400	503253,165	9978574,050	2722,992	503250,193	9978567,712	2723,167	-2,500	127,916	27,916	503247,221	9978561,374	2723,342	5,459	6,381	503251,490	9978570,477	2717,584	503250,135	9978567,588	2717,663	503248,781	9978564,700	2717,743
	91	1+100,500	503257,783	9978571,881	2722,824	503254,810	9978565,547	2723,099	-2,500	127,916	27,916	503251,838	9978559,209	2723,174	5,797	6,334	503256,093	9978568,283	2717,078	503254,748	9978565,416	2717,157	503253,404	9978562,549	2717,237
	92	1+105,200	503262,038	9978569,889	2722,669	503259,066	9978563,551	2722,844	-2,500	127,916	27,916	503256,094	9978557,213	2723,019	6,144	6,285	503260,335	9978566,257	2716,577	503259,001	9978563,412	2716,655	503257,667	9978560,567	2716,734
	93	1+109,700	503266,112	9978567,978	2722,521	503263,140	9978561,640	2722,696	-2,500	127,916	27,916	503260,168	9978555,303	2722,871	6,509	6,235	503264,395	9978564,315	2716,065	503263,071	9978561,493	2716,143	503261,747	9978558,670	2716,221
	94	1+113,800	503269,824	9978566,237	2722,386	503266,852	9978559,900	2722,561	-2,500	127,916	27,916	503265,880	9978553,562	2722,736	6,868	6,185	503269,092	9978562,545	2715,572	503267,779	9978559,745	2715,649	503265,466	9978556,945	2715,727
	95	1+117,600	503273,265	9978564,624	2722,260	503270,293	9978558,286	2722,435	-2,500	127,916	27,916	503267,320	9978551,948	2722,610	7,224	6,136	503271,519	9978560,90							



SECCION LONGITUDINAL SEMI VANO 2
FIGURA 1.152

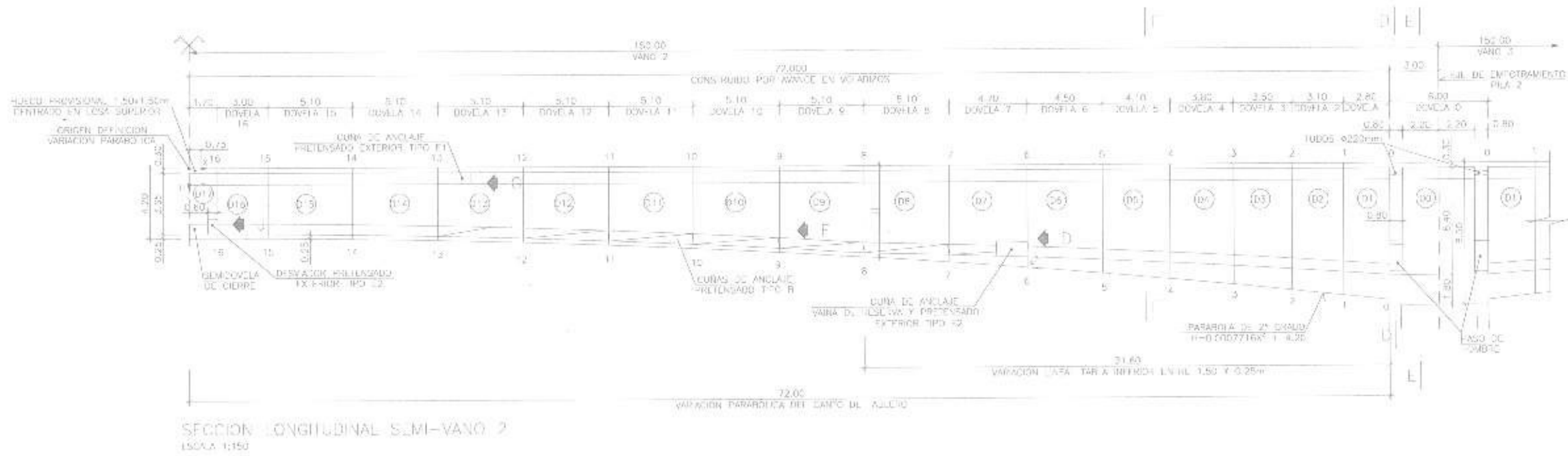


ALZADO ESQUEMATICO
ESCALA 1:1000

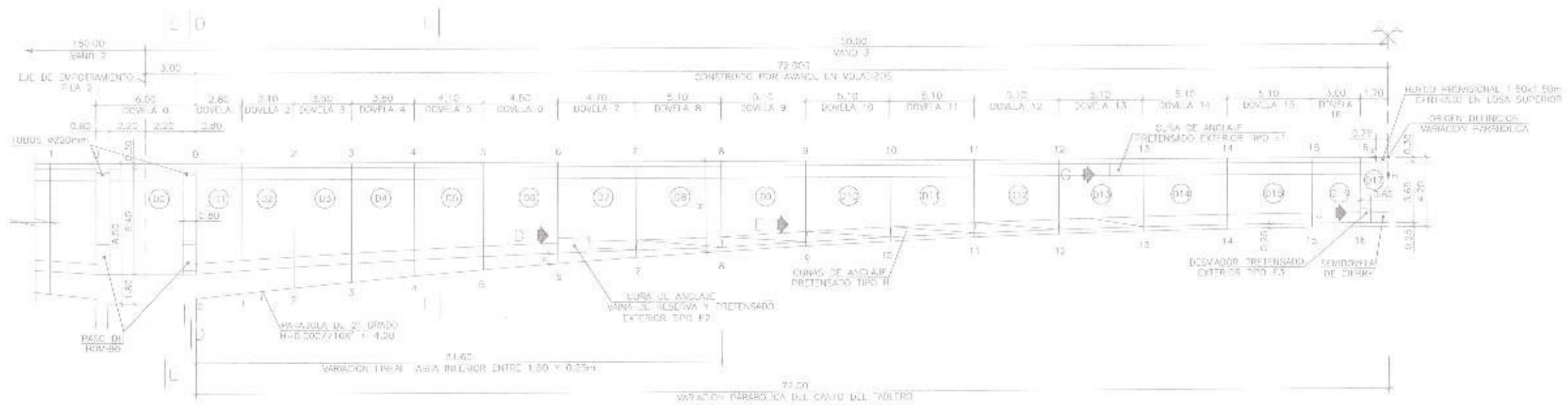
TABLA DE CANTIDADES	DOVELAS 0	VOLADOS SUCESIVOS
Cantidad simple $f_c=400 \text{ Kg/cm}^2$	184.62 m ³	2.192.550 m ³
Acero de refuerzo corrugado $f_y=4200 \text{ kg/cm}^2$	176.257.58 kg	1.484.182.52 kg
Costes de construcción: $f_{con}=18380 \text{ Kg/cm}^2$	322910.00 kg	483.676.80 kg

- NOTAS:**
- Las cubas de anclaje de pretensado exterior 11 y 12 se diseñan para una futura instalación de preclusas exterior del tablero en el presente proyecto no se contempla la ubicación de anclaje pretensado exterior.
 - VER ESPECIFICACIONES TÉCNICAS DE MATERIALES EN TOMA Nº2 DE CAPÍTULO DE DISEÑO DE OBRA.

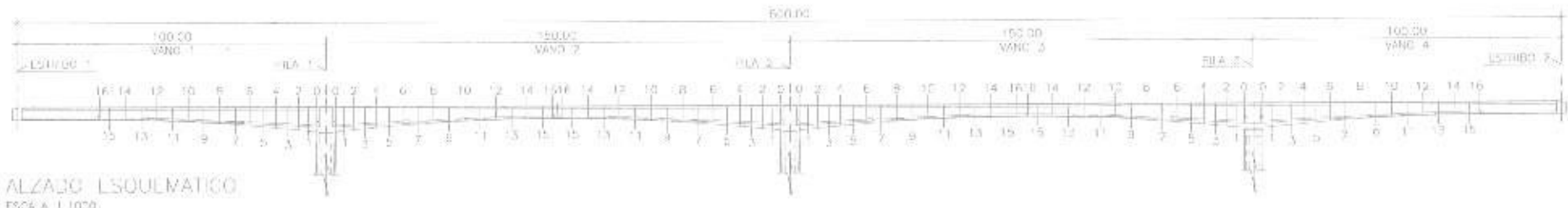
	 INGENIERO EN CIVIL DIRECTOR GENERAL DE OBRAS	 INGENIERO EN CIVIL DIRECTOR GENERAL DE OBRAS	ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN	PUENTE GUAYASAMIN	DISEÑADAS	NOVEMBRE 2014	M.D.M.-TABLERO DE 520 (D) eq DEB. 0 FERNANDO ROMO CONTRERAS	
	EMPRESA PÚBLICA METROPOLITANA DE MOVILIDAD Y OBRAS PÚBLICAS	FERNANDO ROMO CONTRERAS	FERNANDO ROMO CONTRERAS	ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN	GEOMETRIA DE TABLERO (2)	DISEÑADAS	NOVIEMBRE 2014	M.D.M.-TABLERO DE 520 (D) eq DEB. 0 FERNANDO ROMO CONTRERAS



SECCION LONGITUDINAL SEMI-VANO 2
ESCALA 1:150



SECCION LONGITUDINAL SEMI-VANO 3
ESCALA 1:150

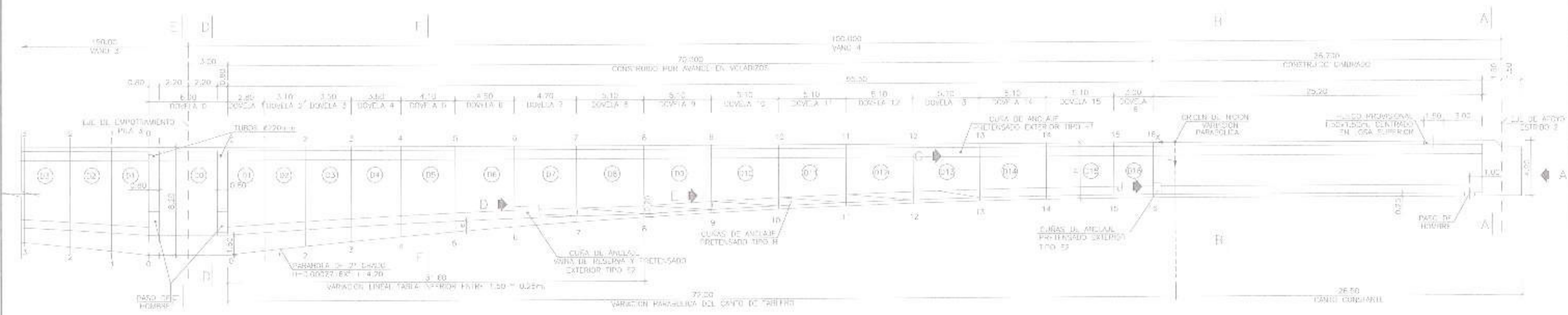
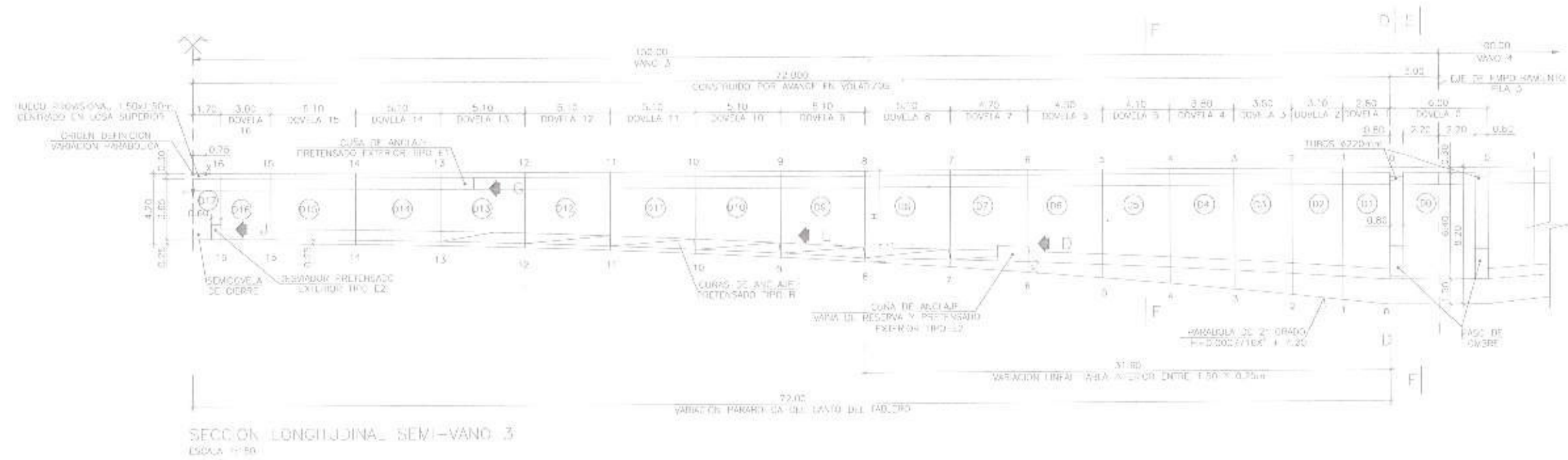


ALZADO ESQUEMATICO
ESCALA 1:1000

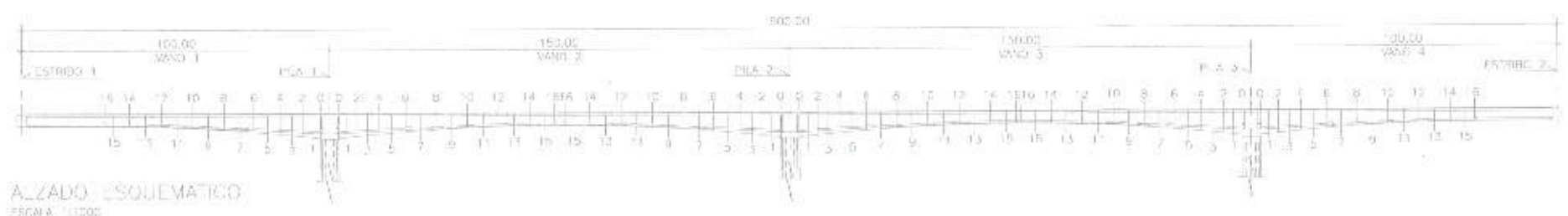
TABLA DE CANTIDADES	DOVELAS D	VOLADOS SUCESIVOS
Mortar simple $f_c = 120 \text{ Kg/cm}^2$ Acero de refuerzo corrugado $E_s = 21000 \text{ Kg/cm}^2$ Cobete de resistencia $f_{pu} = 16800 \text{ Kg/cm}^2$	18400 m ³ 176257.50 Kg 32970.00 Kg	2133.50 m ³ 1409180.90 Kg 421686.50 Kg

NOTAS:
 - LAS CURVAS DE ANCLAJE DE PRETENSADO EXTERIOR D1 Y D2 SE DEFINEN PARA UNA ÚNICA INSTALACION DE PRETENSADO EXTERIOR DEL ASBESTO EN PRESENTE PROYECTO NO SE CONTEMPLA LA OPORTUNIDAD DE INSTALAR PRETENSADO EXTERIOR.
 - VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA Nº 02 DEL LIBRO DE DISEÑOS GENERALES.

			ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN	PUENTE GUAYASAMIN	INDICACIONES	ARCHIVO CORO 01 DE CO-TABLERO DEP 050 (01) day	
	REVISOR: 	DISEÑADOR: 		COMPROBADO: GEOMETRIA DE TABLERO (T)	FECHA: NOVIEMBRE 2014	PROYECTO: FERNANDO ROJO CONSTRUCTORES	



SECCION LONGITUDINAL VANO 4
ESCALA 1:50

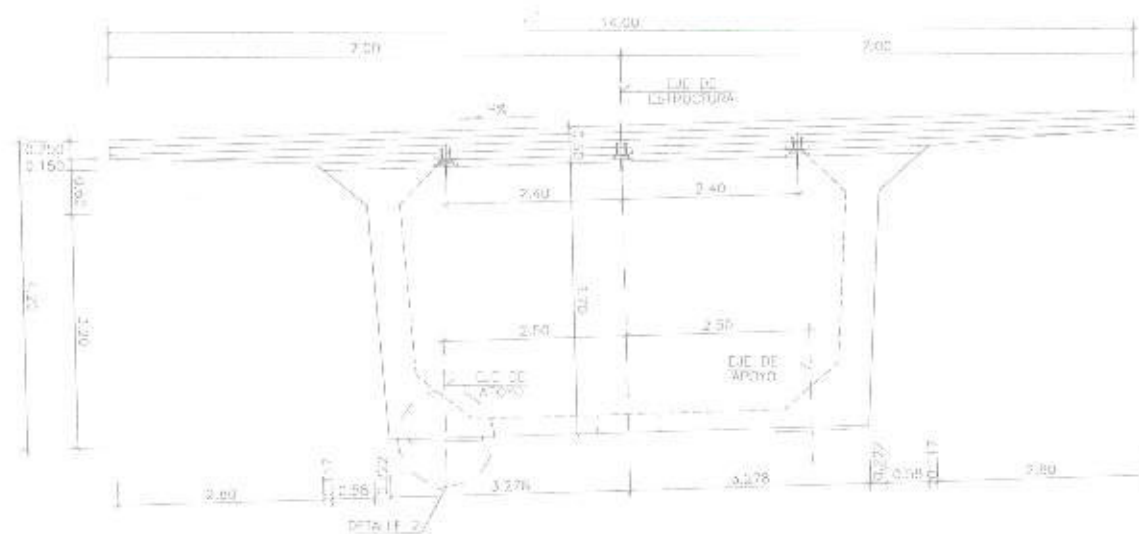


ALZADO ESQUEMATICO
ESCALA 1:1000

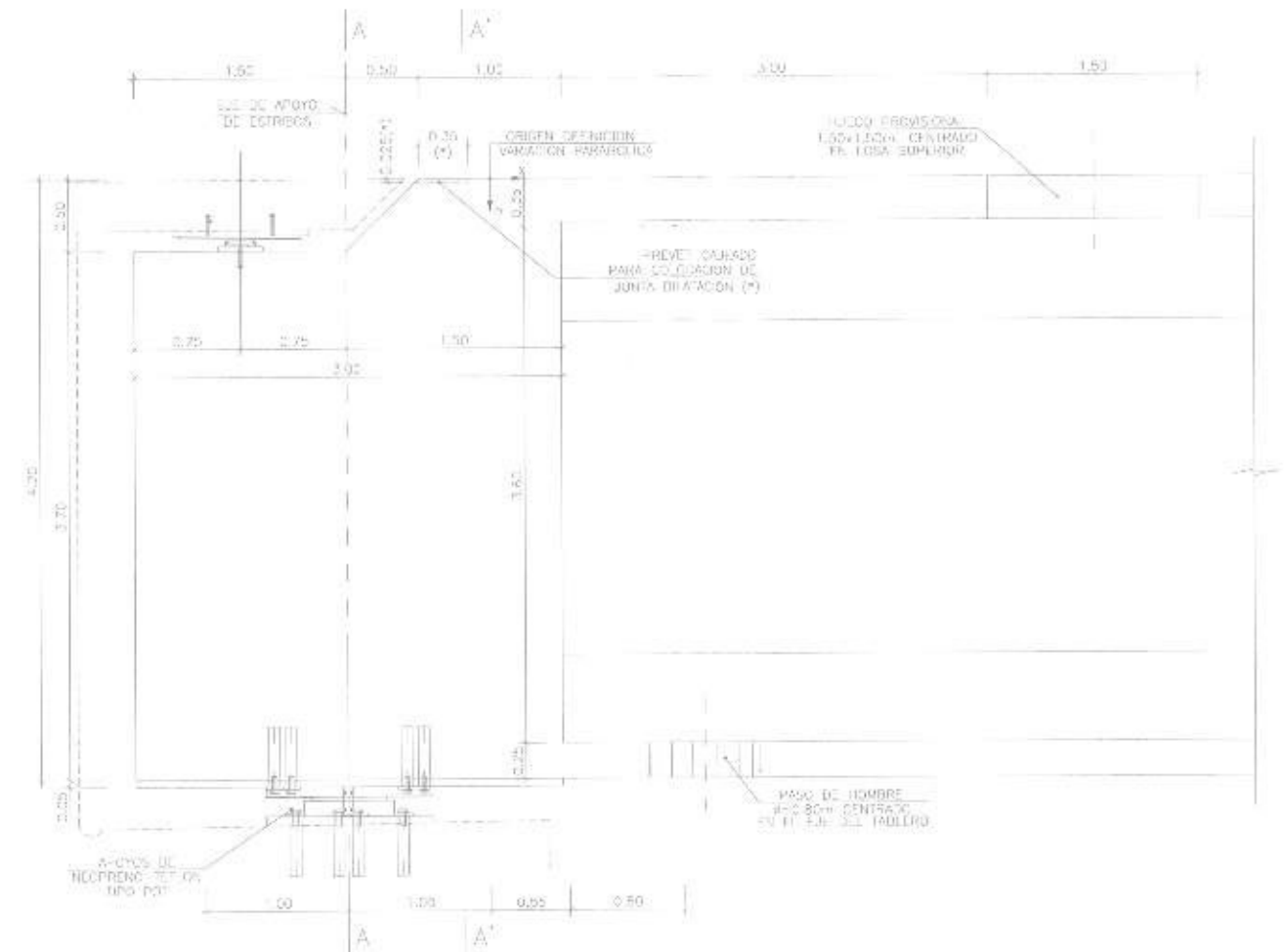
TABLA DE CANTIDADES	DOVELAS D	VOLADOS SUCESIVOS
Hormigon armado $f_c = 420 \text{ kg/cm}^2$	191.50 m ³	7.18350 m ³
Acero de refuerzo corrugado $f_y = 4200 \text{ kg/cm}^2$	76.55750 kg	1.461.150,00 kg
Dovelas de geometria tab - 10x80 kg/m ²	32.000,00 kg	401.000,00 kg

- NOTAS:
- 1- LAS CURSOS DE ANCLAJE DE PRETENSADO EXTERIOR TIPO E1 Y E2 SE DEBERAN INSTALAR EN LA INSTALACION DE PRETENSADO EXTERIOR DEL TABLERO EN EL PRESENTE PROYECTO NO SE DEBERAN A DISPOSICION DE NINGUN PRETENSADO EXTERIOR.
 - 2- LAS DESIGNACIONES TECNICAS DE MATERIALES EN HOJA Nº DEL CAPITULO 07-DE NORMA GENERAL.

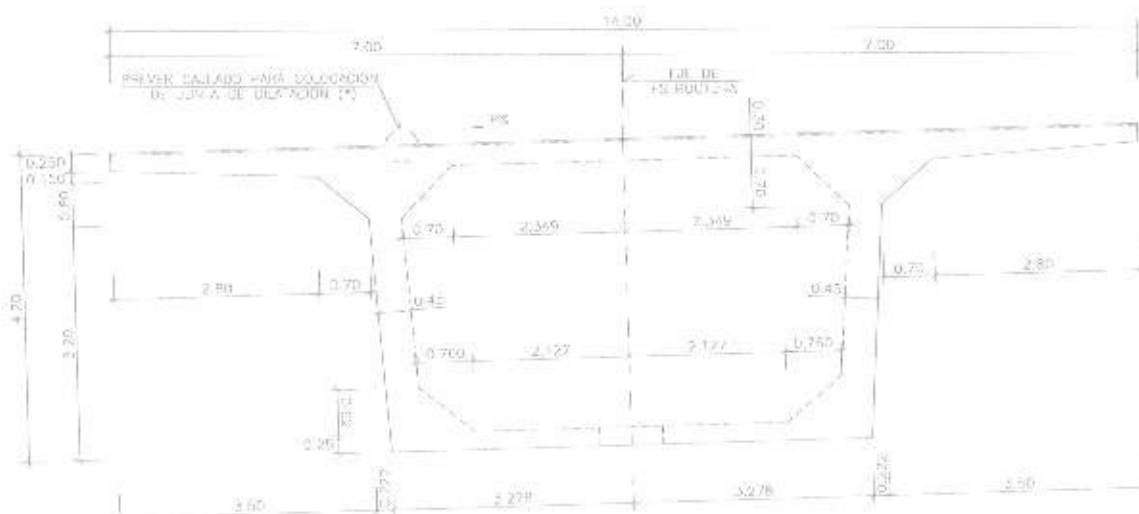
			ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN	LECCION:	TITULO:	AREA DE ESTUDIO:	LAYERS:
	EMPRESA PUBLICA METROPOLITANA DE MOVILIDAD Y OBRAS PUBLICAS	INGENIERO EN CIVIL		INGENIERO EN CIVIL	PUENTE GUAYASAMIN	GEOMETRIA DE TABLERO (III)	INGENIERIA



VISTA POR A
(RIOSTRA DE ESTRIBOS)
ESCALA 1:50



DETALLE RIOSTRA DE ESTRIBOS
ESCALA 1:50



SECCION A'-A'
ESCALA 1:50



SECCION A-A'
ESCALA 1:50

TABLA DE CANTIDADES

Hormigon simple $f_c=400 \text{ kg/cm}^2$
Acero de refuerzo corrugado $f_y=4200 \text{ kg/cm}^2$
Calado de procedimiento $f_{cm}=18000 \text{ kg/cm}^2$

DOVELAS 0

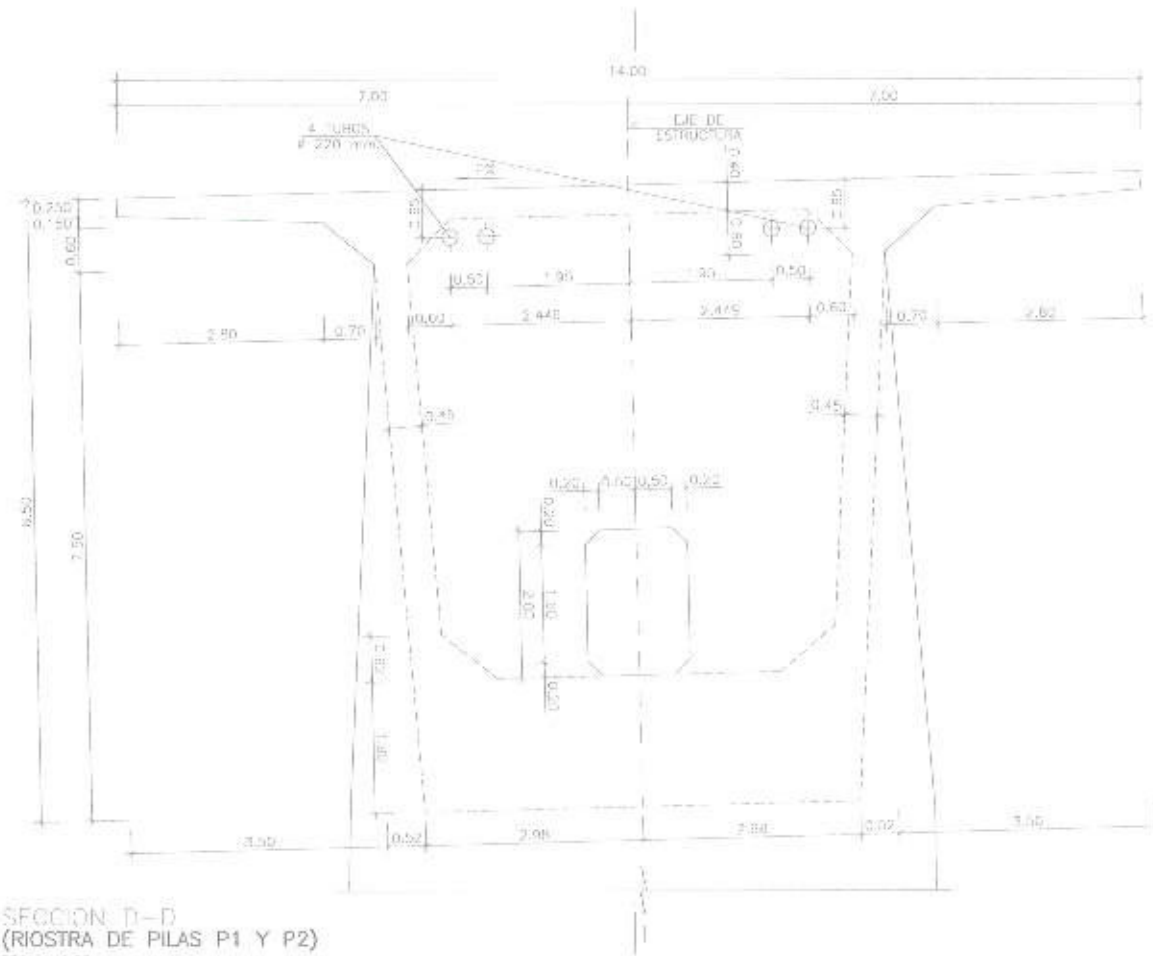
54.50 m³
178.30/32 kg
22.810/32 kg

VOLADOS SUCESSIVOS

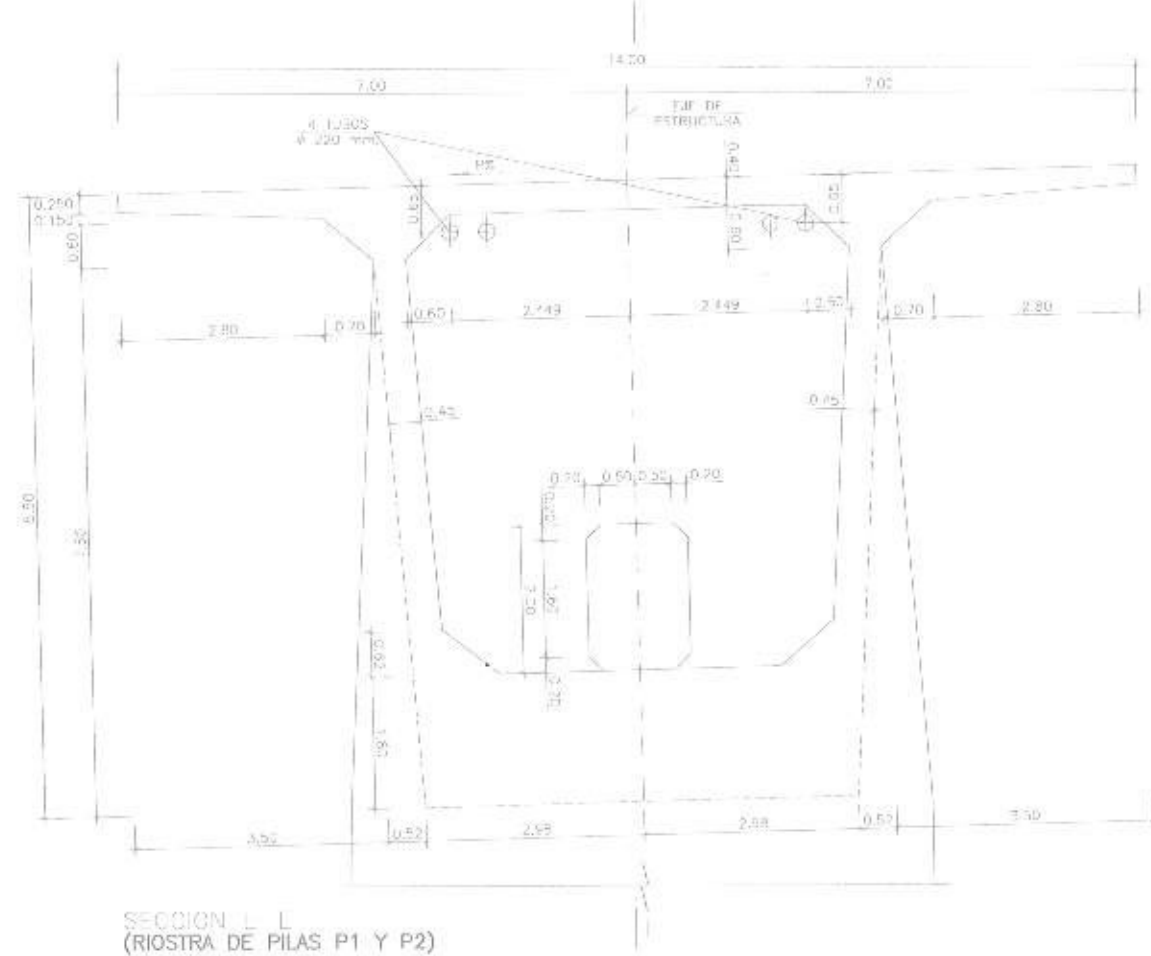
7.193,50 m³
1.484.180/32 kg
191.686,80 kg

NOTAS:

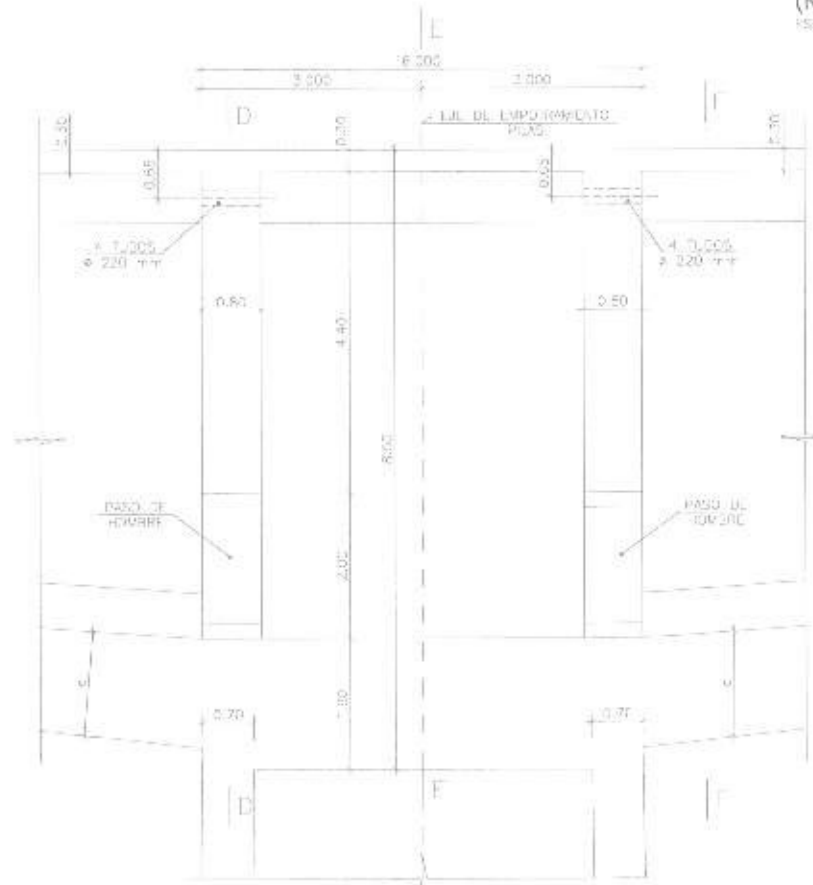
- Las juntas de dilatacion provisionales en el curso de la obra se definen para una futura instalacion de permanentes en el momento de la llegada de ellas.
- Presente preveccion para la disposicion de juntas de dilatacion en el momento de la obra.
- Ver especificaciones tecnicas de materiales en obra.
- Se cumple con el detalle general.
- Se debe diligenciar el detalle para la ejecucion de la junta de dilatacion confirmada por el suministrador.



SECCION T-D
(RIOSTRA DE PILAS P1 Y P2)
ESCALA 1:50



SECCION L-L
(RIOSTRA DE PILAS P1 Y P2)
ESCALA 1:50



SECCION I-I
(RIOSTRA DE PILAS P1 Y P2)
ESCALA 1:50

TABLA DE CANTIDADES	DOVELAS 0	VOLADOS SUCESIVOS
Hormigón simple $f_{cm}=420 \text{ Kg/cm}^2$	104.20 m ³	7.102.20 kg
Acero de refuerzo conqueso $f_{yk}=4200 \text{ Kg/cm}^2$	125.037.20 kg	1.161.150.20 kg
Cables de post tensión $f_{pk}=15300 \text{ Kg/cm}^2$	32.312.00 kg	461.585.20 kg

NOTAS:

- LAS CILINDROS DE ANCLAJE DE PROFUNDIDAD EXTERIOR Y DE SU DENTON PARA UNA FUTURA INSTALACION DE DISPOSITIVO EXTERIOR DE TIRANTES DE FRENTE PROYECTO NO SE CONTEMPLA LA DISPOSICION DE ANCLAJE PROFUNDIDAD EXTERIOR.
- VER ESPECIFICACIONES ELECTRICAS DE MATERIALES EN HOJA Nº2 DEL DISEÑO DE CONSTRUCCION GENERAL.



Empresa Pública Metropolitana
de Movilidad y
Obras Públicas



HC FERNANDO ROSADO
INGENIERO EN ELECTRICIDAD

REVISOR

HC FERNANDO ROSADO
INGENIERO EN ELECTRICIDAD

HC FERNANDO ROSADO
INGENIERO EN ELECTRICIDAD

PROYECTO

ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

UBICACION

PUENTE GUAYASAMIN

CONTENIDO

GEOMETRIA DE TABLERO (0)

CLASIFICACION

TRADICION

FECHA

NOVIEMBRE 2014

ACTUALIZACION

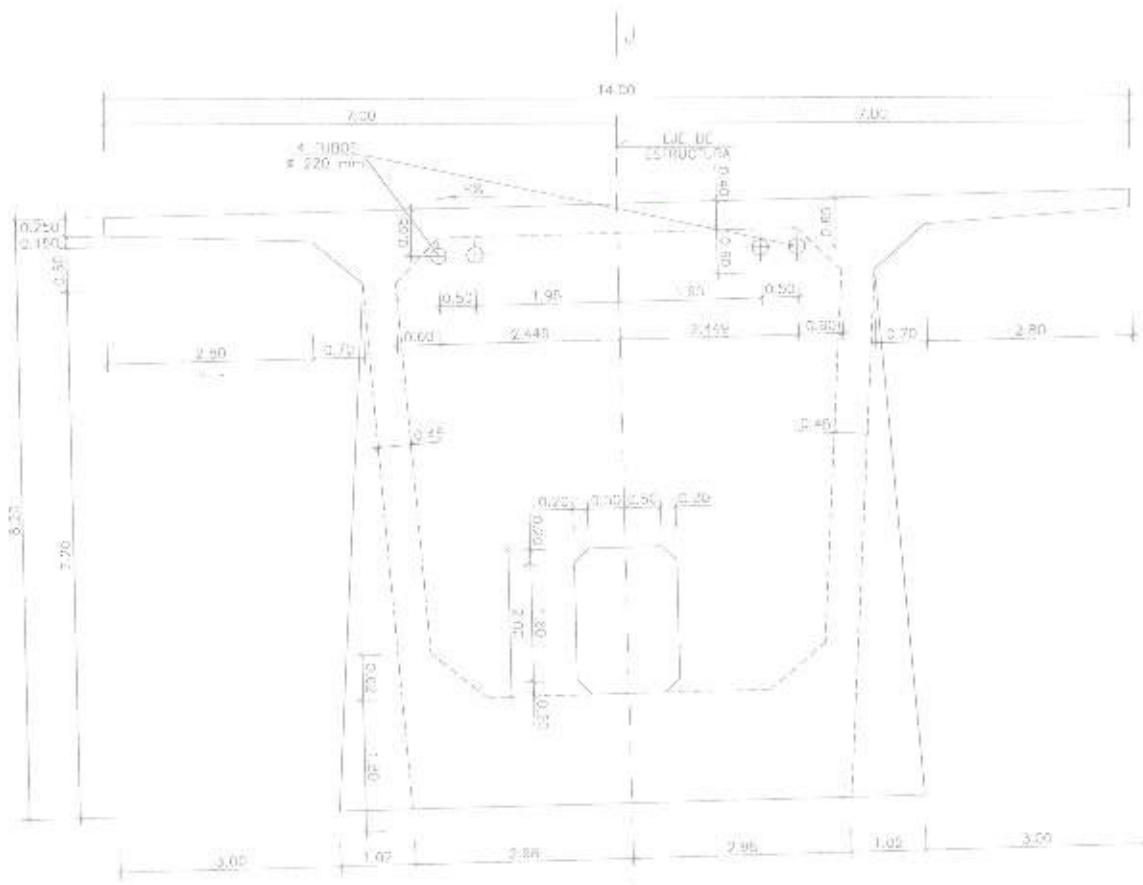
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REVISOR

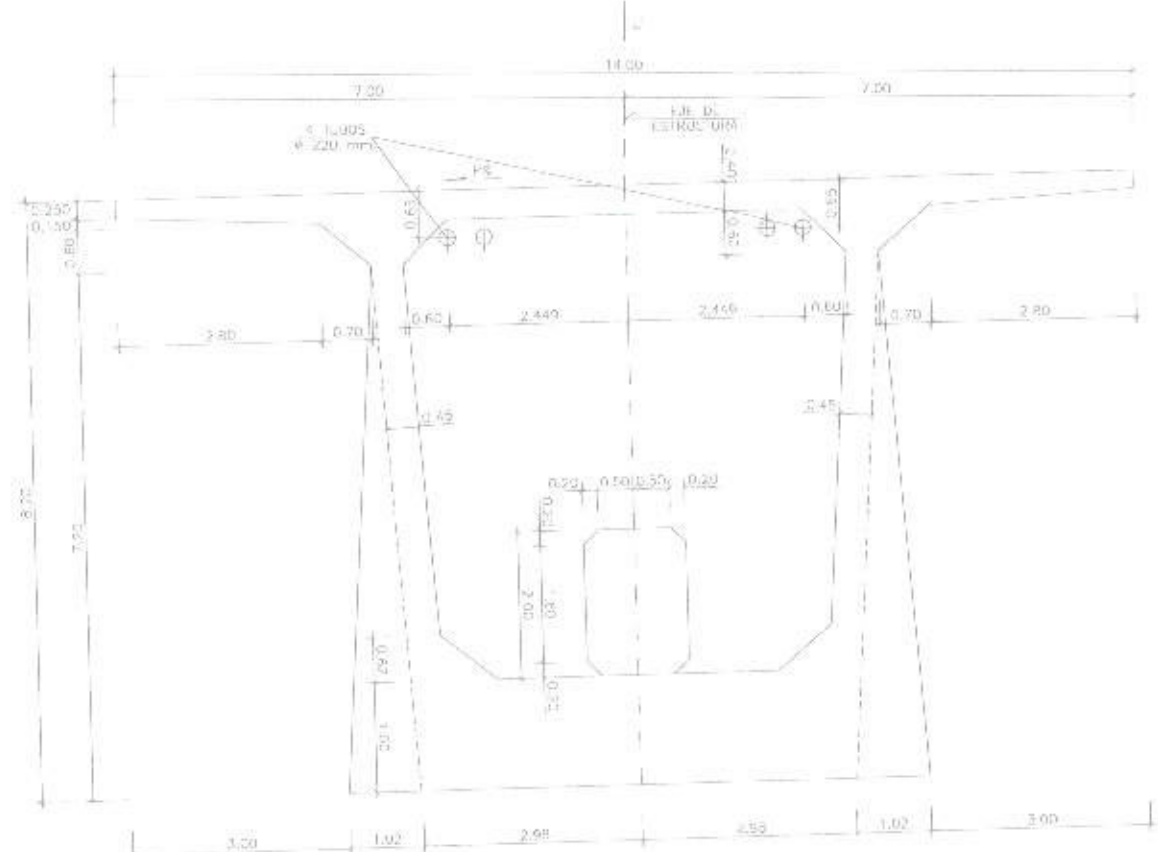
FERNANDO ROSADO CONSULTOR

FORMATO

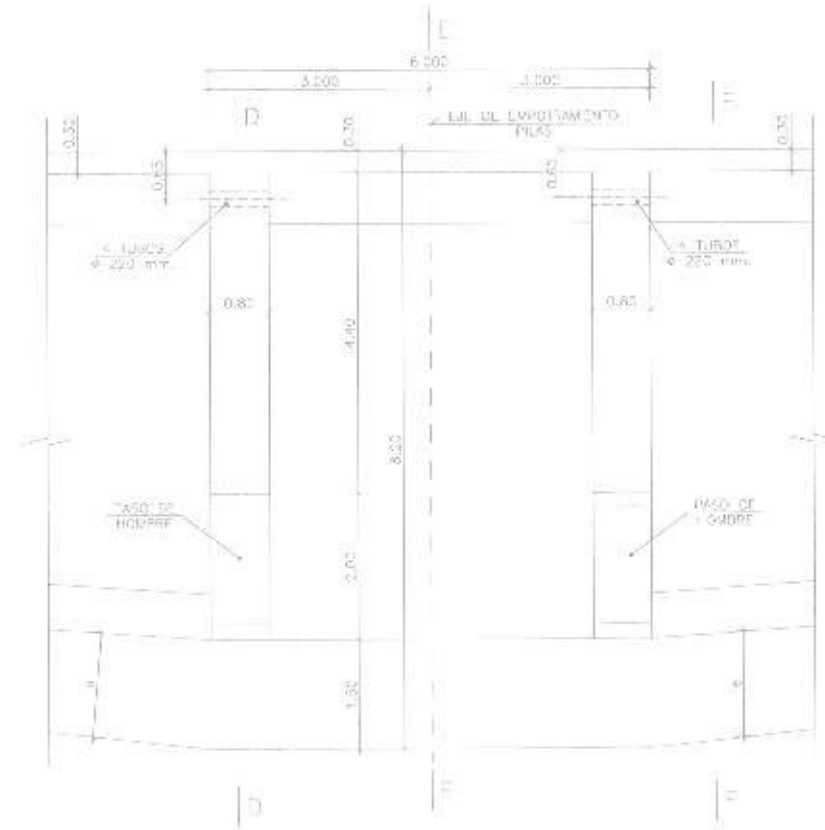
5/5



SECCION D-D
(RIOSTRA DE PILA P-3)
ESCALA 1:50



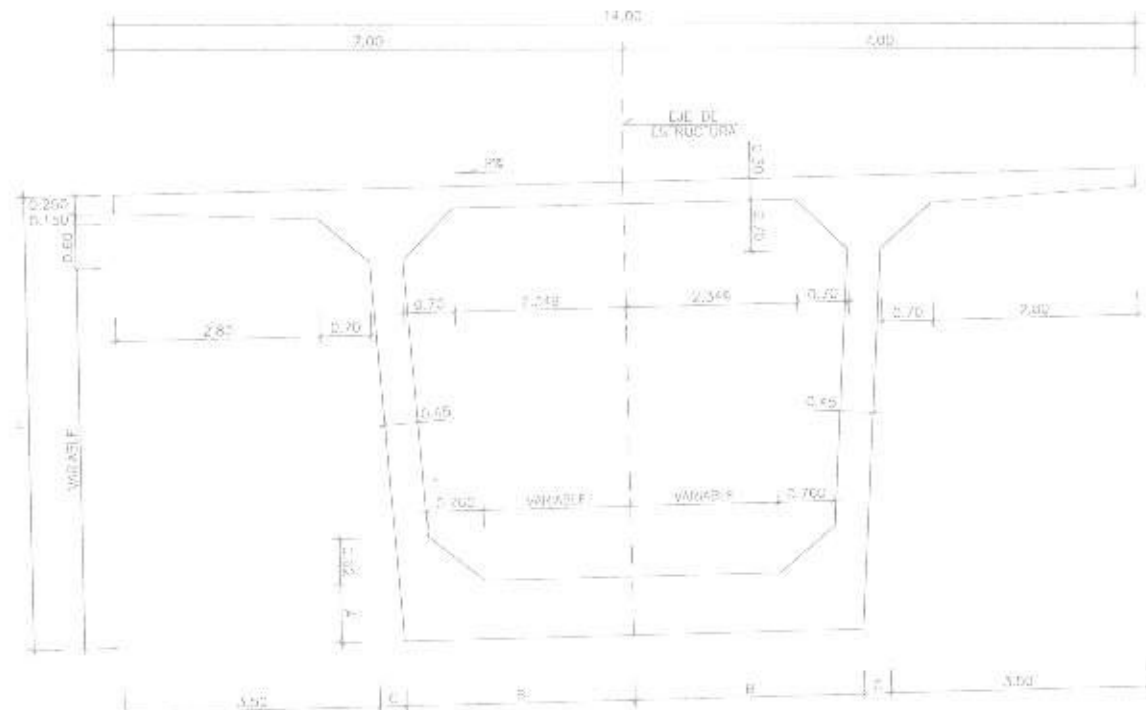
SECCION E-E
(RIOSTRA DE PILA P-3)
ESCALA 1:50



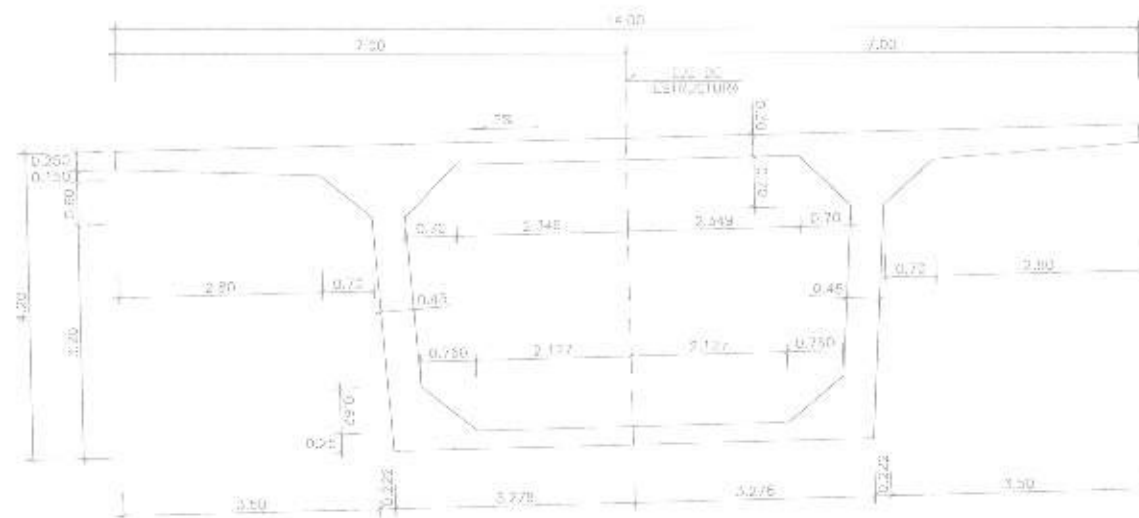
SECCION J-J
(RIOSTRA DE PILA P-3)
ESCALA 1:50

TABLA DE CANTIDADES	DÓVELAS 0	VOLADOS SUCESIVOS
Hormigón armado $f_c = 420 \text{ kg/cm}^2$	184.00 m ³	7,193.20 m ³
Acero de refuerzo corrugado $F_y = 4700 \text{ kg/cm}^2$	170.567.20 kg	1454.180.80 kg
Cables de post tensión tipo 114853 $f_p = 17800 \text{ kg/cm}^2$	32.970.00 kg	1431.655.50 kg

- NOTAS:**
- LAS CURVAS DE ANCLAJE DE TENDIDOS EXTERNO EI Y E2 SE DE DE ACÓRDO A LA TABLA DE CANTIDADES DE TENDIDOS EXTERNO EI Y E2.
 - PARA UNA RIGIDEZ EN LAZÓN DE SOBRESALIDO EXTERNO EI Y E2, SE DE DE ACÓRDO A LA TABLA DE CANTIDADES DE TENDIDOS EXTERNO EI Y E2.
 - VER ESPECIFICACIONES TÉCNICAS DE MATERIALES EN EL ANEXO 1 DEL CAPITULO 2 DE LOS DISEÑOS GENERALES.



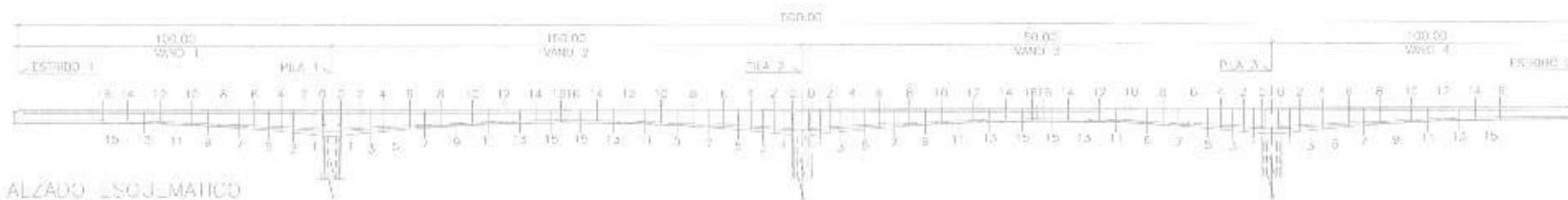
SECCION F-F
(SECCION TIPO DE DOVELA)
ESCALA 1:40



SECCION B-B
ESCALA 1:50

CUADRO DE DEFINICION DE DOVELAS

SECCION	H [m]	A [m]	B [m]	C [m]
0	0.700	1.020	3.020	2.570
1	0.830	1.389	3.097	2.479
2	0.971	1.267	3.044	2.415
3	0.974	1.120	3.060	2.432
4	0.866	0.975	3.063	2.427
5	0.920	0.818	3.117	2.383
6	0.144	0.638	3.143	2.357
7	0.787	0.452	3.167	2.333
8	0.429	0.292	3.180	2.310
9	0.181	0.200	3.211	2.288
10	0.901	0.280	3.229	2.271
11	4.088	0.290	3.241	2.258
12	4.509	0.270	3.255	2.241
13	4.271	0.250	3.265	2.234
14	4.224	0.230	3.272	2.227
15	4.217	0.210	3.277	2.222
16	4.202	0.250	3.275	2.220



ALZADO ESQUEMATICO
ESCALA 1:100

TABLA DE CANTIDADES

	DOVELAS 0	VOLADOS SUCESIVOS
Hormigon simple $f_{cd}=420 \text{ kg/cm}^2$	784.50 m^3	7.9570 m^3
Acero de refuerzo corrugado $f_{yk}=5220 \text{ kg/cm}^2$	125.057,52 kg	3.484.890,82 kg
Cables de anclaje $f_{yk}=10.360 \text{ kg/cm}^2$	12.610,00 kg	491.668,82 kg

NOTAS:

- LAS LAMAS DE ANCLAJE DE FRENADO EXTERIOR EI Y E2 SE DEFINEN PARA UNA FUTURA INSTALACION DE FRENADO EXTERIOR DEL VEHICULO EN DIRECCION INFERIOR NO SE CONTEMPLA LA DISPOSICION DE ANCLAJE PRECISANDO EXPLICAR.
- VER CONFORMACIONES TIPOICAS DE BARRAS EN HERRAJES DEL CAPITULO DE DEFINICION GENERAL.



Empresa Pública Metropolitana
de Movilidad y
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INGENIERO
FERNANDEZ ROMERO
INGENIERIA

INGENIERO
FERNANDEZ ROMERO
INGENIERIA

INGENIERO
FERNANDEZ ROMERO
INGENIERIA

INGENIERO
FERNANDEZ ROMERO
INGENIERIA

PROYECTO:
ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

UBICACION:
PUENTE GUAYASAMIN

GEOMETRIA DE TABLERO (VTS)

FECHA:
NOVIEMBRE 2014

FECHA:
NOVIEMBRE 2014

ARQUITECTO:
DR. M. G. TAMAYO DE F. 600 (VTS) EGY

FECHA:
NOVIEMBRE 2014

OPERA:
7/8

FECHA:
NOVIEMBRE 2014

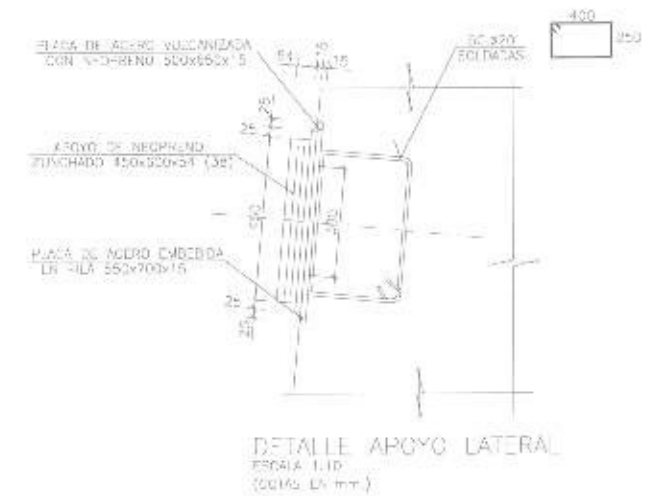
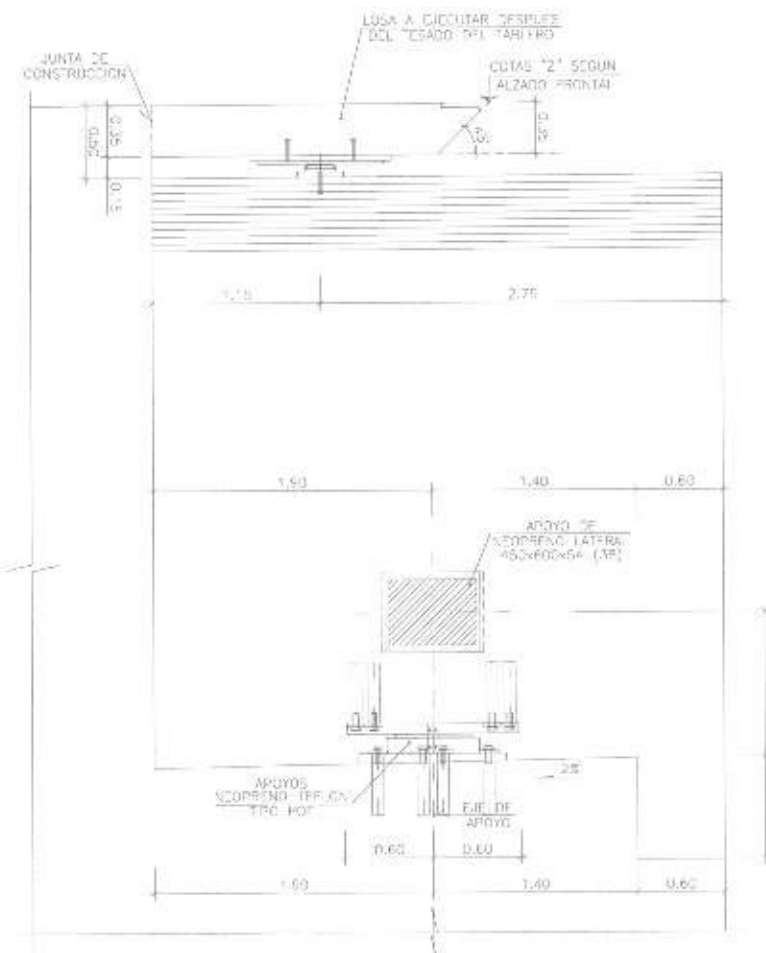
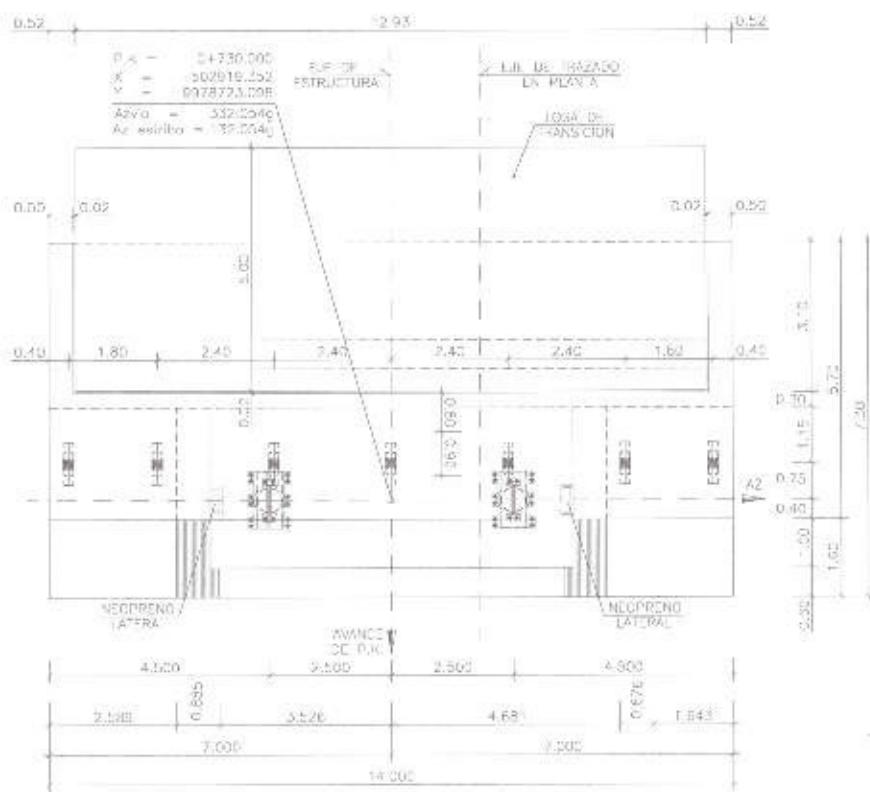
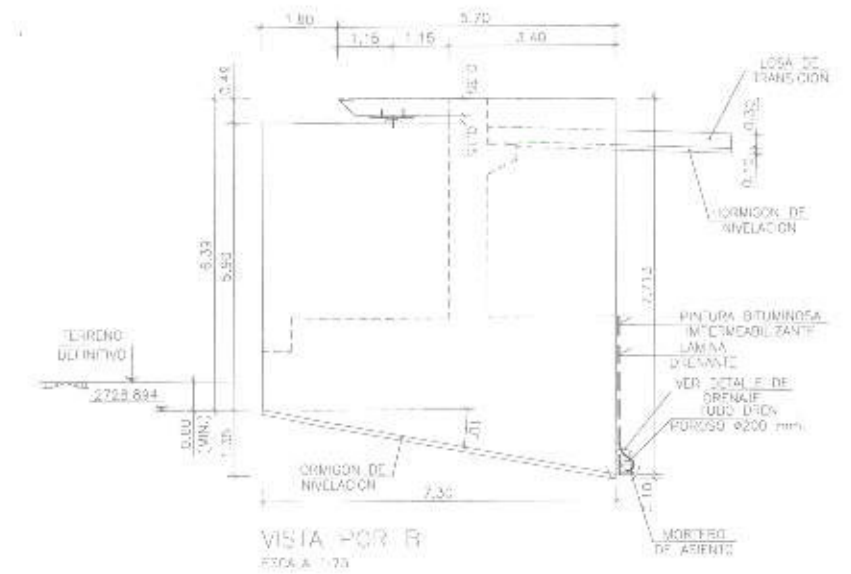
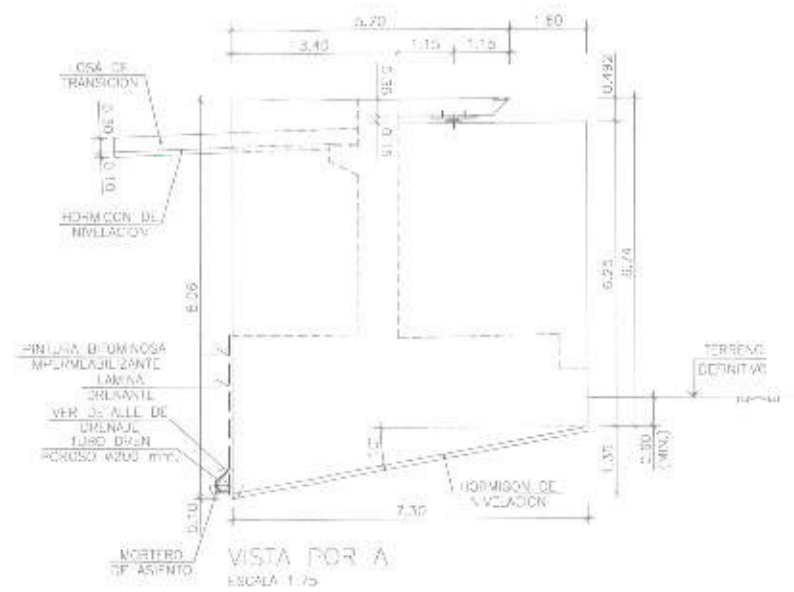
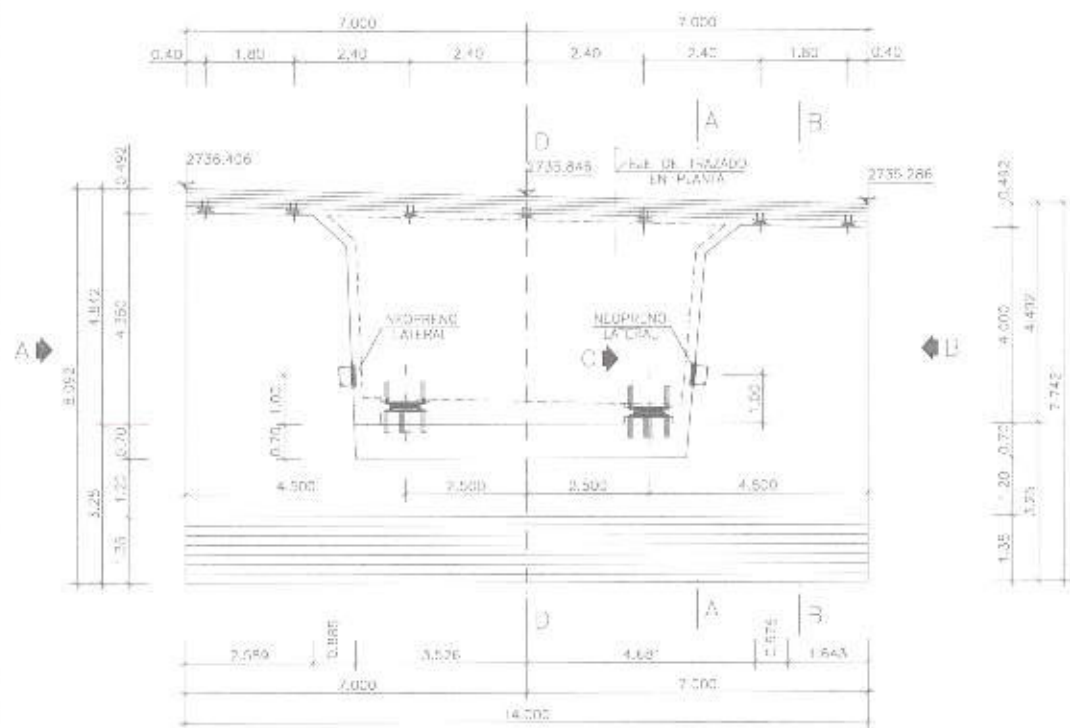


TABLA DE CANTIDADES		ESTRIBOS
Hormigon simple f _c =180 kg/cm ²		55,60 m ³
Hormigon simple f _c =350 kg/cm ² (Zanah)		434,00 m ³
Hormigon simple f _c =350 kg/cm ² (Estribas-Vares)		868,00 m ³
Hormigon simple f _c =350 kg/cm ² (Losa apoyo)		39,00 m ³
Acero de refuerzo corrugado f _y = 4780 Kg/cm ²		114.945,60 Kg

- NOTAS:**
- SE IMPLEMENTARÁN CDOE LOS PARAMETROS EN CONTACTO CON LAS TIERRAS EXCEPTO LAS CIMENTACIONES.
 - EL HELLADO DE REALIZARA CON MATERIA GRANULAR COMPACTADO AL 95% PROCTOR MODIFICADO.
 - SE VERIFICARÁ EN OBRA LA CORRECTA EJECUCION DEL PARAMENTO INFERIOR DEL VENTILADOR CON LA INCLINACION INDICADA EN PLANOS.
 - DICHA INCLINACION ES IMPRESCINDIBLE PARA GARANTIZAR LA ESTABILIDAD DEL ESTRIBO ANTE ACCIONES SISMICAS.
 - PREVER ORDENES PARA LA COLOCACION DE LOS PEROS DE ANCLAJE DE LOS APOYOS.
 - VER ESPECIFICACIONES TECNICAS DE MATERIALES EN NORMA N° 2.

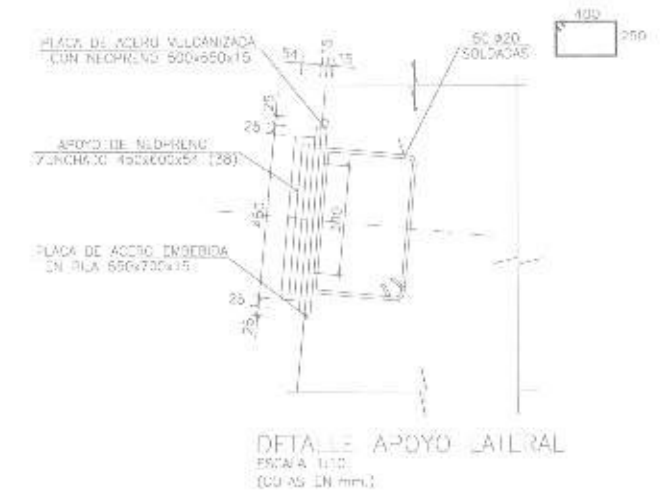
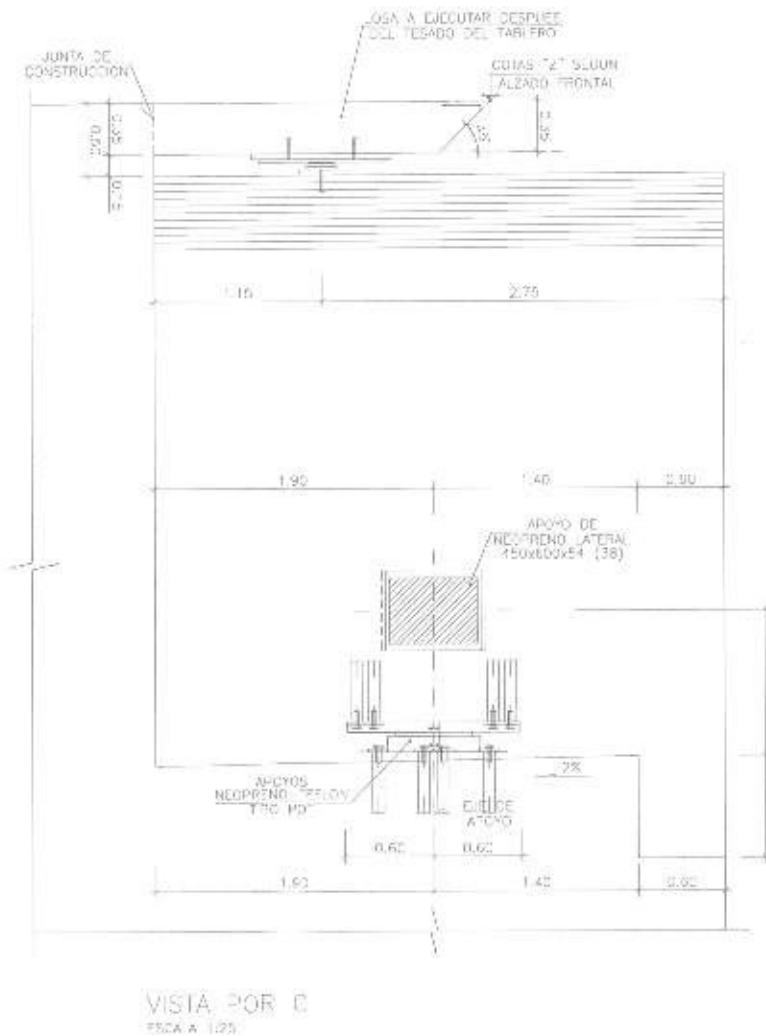
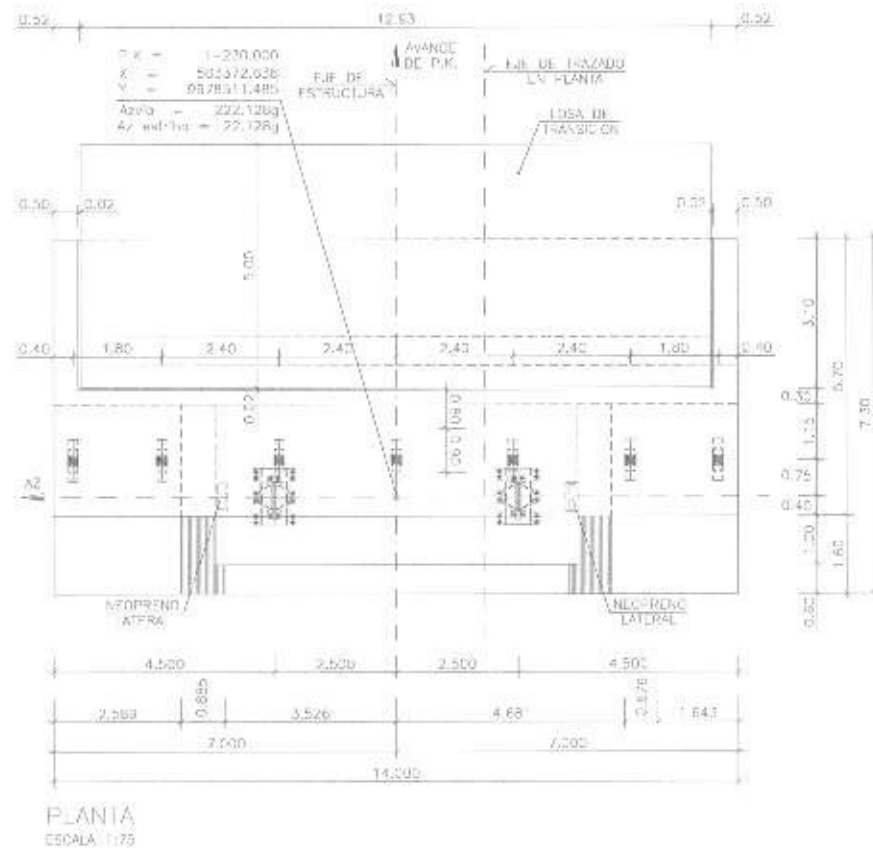
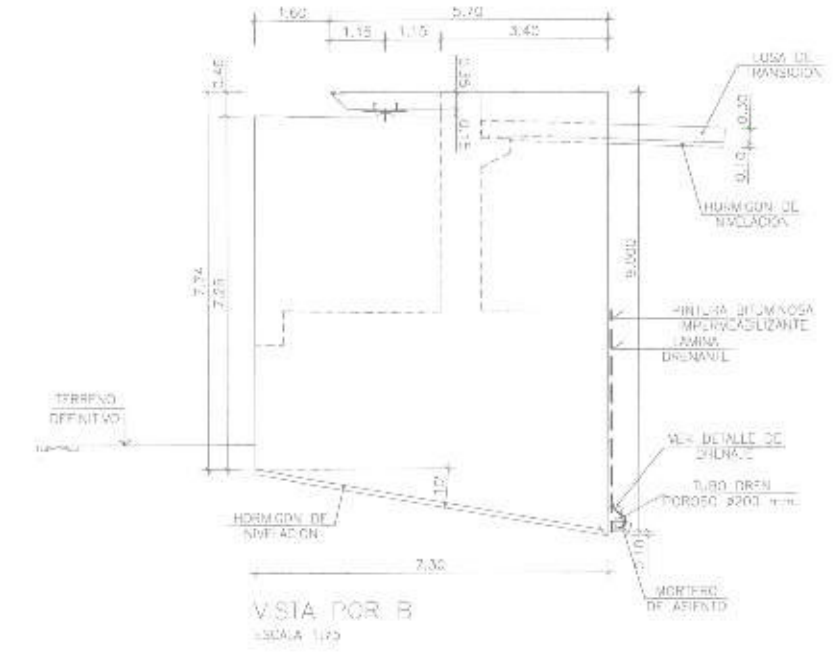
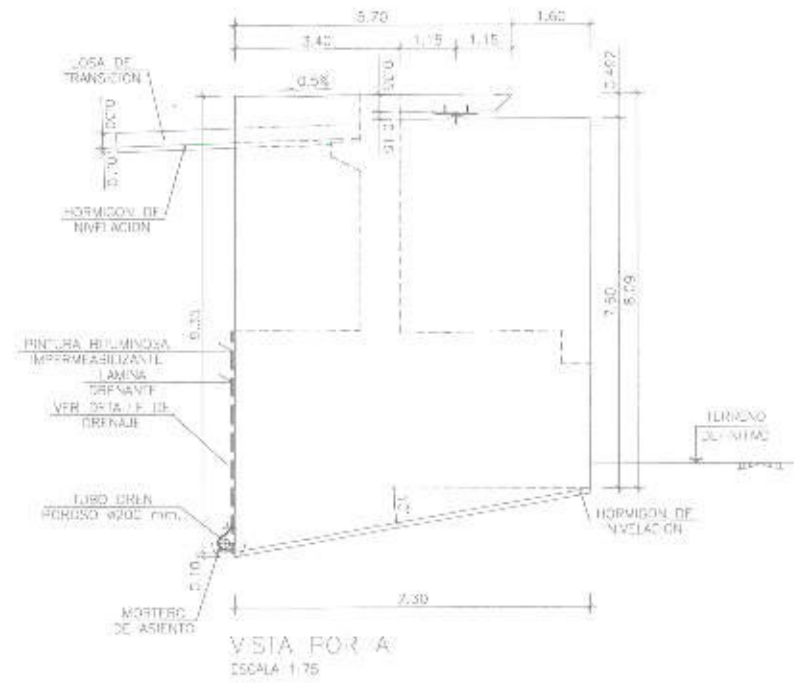
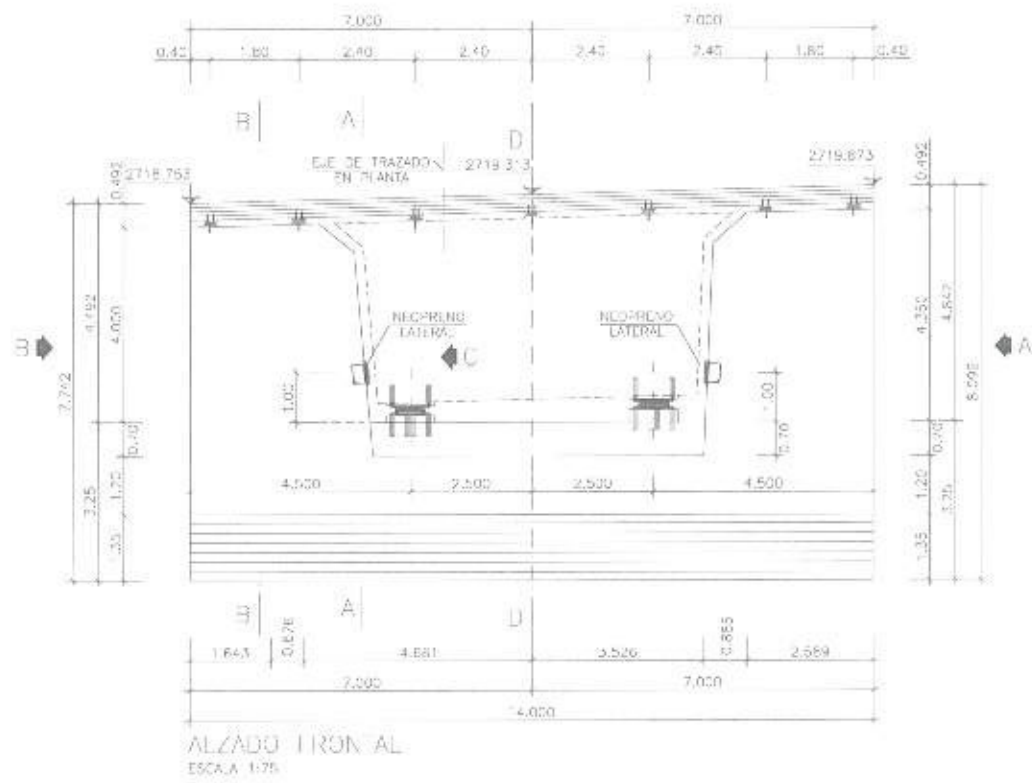
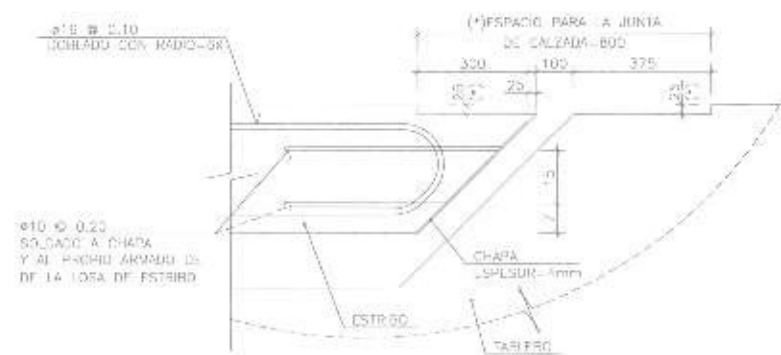
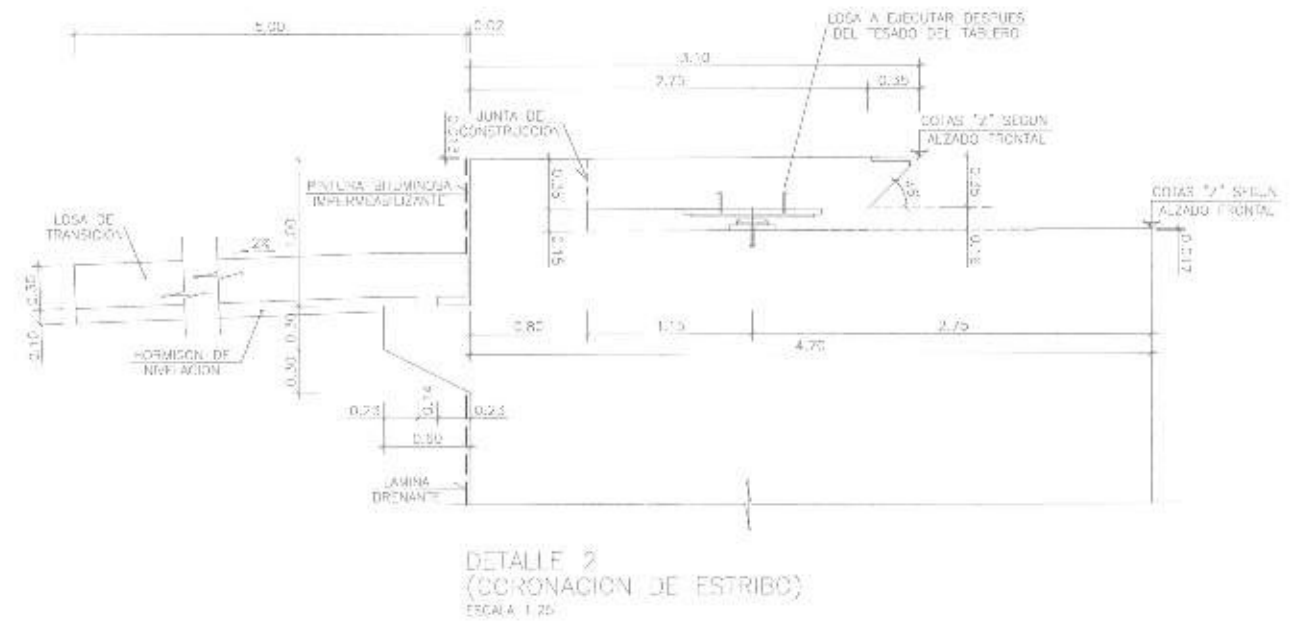
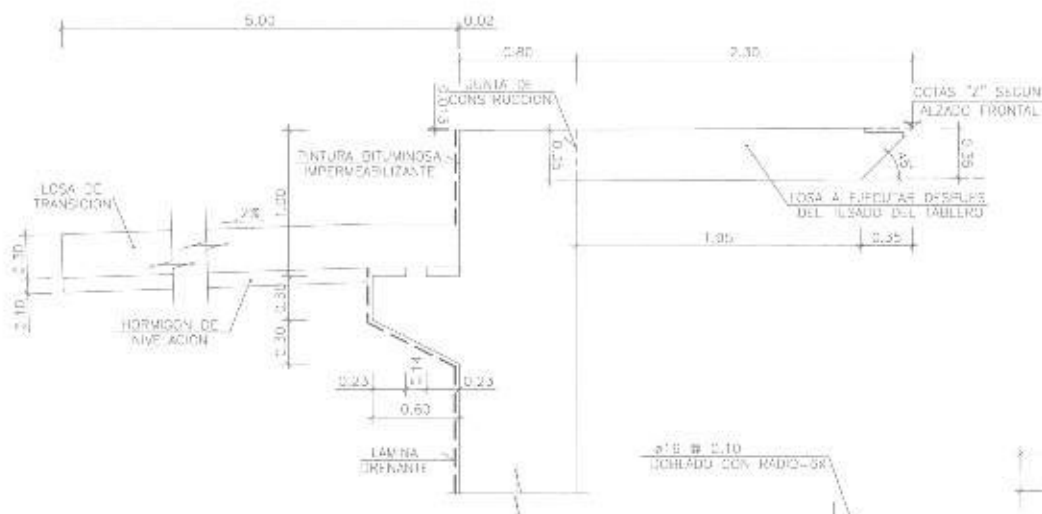
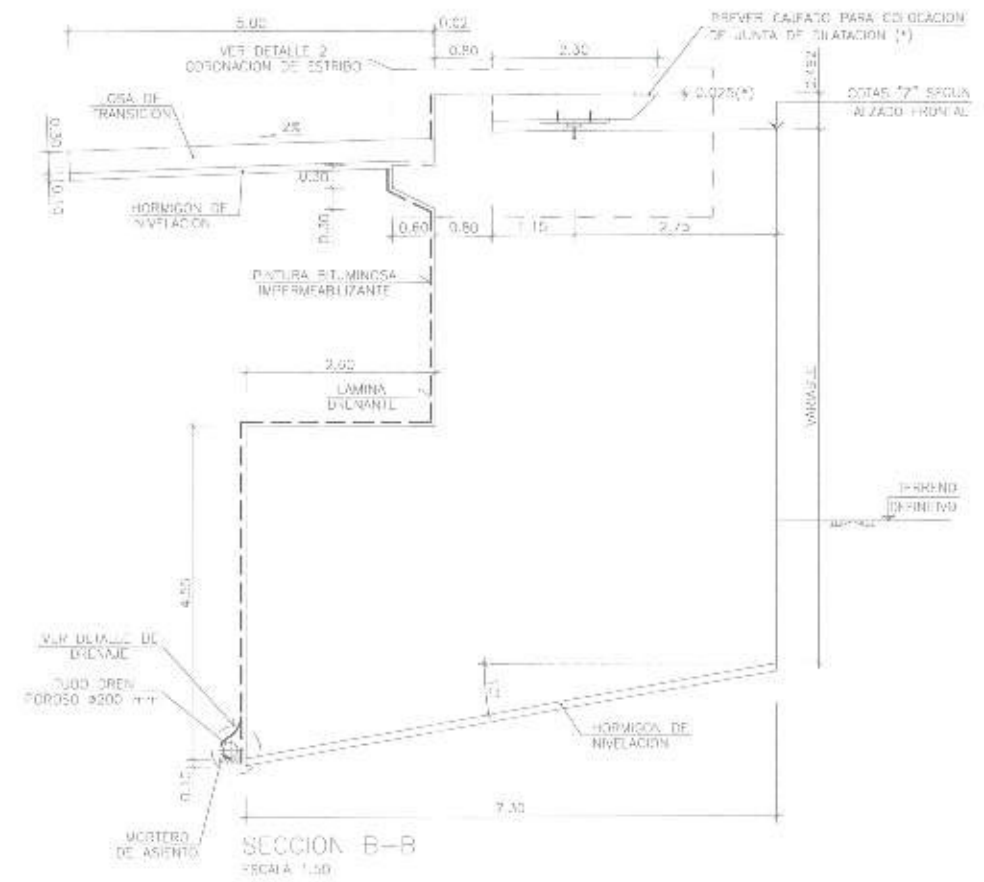
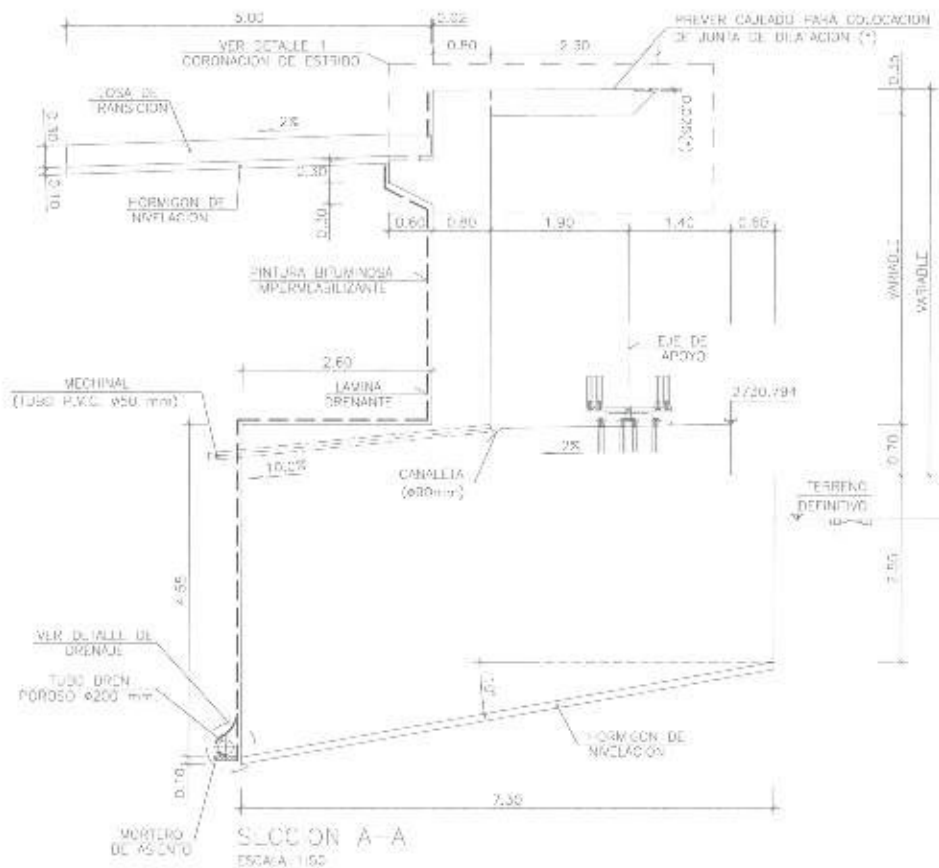


TABLA DE CANTIDADES	ESTRIBOS
hormigon simple $f_c=180 \text{ kg/cm}^2$	55.55 m ³
hormigon simple $f_c=250 \text{ kg/cm}^2$ (zapatas)	434.00 m ³
hormigon simple $f_c=350 \text{ kg/cm}^2$ (Futidos Maestros)	830.50 m ³
hormigon simple $f_c=250 \text{ kg/cm}^2$ (Losa de acceso)	36.00 m ³
Acero de refuerzo con grado $F_y=4.200 \text{ kg/cm}^2$	114.845,00 kg

NOTAS:

- SE IMPERMEABILIZARAN TODOS LOS PARAMETROS EN CONTACTO CON LAS BARRAS EXCEPTO LAS CIMENTACIONES.
- EL RELLENO SE REALIZARA CON MATERIAL GRANULAR COMPACTADO AL 95% PROCEDIA MODIFICADO SE VERIFICARA EN OBRA LA CORRECTA UBICACION DEL PARAMENTO INTERIOR DEL ESTRIBO CON LA INCLINACION INDICADA EN PLANOS.
- DICHA INCLINACION ES IMPESCINDIBLE PARA GARANTIZAR LA ESTABILIDAD DEL ESTRIBO ANTE ACCIONES SISMICAS.
- PROVEER DRIFOTOS PARA LA COLOCACION DE LOS PRINCIPALES ANCLAJES DE LOS APOYOS.
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N° 2.



(*) DIMENSIONES A CONFIRMAR POR EL ADMINISTRADOR DE LA OBRA

REMATE DE LOSA DE ESTRIBO
 ESCALA 1:10
 (COTAS EN mm)

NOTA:
 - EL ACERO EN CHAPA SERA 375 kg/m²

TABLA DE CANTIDADES

	ESTRIBOS
Hormigon simple f _c =180 kg/cm ²	15,00 m ³
Hormigon simple f _c =350 kg/cm ² (Zapatas)	15,00 m ³
Hormigon simple f _c =350 kg/cm ² (Estridos-Muros)	869,50 m ³
Hormigon simple f _c =350 kg/cm ² (Losa de mesa)	38,00 m ³
Acero de refuerzo corrugado F _{yk} 4200 kg/cm ²	176,915,60 Kg

NOTAS:

- SE IMPRIMIRAN PARA TODOS LOS PARAMETROS EN CONTACTO CON LAS TIERRAS EXCEPTO LAS CIMENTACIONES.
- EL REllENO SE REALIZARA CON MACHO GRANULADO COMPACTADO AL 95% PROCTOR MODIFICADO.
- SE VERIFICARA EN OBRA LA CORRECTA EJECUCION DEL PARAMENTO INFERIOR DEL ESTRIBO CON LA INCLINACION INDICADA EN PLANOS.
- CADA INCLINACION ES IMPREScindIBLE PARA GARANTIZAR LA ESTABILIDAD DEL ESTRIBO ANTE ACCIONES SISMICAS.
- PREVER OPCIONES PARA LA COLOCACION DE LOS PERROS DE ANCLAJE DE LOS APOYOS, VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N° 2.



Empresa Pública Metropolitana de Movilidad y Obras Públicas



REVISOR

REVISOR

PROYECTISTA

ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN

UBICACION

PUENTE GUAYASAMIN

ESCALA

INDICADAS

CIVIL

ESTRIBOS

ESTRIBO 2, DEPENDENCIA GEOMETRICA (2)

FECHA

NOVIEMBRE 2014

PROYECTO

PUENTE GUAYASAMIN

HOJA

5/6

PROYECTISTA

FERNANDO ROMO CONSULTORES

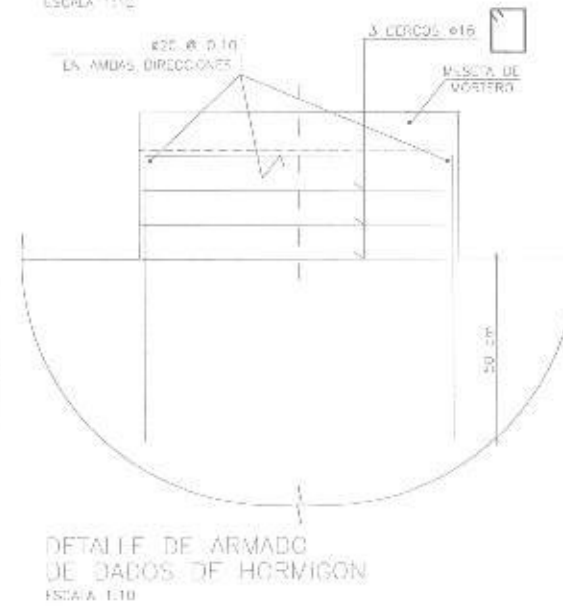
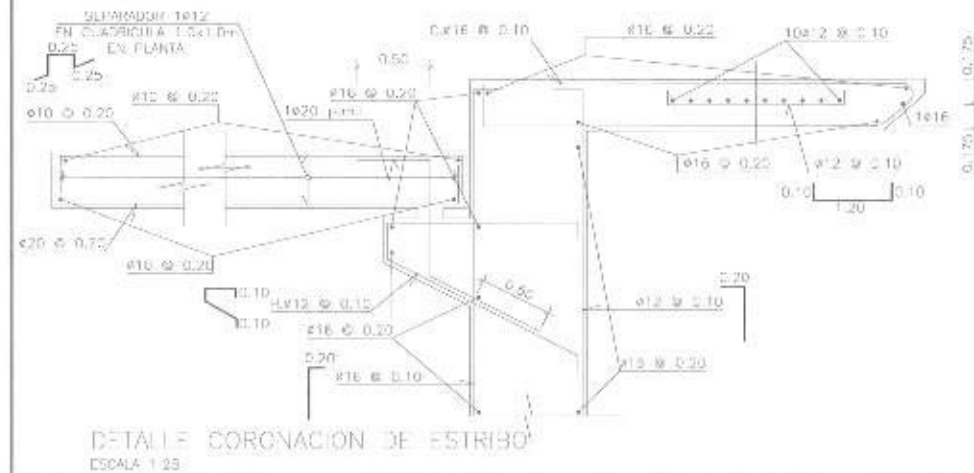
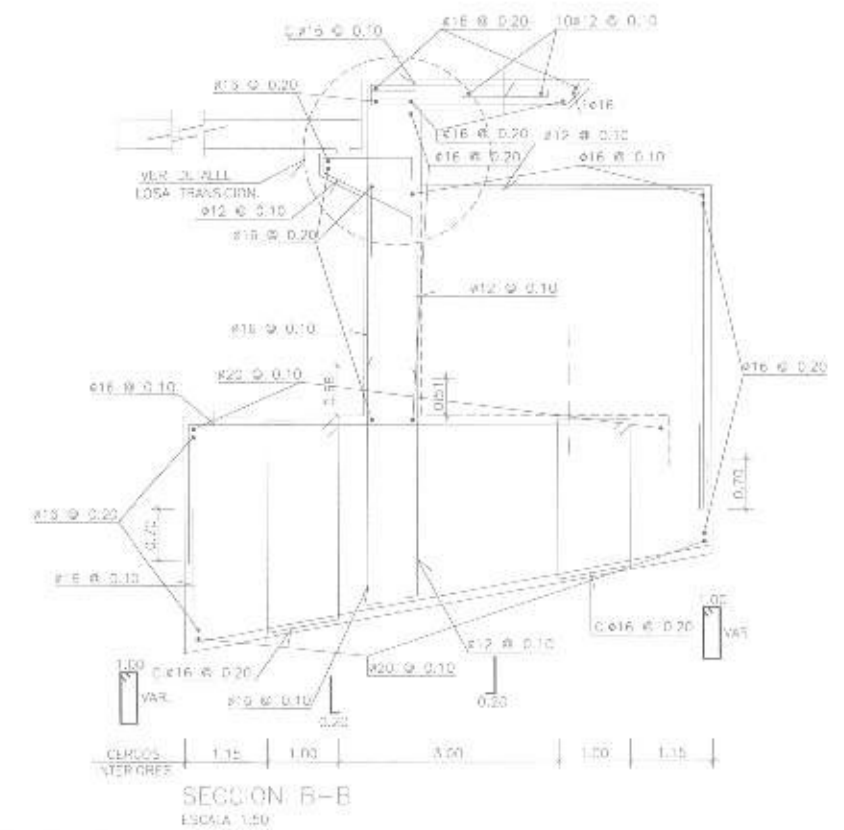
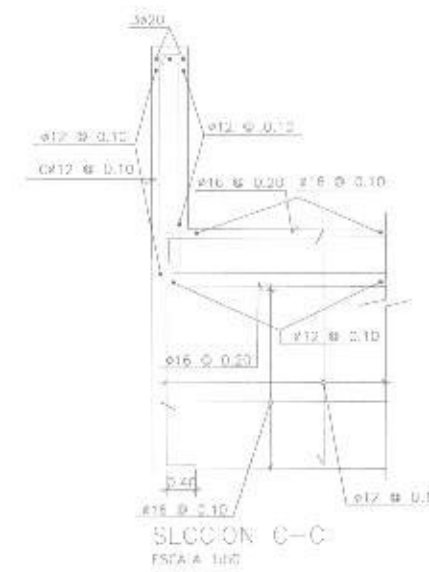
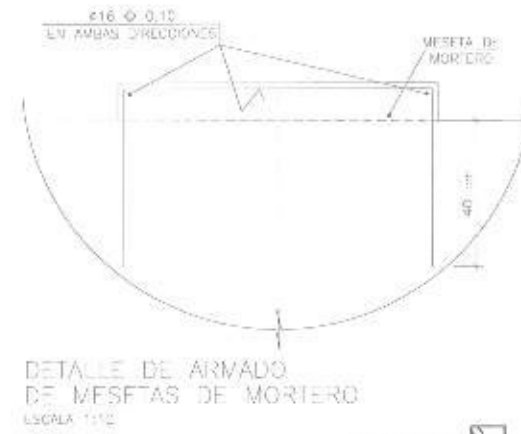
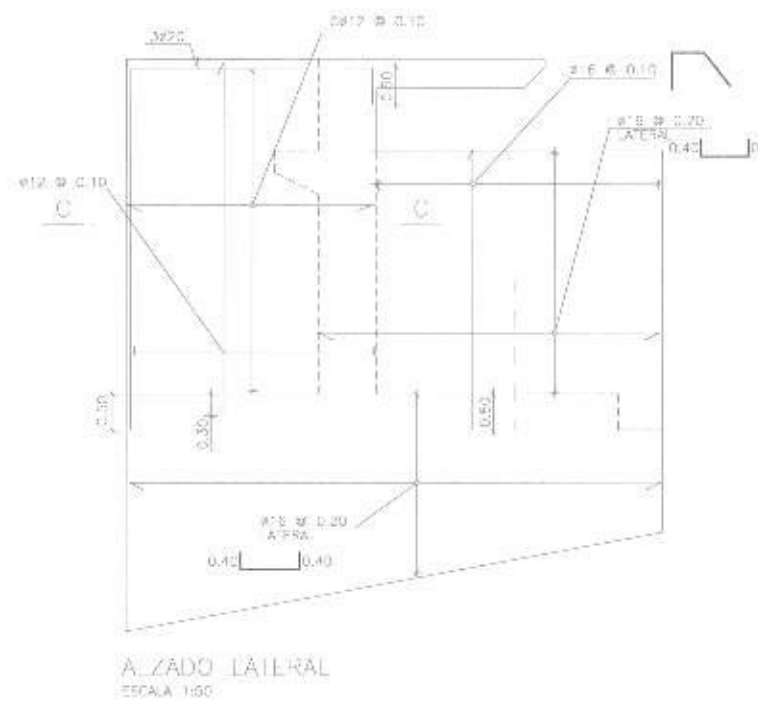
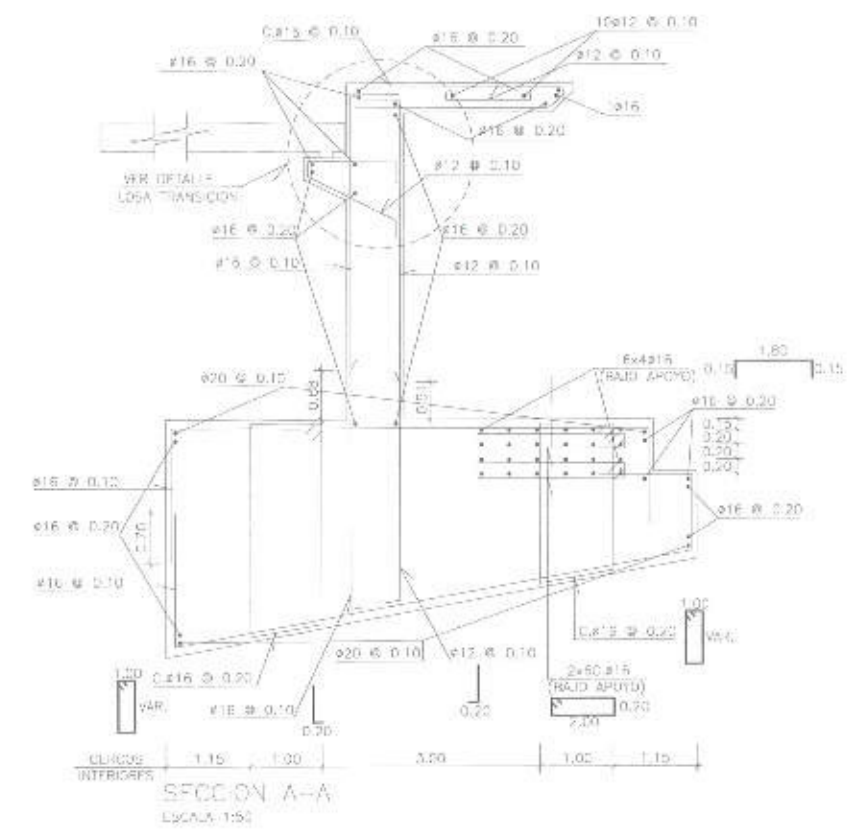
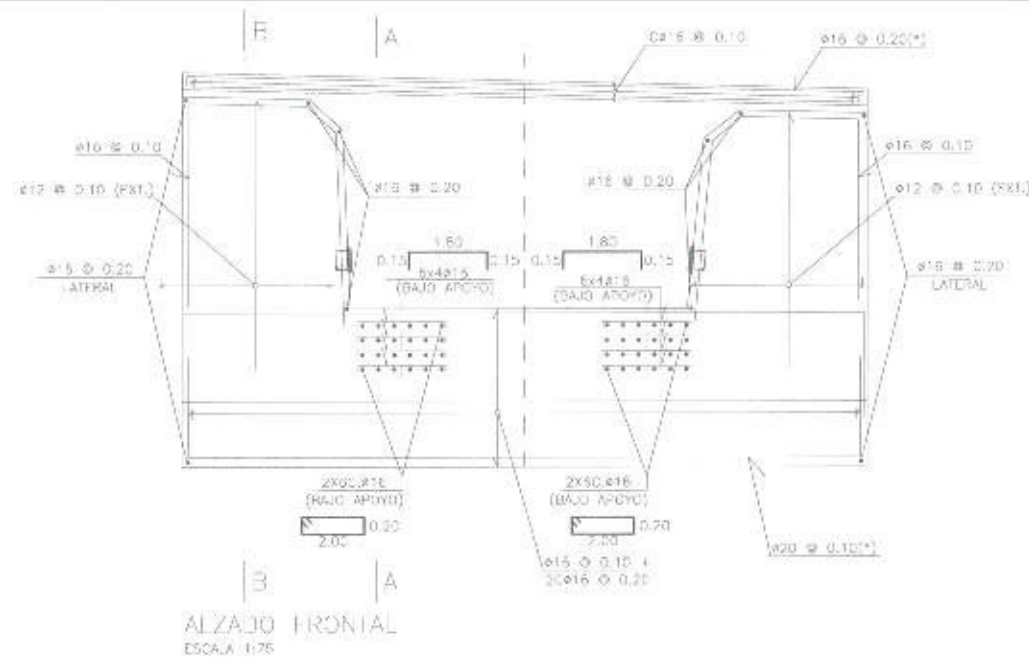


TABLA DE CANTIDADES

Hormigon simple f _c =180 kg/cm ²	55.60 m ³
Hormigon simple f _c =350 kg/cm ² (Zepatos)	434.02 m ³
Hormigon simple f _c =350 kg/cm ² (Tablitas Muro)	205.52 m ³
Hormigon simple f _c =350 kg/cm ² (Losa occiso)	33.00 m ³
Acero de refuerzo corrugado f _y =4,200 kg/cm ²	114,945.60 Kg

ESTRIBOS

55.60 m ³
434.02 m ³
205.52 m ³
33.00 m ³
114,945.60 Kg



Empresa Pública Metropolitana de Movilidad y Obras Públicas



REVISO: [Signature]
 DISEÑO: [Signature]
 TITULO: [Signature]

ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN

PUENTE GUAYASAMIN

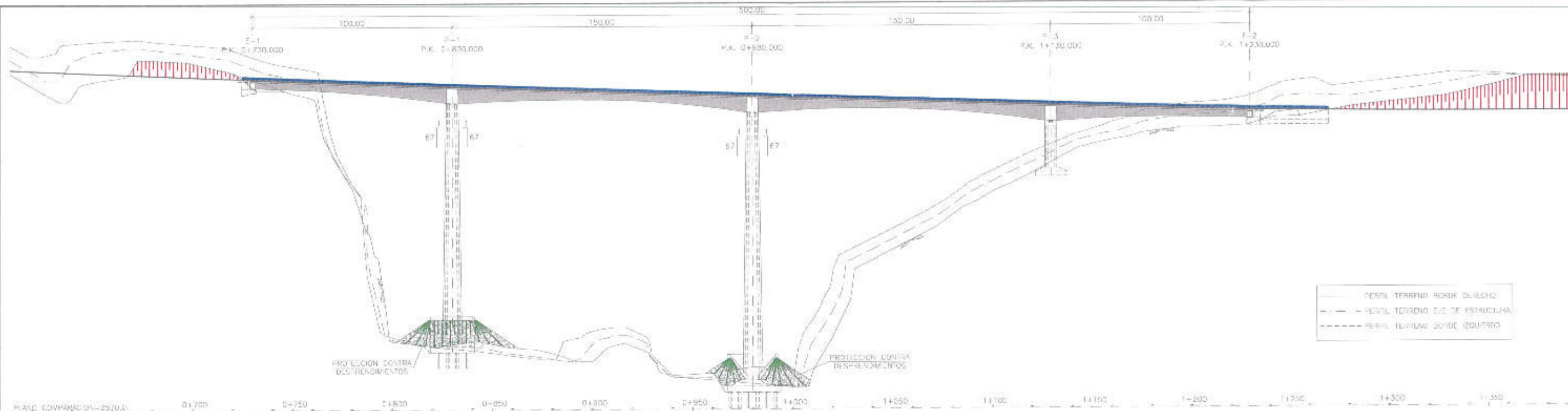
ESTRIBOS
ESTRIBO 2, ARMADURAS

INDICADAS

NOVIEMBRE 2014

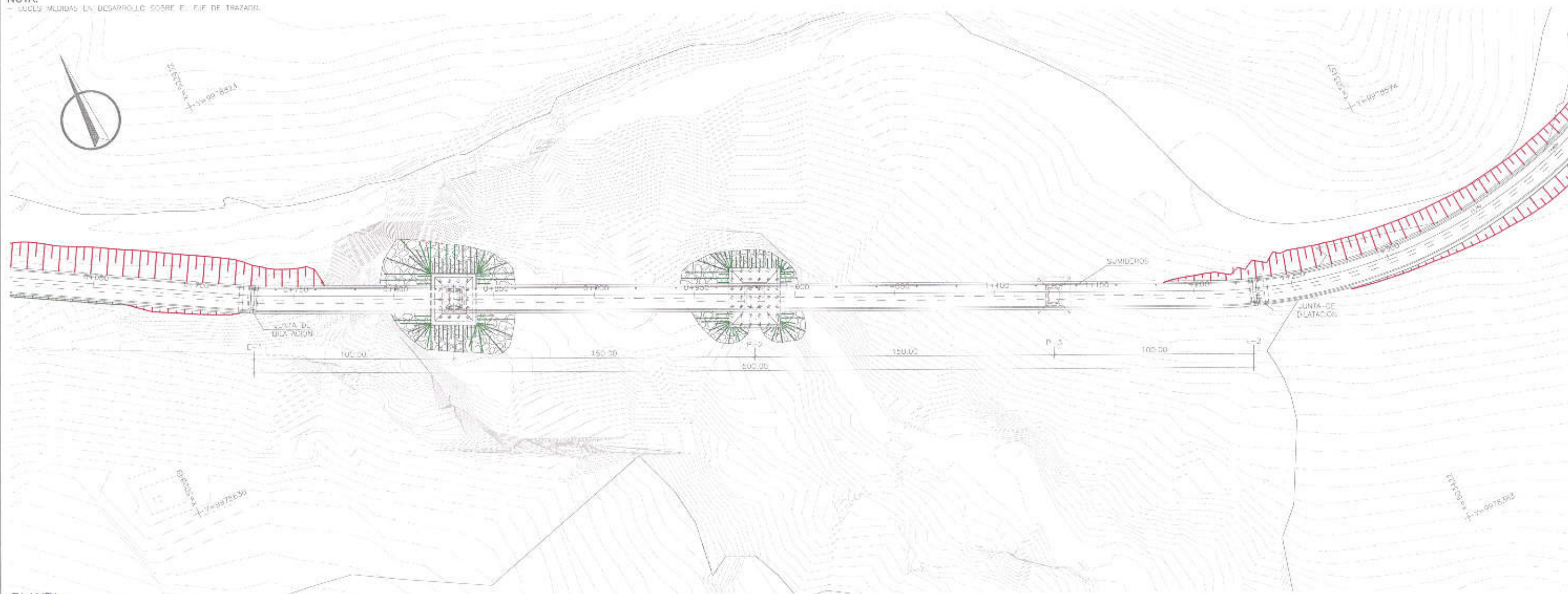
06.02.06-ESTRIBO 2 ARM. IND.

FERNANDO ROMO CONSULTORES



ALZADO FRONTAL

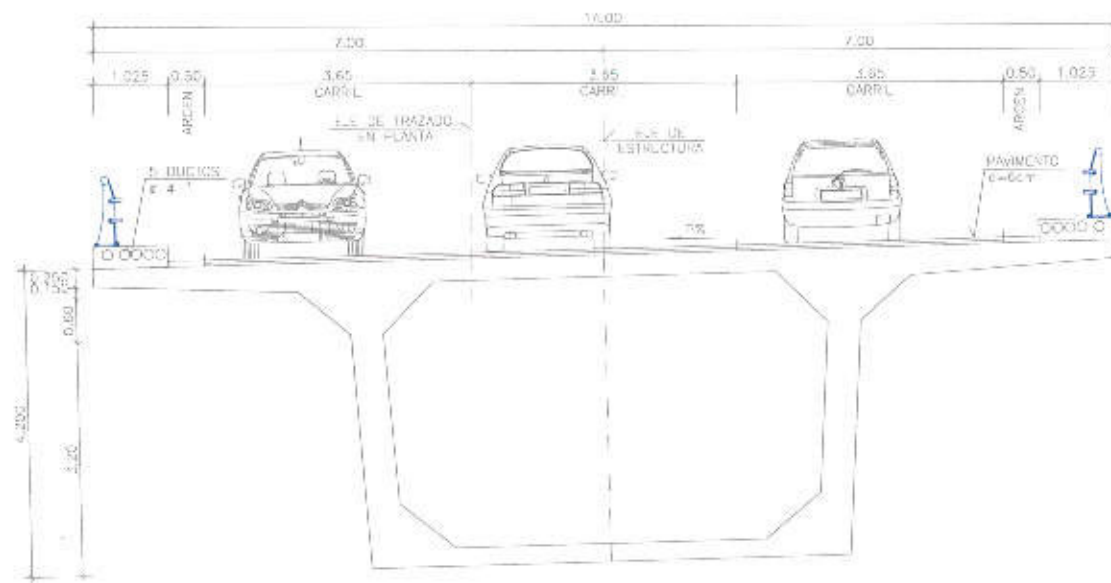
ESCALA: 1:1000
 NOTA:
 - CUCLOS MEDIDAS EN DESARROLLO SOBRE E. EJE DE TRAZADO.



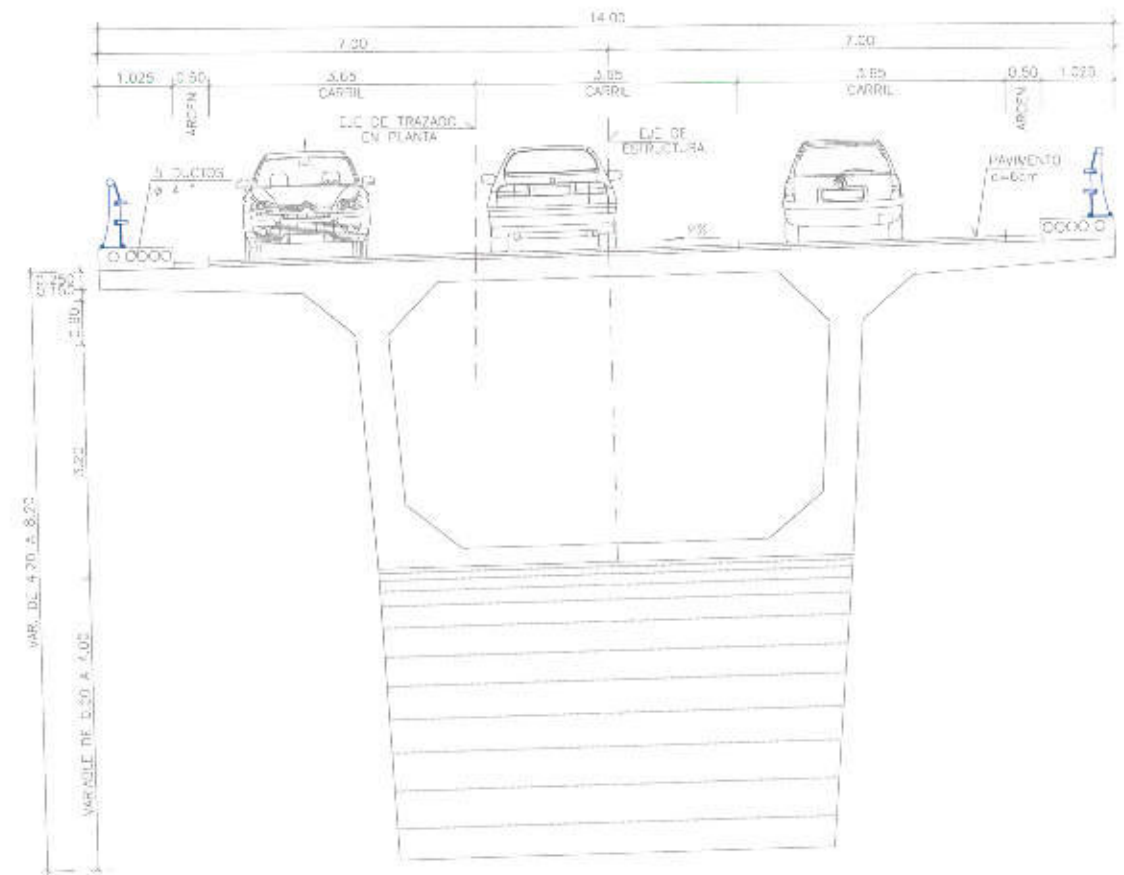
PLANTA

ESCALA: 1:1000

	 ING. FERNANDO ROMO JEFE DE PROYECTO	 ING. RAFAEL INGENIERO	 ING. JUAN INGENIERO	PROYECTO: ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN	UBICACION: PUENTE GUAYASAMIN	INDICADAS: 06.01.01-PLANTA Y ALZADO.dwg	LAMINA:
	 ING. FERNANDO ROMO JEFE DE PROYECTO	 ING. RAFAEL INGENIERO	 ING. JUAN INGENIERO	FECHA: NOVIEMBRE 2014	DISEÑADO: FERNANDO ROMO CONSULTORES	NOVIEMBRE 2014	FERNANDO ROMO CONSULTORES



SECCION TRANSVERSAL
(ZONA CANTO CONSTANTE)
ESCALA 1:50



SECCION TRANSVERSAL
POR CENTRO DE VANO
ESCALA 1:50

ESPECIFICACIONES TECNICAS

-RESISTENCIA DEL HORMIGÓN

- HORMIGÓN DE NIVELACIÓN 18MPa = 180 kg/cm²
- FILIPTE 25MPa = 250 kg/cm²
- ESTRUCOS 35MPa = 350 kg/cm²
- CIMENTACIONES DE PILAS 35MPa = 350 kg/cm²
- AZADO DE PILAS 35MPa = 350 kg/cm²
- TABLERO:
 - DRIFAS 45MPa = 450 kg/cm²
 - CIMBRADO 45MPa = 450 kg/cm²
- RECUBRIMIENTO MÍNIMO (concreto con el suelo) 7.5 cm
- RECUBRIMIENTO MÍNIMO 5.0 cm

-ARMADURA

- ACERO DE REFUERZO EN BARRAS
- ESPESOR DE FLUENCIA, $f_y = 4200$ kg/cm²
- CORRUGADA CON REFUERZO PERPENDICULARES O INCLINADOS

-ACERO DE PRESFUERZO ASTM A-416 GRADO 270K DE BAJA RELAJACIÓN.

- (Después de ser relajado, low relaxation)
- RESISTENCIA A TENSION NOMINAL $f_{pu} = 18,500$ kg/cm²
- MÓDULO DE ELASTICIDAD 196,000 MPa
- DIAMETRO NOMINAL DEL ACERO DE PRESFUERZO 0.80" = 20.32 mm
- ÁREA NOMINAL DEL ACERO DE PRESFUERZO 142 mm²
- EL SISTEMA DE PRESFUERZO (PLACAS DE ANCLAJE, CURVAS, GANSALES) DEBERÁ TENER SU CORRESPONDIENTE HOMOLOGACIÓN EUROPEA O DE EE.UU.

-CARGAS DE DISEÑO

- CARGAS MUERTAS
 - HORMIGÓN 2.40 T/m
 - AGUILO 7.65 T/m³
 - HORMIGÓN ASFÁLTICO 2.20 T/m³
- CARGAS VIVAS DE TRÁFICO
 - ASFILO LIBRE = 9.0
 - IMPACTO SEGÚN AAS-HU LIBRE
- ART. 3.6.2 2.1.
 - MO-P HS -MO-P
- CARGA REGIONAL
 - PARA COMBINACIÓN CON CARGA VIVA DE TRÁFICO
 - 3.6x10-3 MPa = 350 kg/cm²
 - CUANDO SOLO ACTÚA LA CARGA REGIONAL
 - 4.1x10-3 MPa = 420 kg/cm²
- WIND
 - VELOCIDAD MÁXIMA 60 km/h
- SEISMO
 - ANÁLISIS DINÁMICO ESPECTRAL MULTIMODO (COC)
 - ANÁLISIS 55MCO EN EL DOMINIO DE 18MCO EMPLEANDO 7 ACCELEROGRAMAS COMPATIBLES CON EL ESPECTRO DE 7-1000 AÑOS.
 - UTILIZANDO ESPECTRO DE ESTUDIO SISMICO PARA UN PERIODO DE RETORNO DE 1000 AÑOS
 - TIPO DE SUELO: FUENTE EN VOLADOS SUFICIENTES
 - IMPORTANCIA: CRÍTICO
 - ZONA SISMICA: 4
 - TIPO DE SUELO: 1 (Compagaa)
 - COEF. DE SITO: 1.0

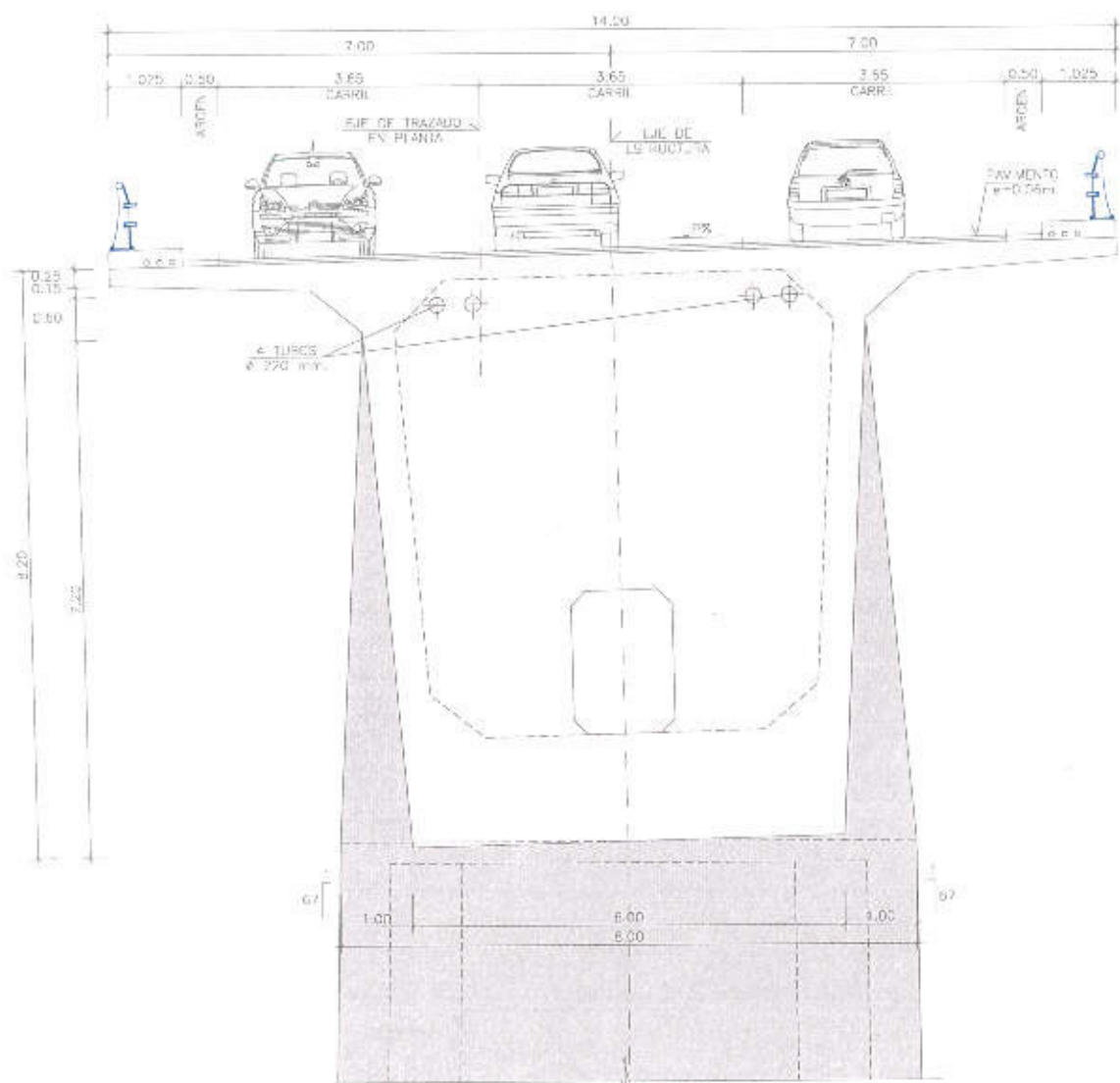


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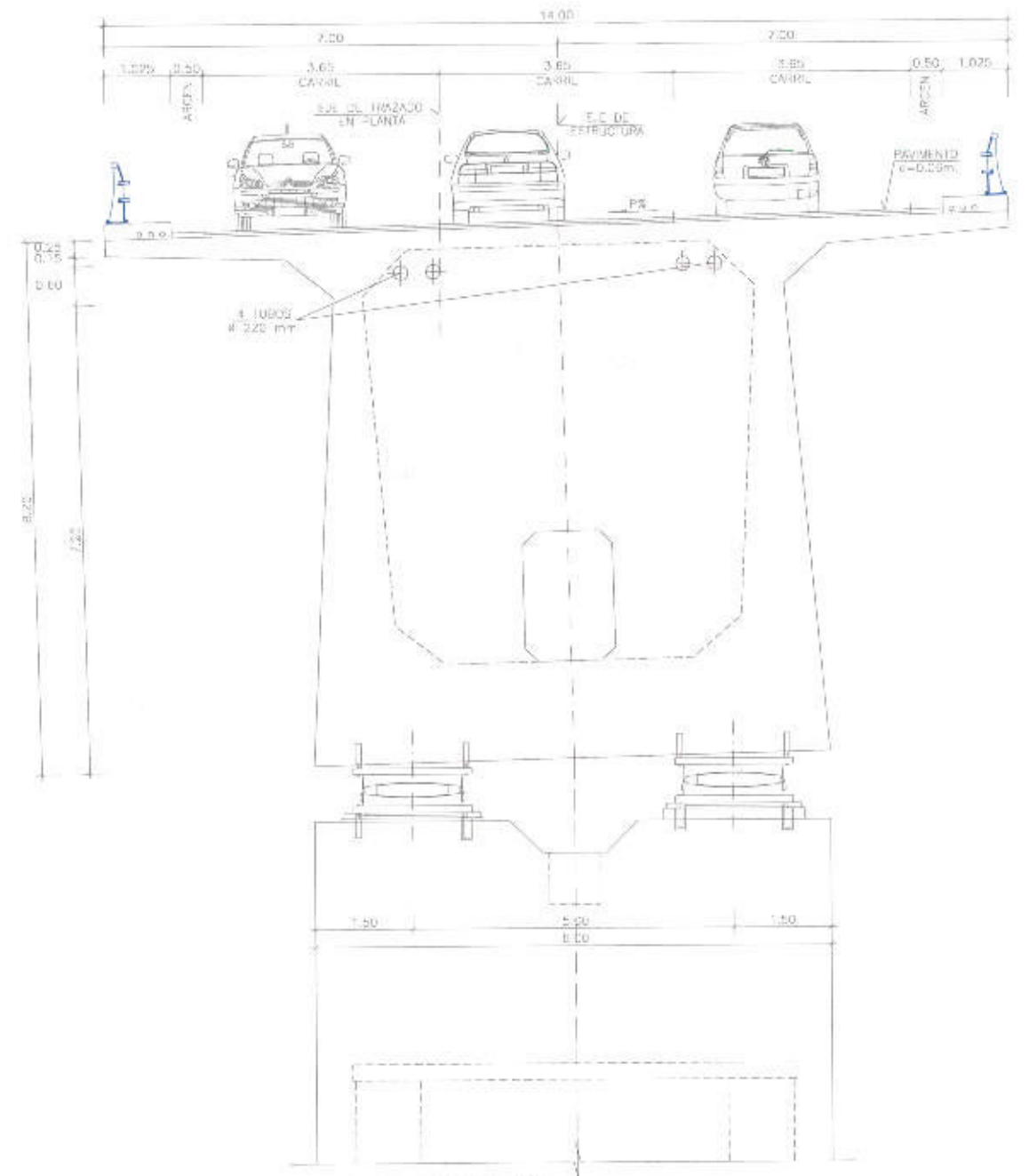


ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

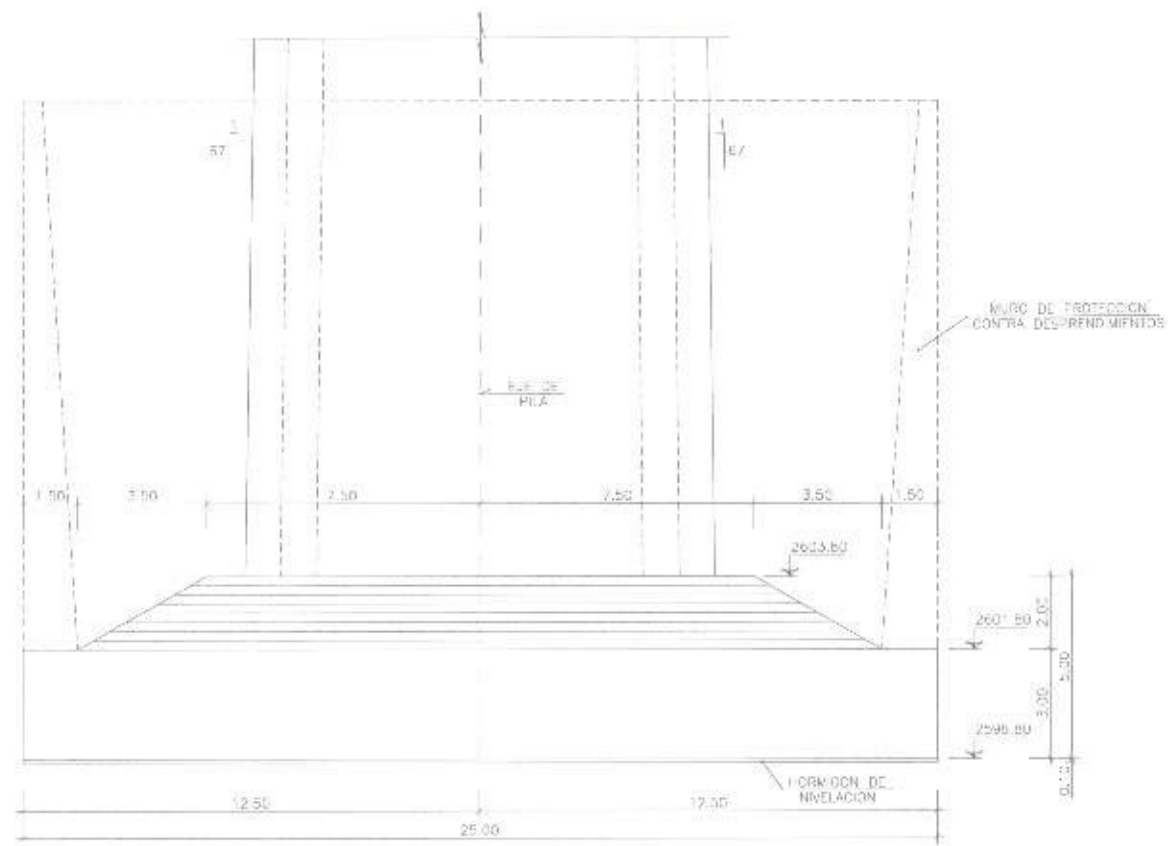
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CONTENIDO	DEFINICION GENERAL SECCIONES TRANSVERSALES (I)	FECHA	NOVIEMBRE 2014	PROYECTO	FERNANDO ROMO CONSULTORES		



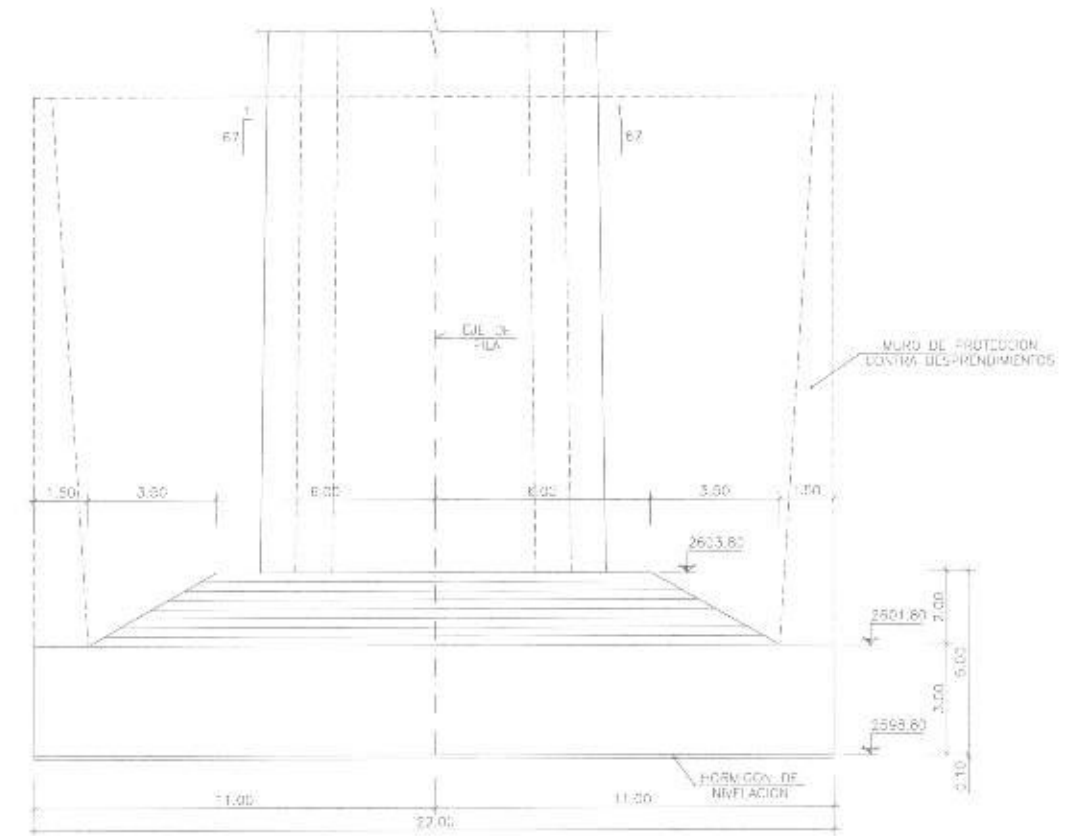
SECCION TRANSVERSAL POR PILAS 1 Y 2
ESCALA 1:50



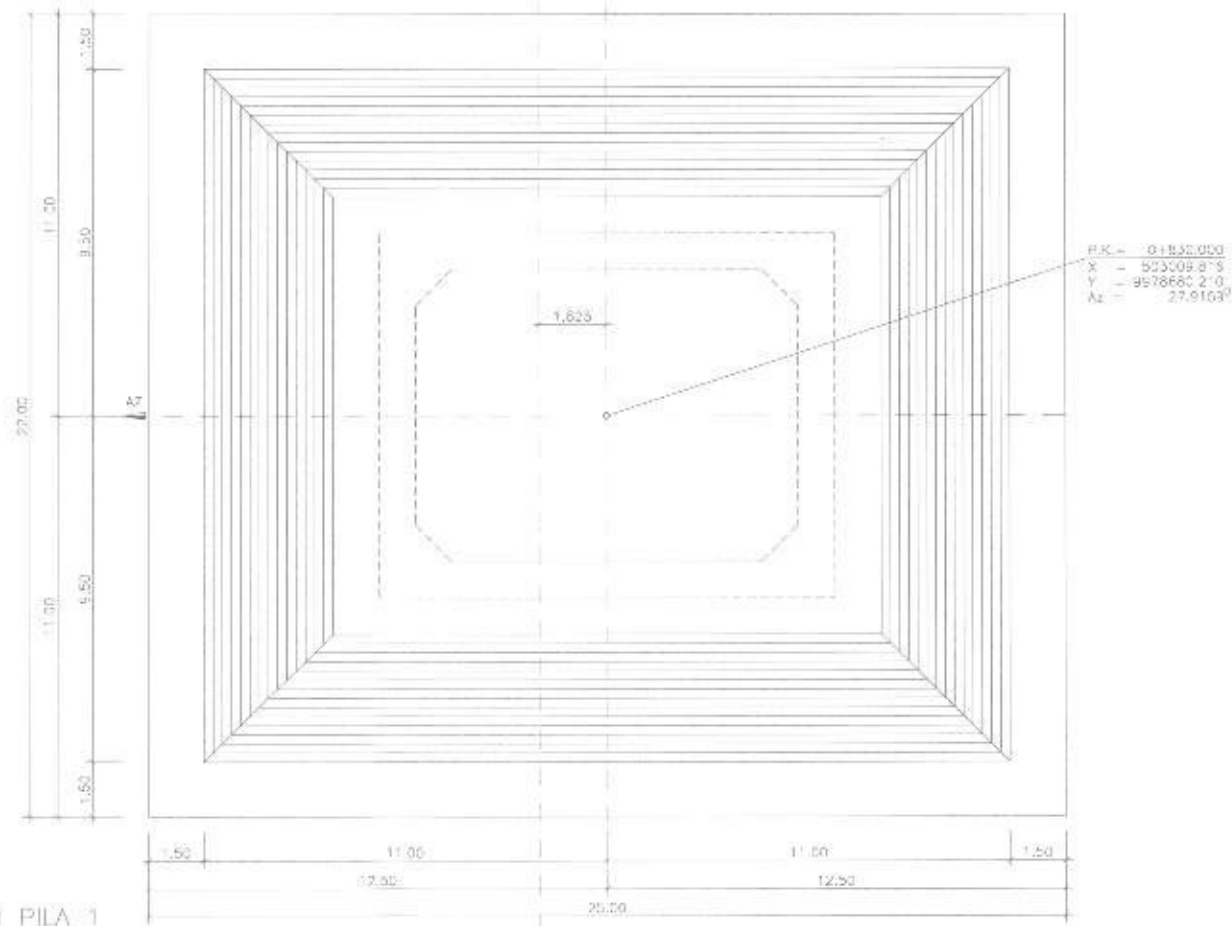
SECCION TRANSVERSAL POR PILA 3
ESCALA 1:50



ALZADO FRONTAL
CIMENTACION PILA 1
ESCALA: 1:100

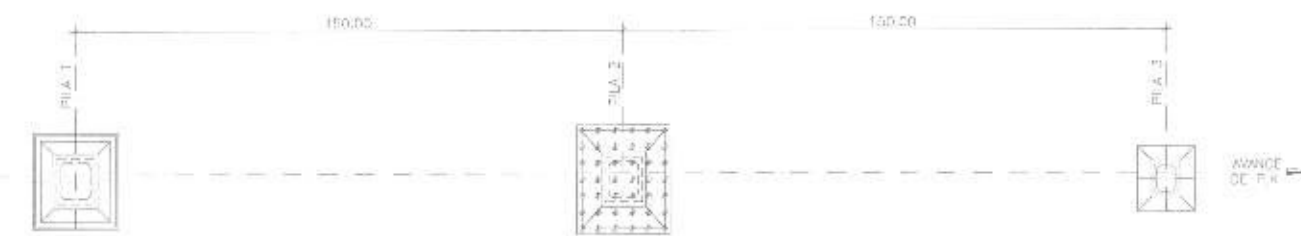


ALZADO LATERAL
CIMENTACION PILA 1
ESCALA: 1:100



PLANTA CIMENTACION PILA 1
ESCALA: 1:100

TABLA DE CANTIDADES		CIMENTACION COLUMNAS	
Hormigon simple $f_c=180 \text{ Kg/cm}^2$			288.90 m ³
Hormigon simple $f_c=350 \text{ Kg/cm}^2$ (Pilas)			5.340.96 m ³
Hormigon simple $f_c=350 \text{ Kg/cm}^2$ (zapatas)			8.975.85 m ³
Acero co. refuerzo corrugado $f_y=4.200 \text{ Kg/cm}^2$			1.632.873,00 Kg.



PLANTA DE CIMENTACIONES
1/ESCALA

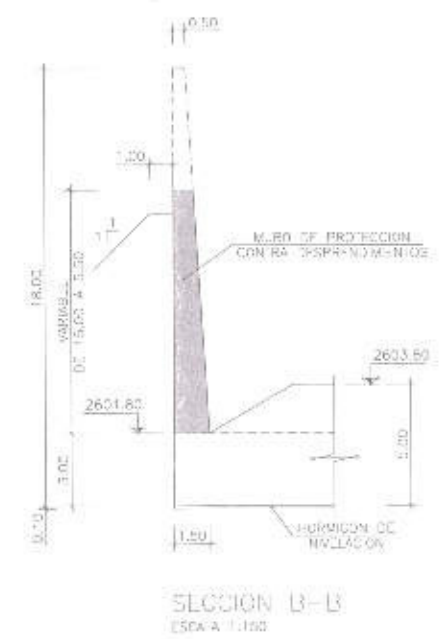
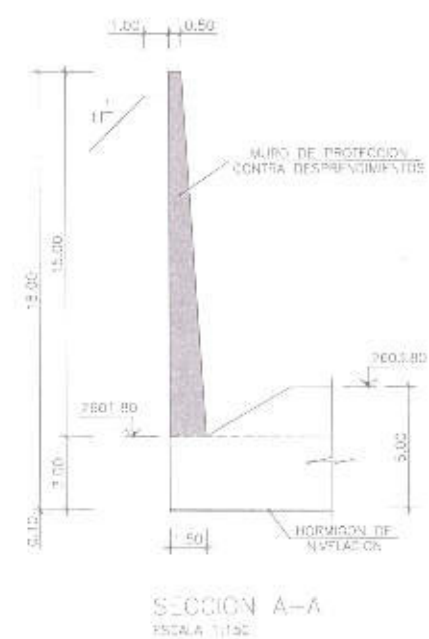
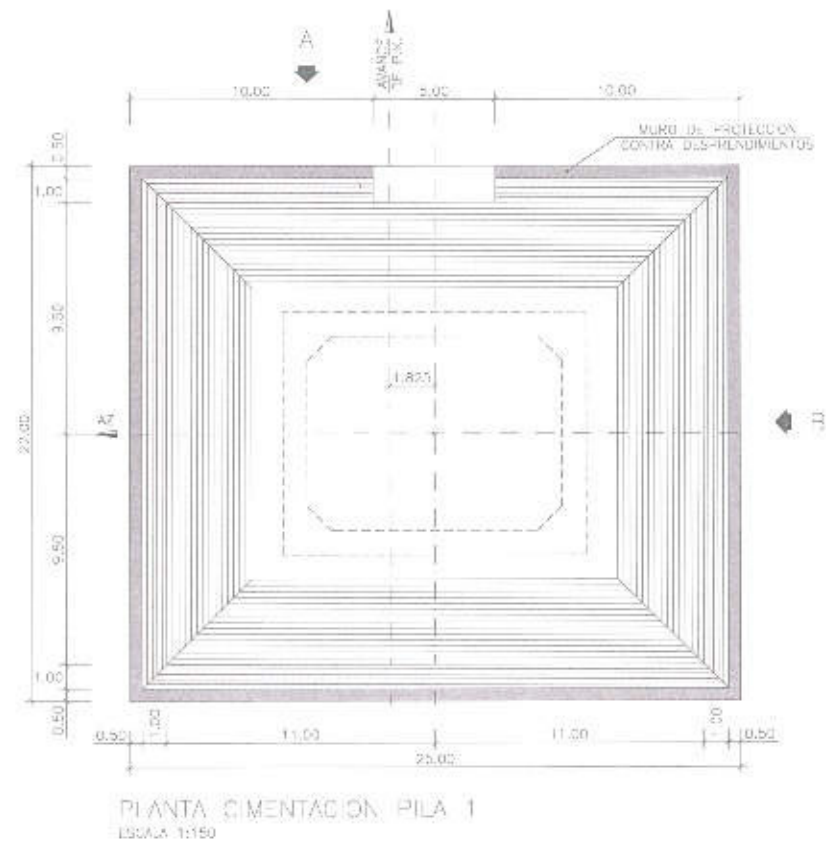
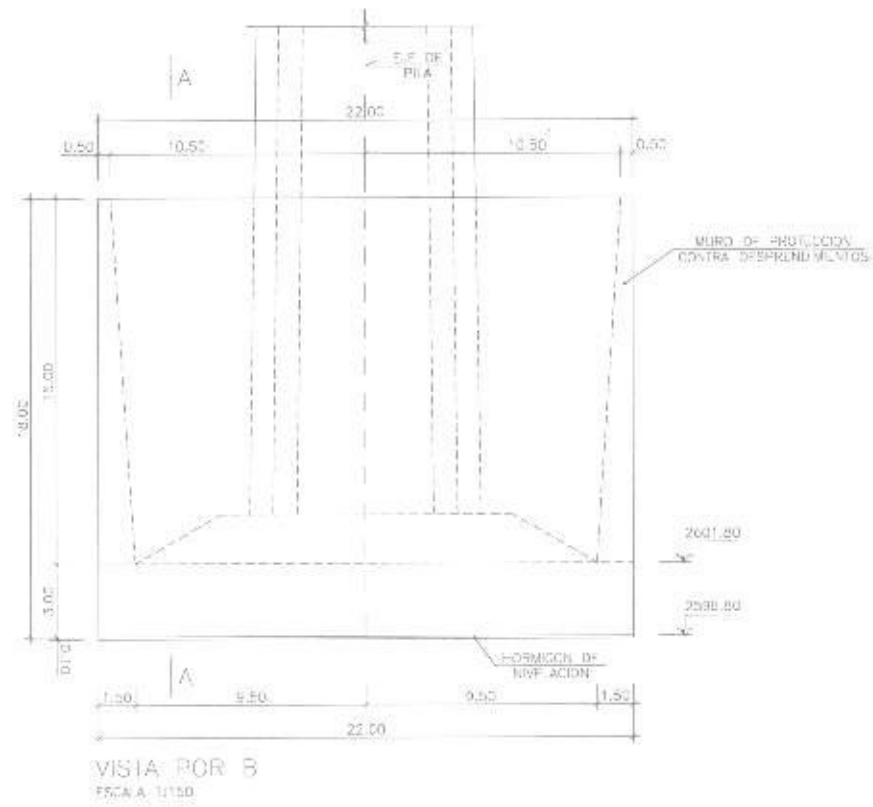
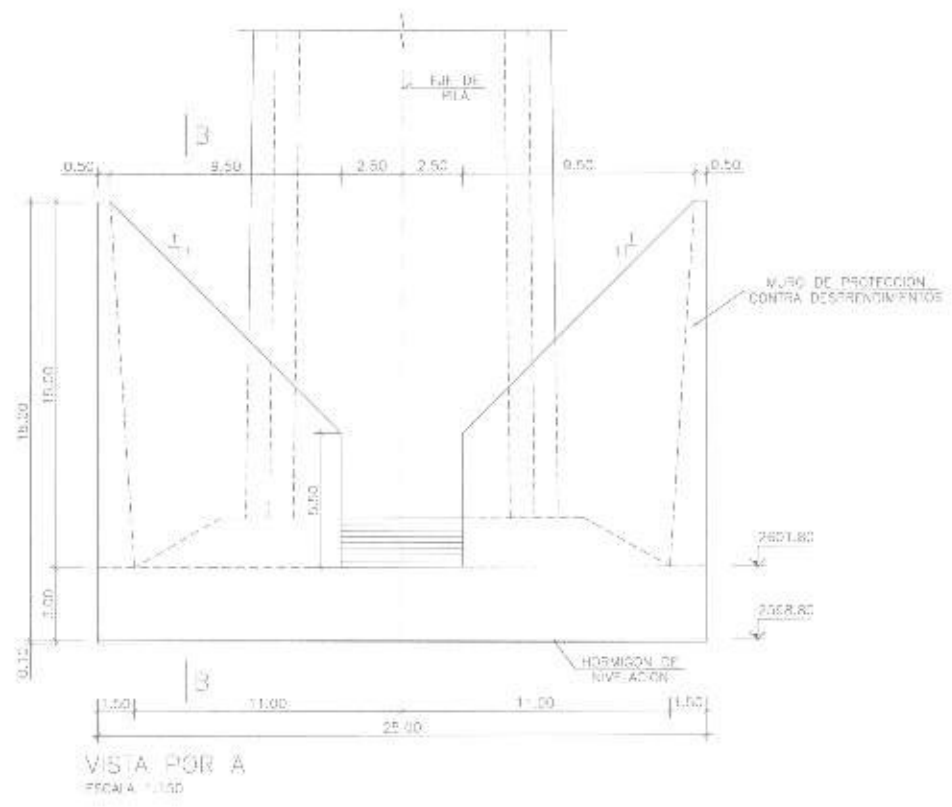
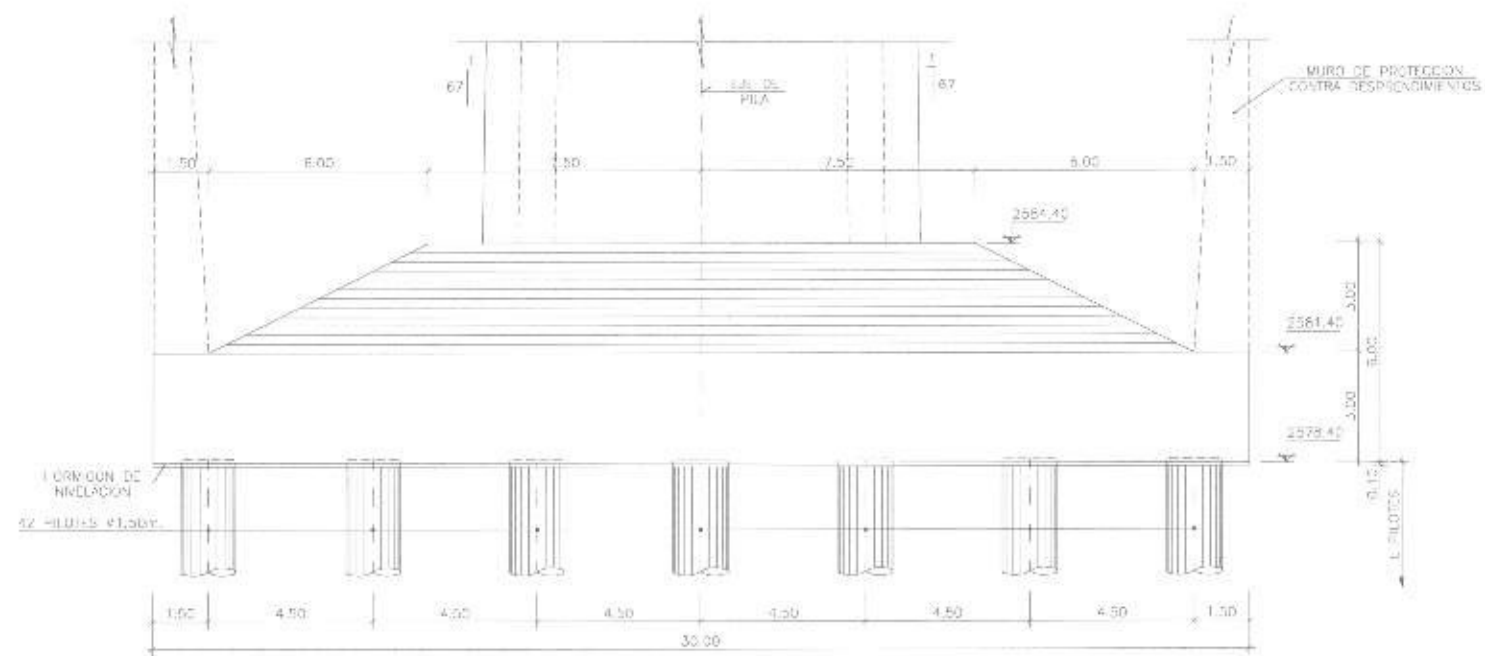
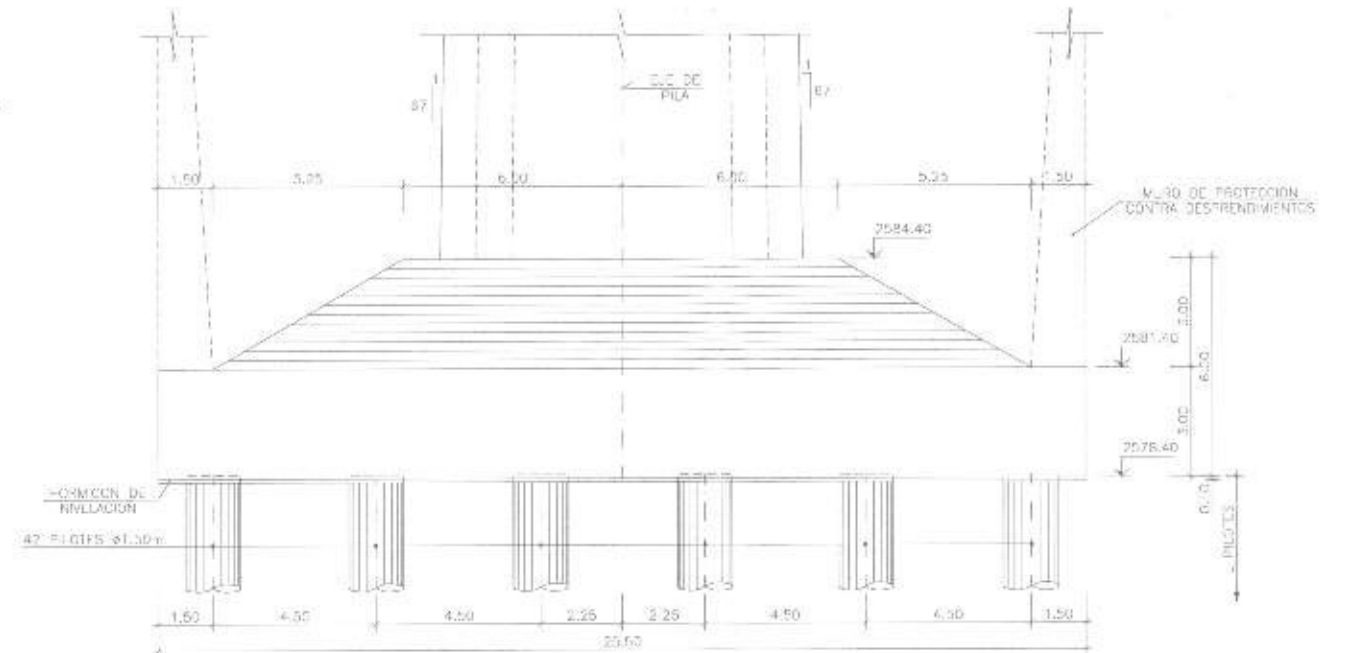


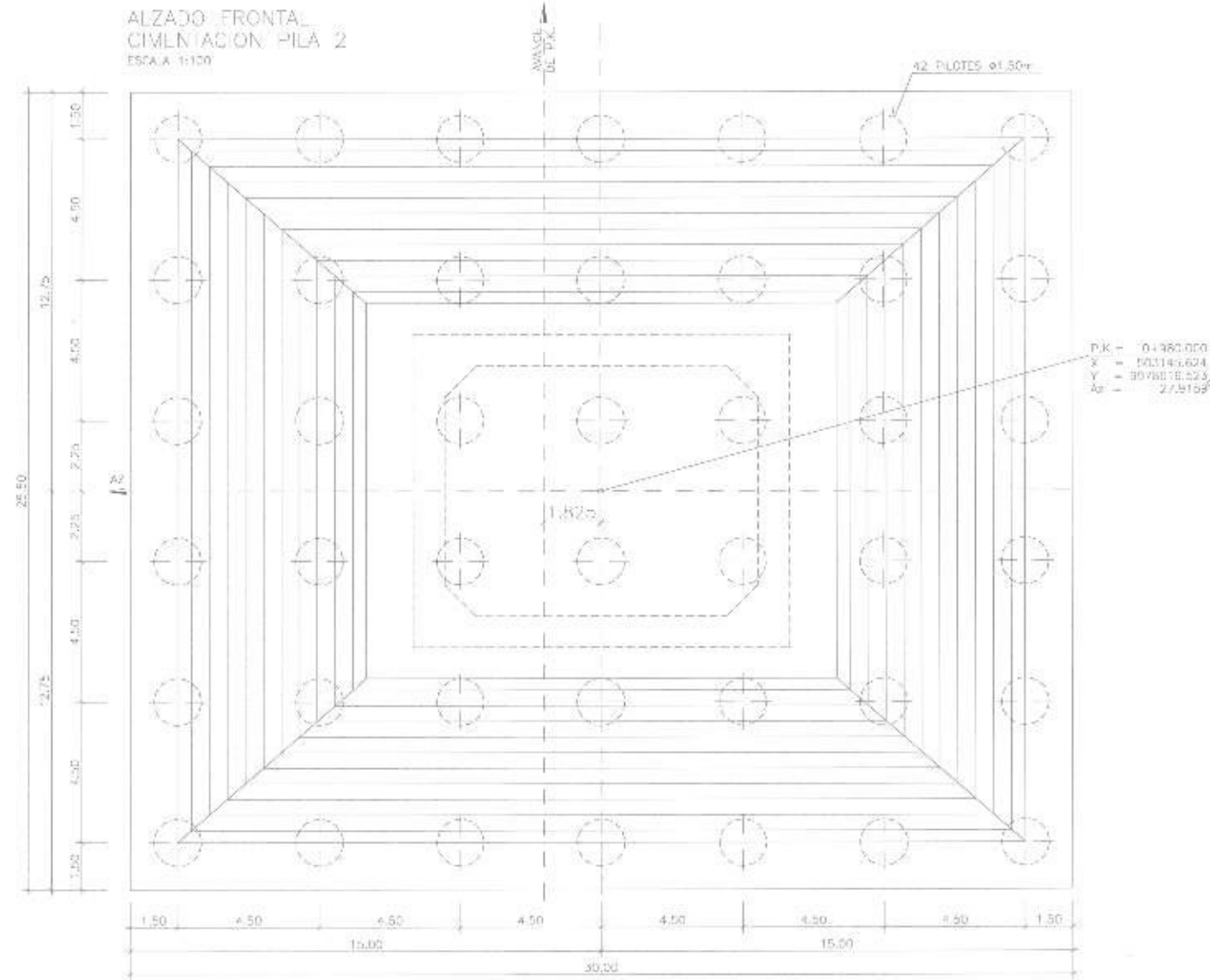
TABLA DE CANTIDADES		CIMENTACION COLUMNAS
Hormigon simple f _c =150 Kg/cm ²		226.95 m ³
Hormigon simple f _c =350 Kg/cm ² (Plotes)		10.740.90 m ³
Hormigon simple f _c =350 Kg/cm ² (Zapatas)		68.75.85 m ³
Acero de refuerzo corrugado f _y = 4.200 Kg/cm ²		1.652.873,03 Kg



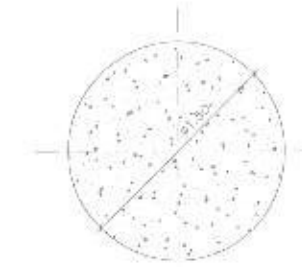
ALZADO FRONTAL
CIMENTACION PILA 2
ESCALA 1:100



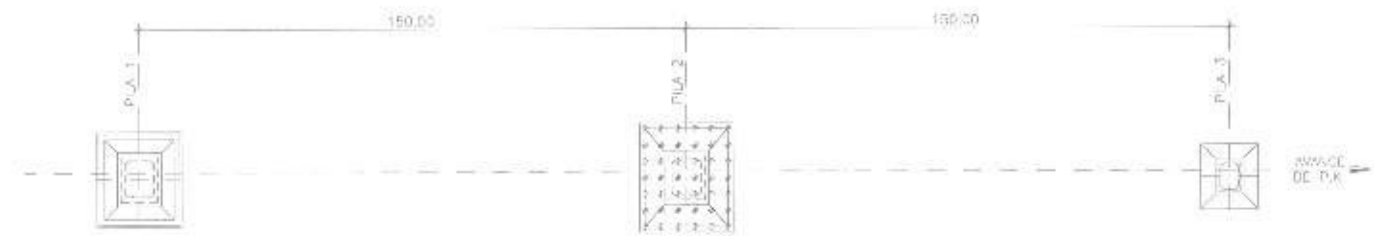
ALZADO LATERAL
CIMENTACION PILA 2
ESCALA 1:100



PIANTA CIMENTACION PILA 2
ESCALA 1:100



SECCION DE PLOTES
ESCALA 1:25



PIANTA DE CIMENTACIONLS
ESCALA

TABLA DE CANTIDADES		ESTRIBOS
Hormigon simple (c=180 Kg/cm ²)	55.85 m ³	
Hormigon simple (c=200 Kg/cm ²) (Zapatas)	134.00 m ³	
Hormigon simple (c=200 Kg/cm ²) (Estribos-Murco)	868.50 m ³	
Hormigon simple (c=350 Kg/cm ²) (Losa acceso)	10.00 m ³	
Acero de refuerzo (arrabate) Fy=4,200 Kg/cm ²	114.815,50 Kg	



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ING. FERNANDO ROMO
INGENIERO EN INGENIERIA
ESTRUCTURAL

REVISOR
ING. FERNANDO ROMO
INGENIERO EN INGENIERIA
ESTRUCTURAL

REVISOR
ING. FERNANDO ROMO
INGENIERO EN INGENIERIA
ESTRUCTURAL

PROYECTO

ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

JUBILACION

PUENTE GUAYASAMIN

ESCALAS

JUBILACION

ARCHIVO DE DISEÑO

04.03.03-ENCERADO PILA 2 (1) de 2

AREA

3/16

COMUNICACION

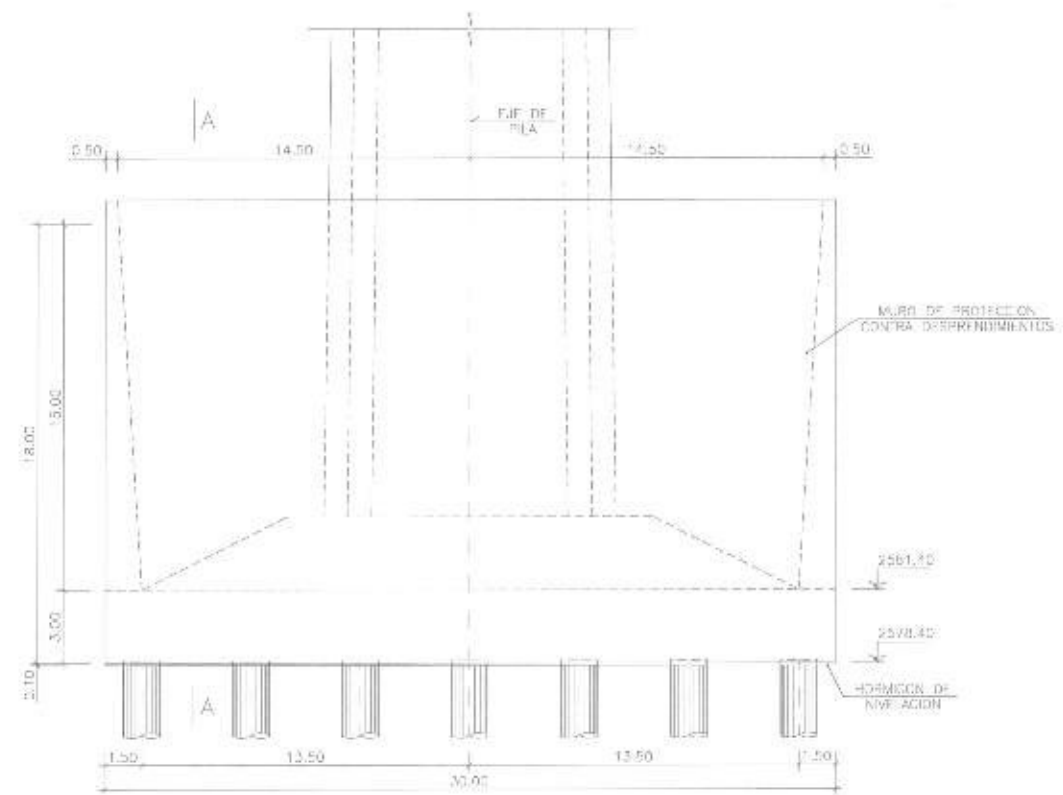
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CIMENTACION PILA 2. DEFINICION GEOMETRICA

FECHA

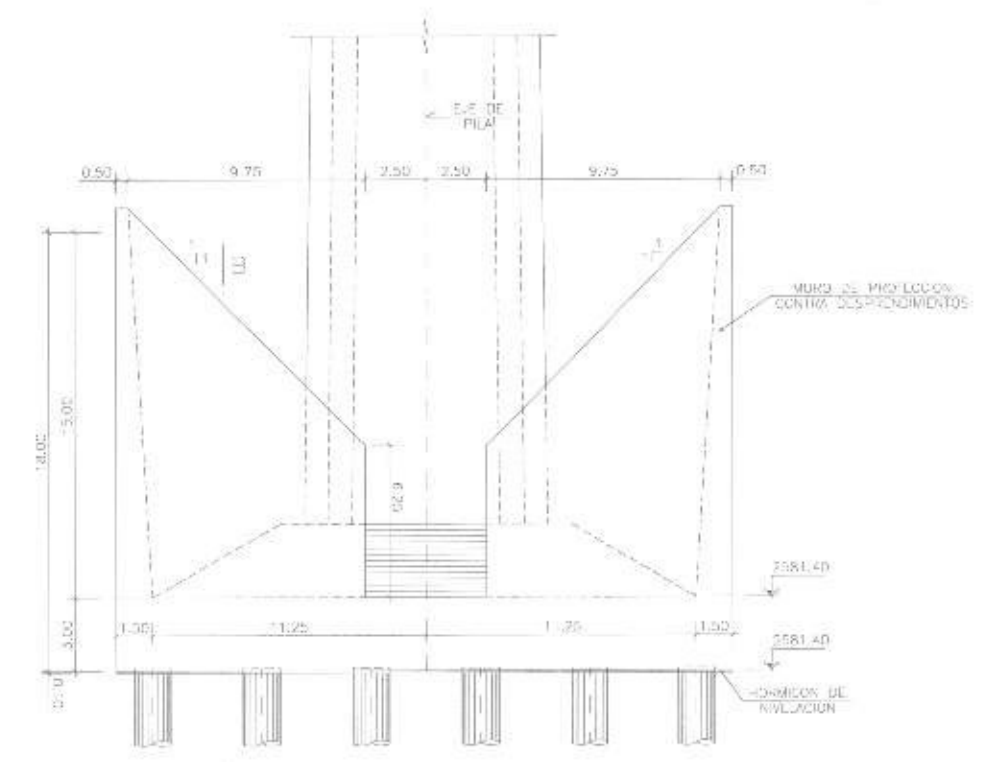
NOVIEMBRE 2014

DESENHO

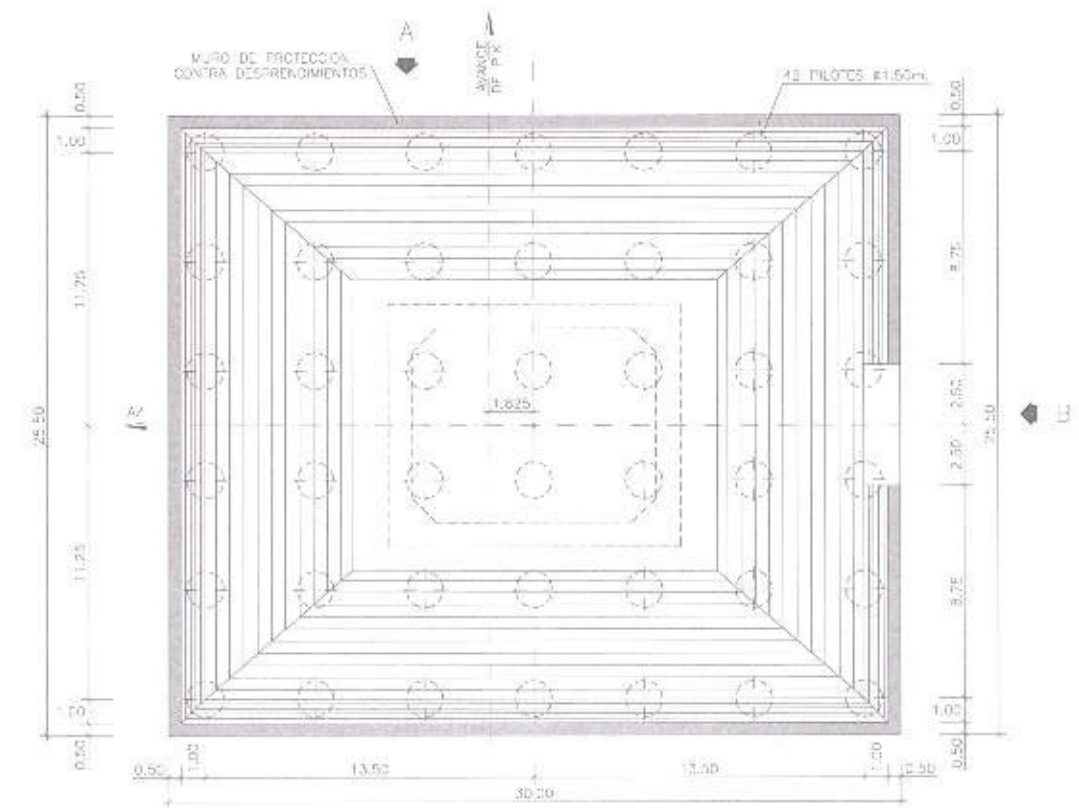
FERNANDO ROMO CONSULTORES



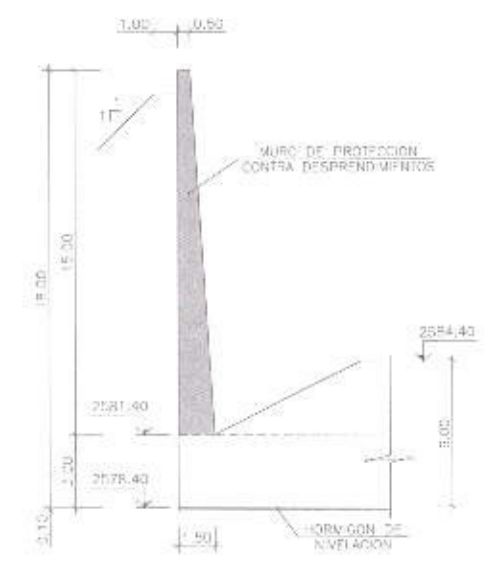
VISTA POR A
ESCALA 1:150



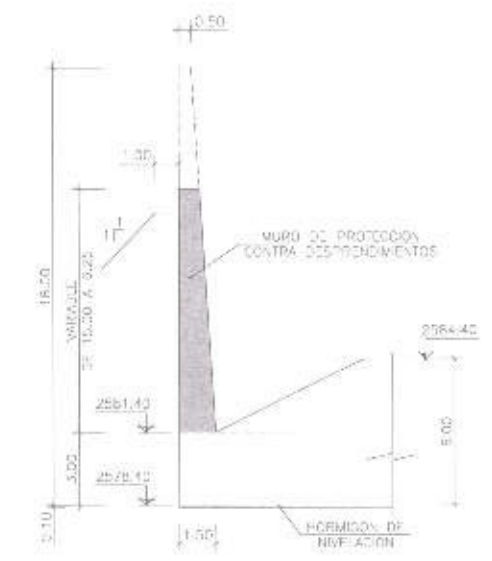
VISTA POR B
ESCALA 1:150



PLANTA CIMENTACION PILA 2
ESCALA 1:150



SECCION A-A
ESCALA 1:150



SECCION B-B
ESCALA 1:150

TABLA DE CANTIDADES		CIMENTACION COLUMNAS	
Hormigón simple $f_c=180 \text{ Kg/cm}^2$			295,65 m ³
Hormigón simple $f_c=350 \text{ Kg/cm}^2$ (Tiradas)			5,340,88 m ³
Hormigón simple $f_c=350 \text{ Kg/cm}^2$ (Zancho)			6,975,65 m ³
Acera de refuerzo corrugado $f_y=1,200 \text{ Kg/cm}^2$			1,552,873,00 Kg



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FERNANDO ROMO
CONSULTORES

REVISOR
DISEÑADOR

PROYECTO

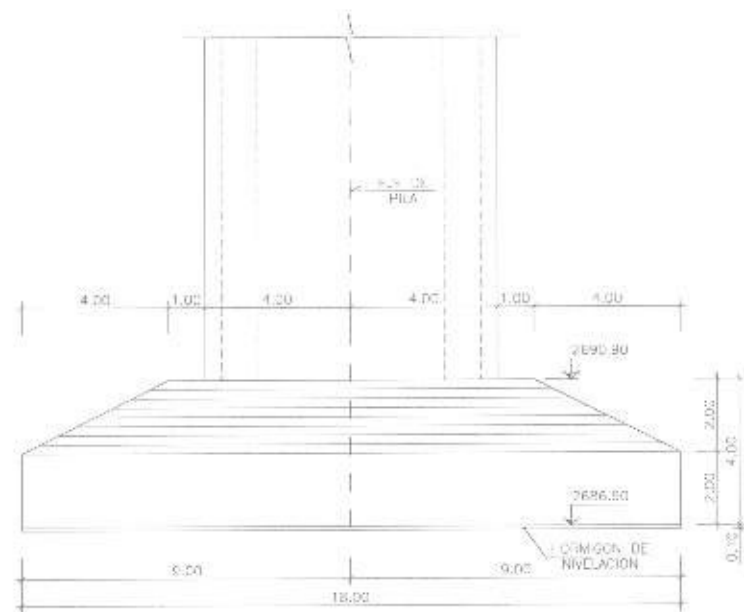
ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

PROYECTO
PUENTE GUAYASAMIN
PILAS
MUROS CIMENTACION PILA 2, DEFINICION GEOMETRICA

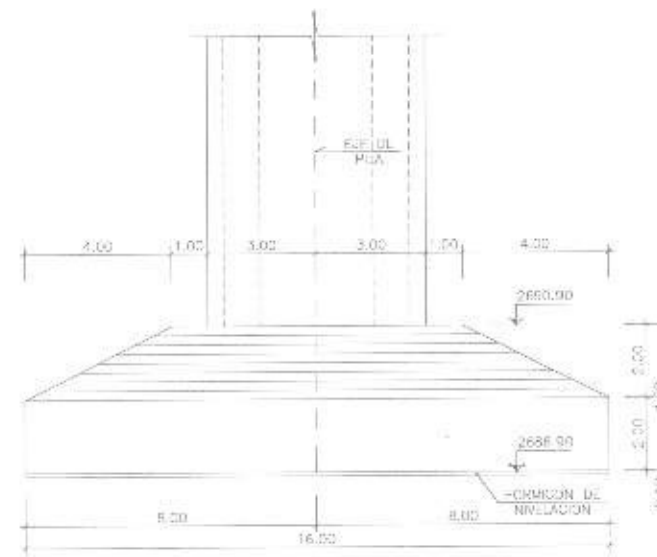
ESCALAS
INDICADAS
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FERNANDO ROMO CONSULTORES

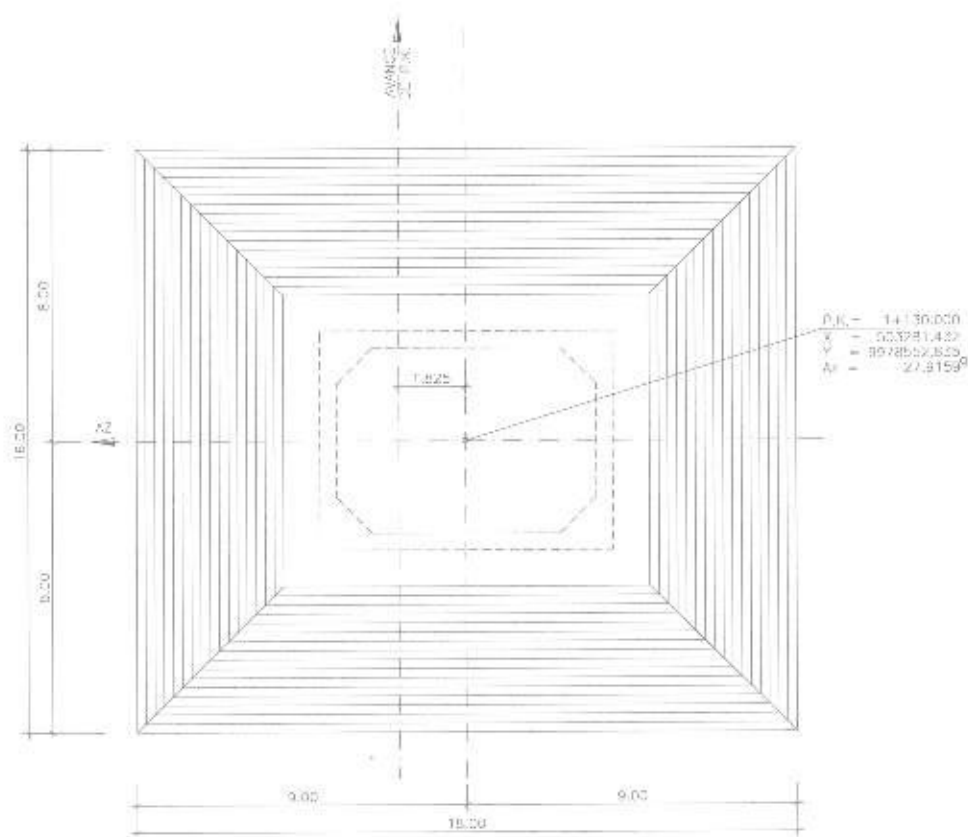
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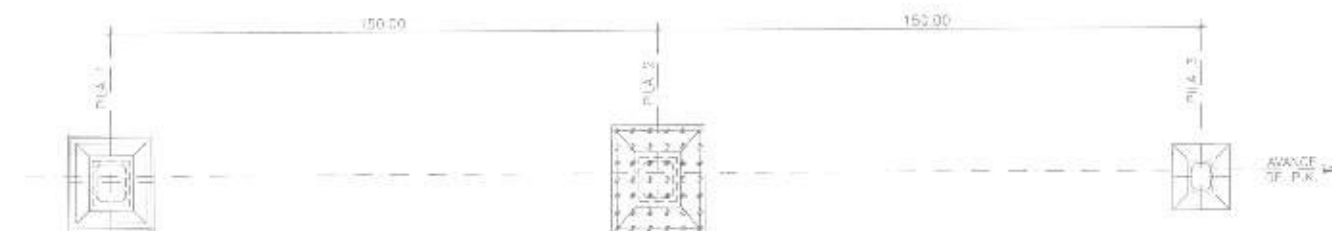
ALZADO FRONTAL
CIMENTACION PILA 3
ESCALA 1:100



ALZADO LATERAL
CIMENTACION PILA 3
ESCALA 1:100



PLANTA CIMENTACION PILA 3
ESCALA 1:100



PLANTA DE CIMENTACIONES
1/ESCALA

TABLA DE CANTIDADES		CIMENTACION COLUMNAS
hormigon simple fc=180 kg/cm ²		228.95 m ³
hormigon simple fc=350 kg/cm ² (Pilulas)		5,340.96 m ³
hormigon simple fc=350 kg/cm ² (Zapatas)		6,575.85 m ³
Acero de refuerzo corrugado fy=4,200 kg/cm ²		1,452.873,03 Kg



Empresa Pública Metropolitana
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ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

UBICACION	PUENTE GUAYASAMIN	ESCALAS	INDICADAS	APROBADO POR:	06.03.05-ENHEPADO PILA 3.dwg	LAMINA	5/10
CONTENIDO	PILAS CIMENTACION PILA 3. DEFINICION GEOMETRICA	FECHA	NOVIEMBRE 2014	ELABORADO POR:	FERNANDO ROMO CONSULTORES		

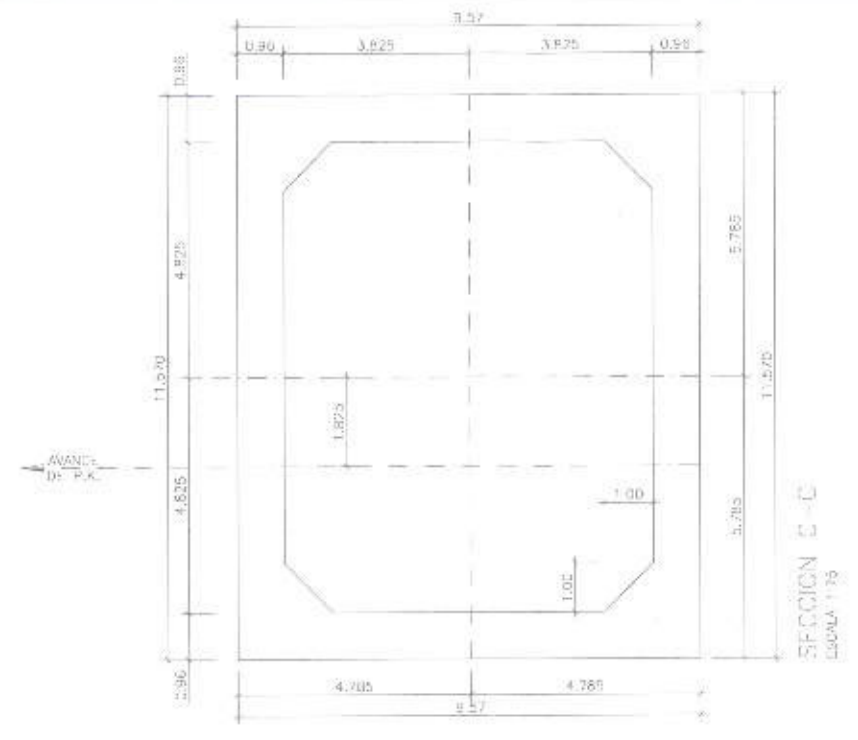
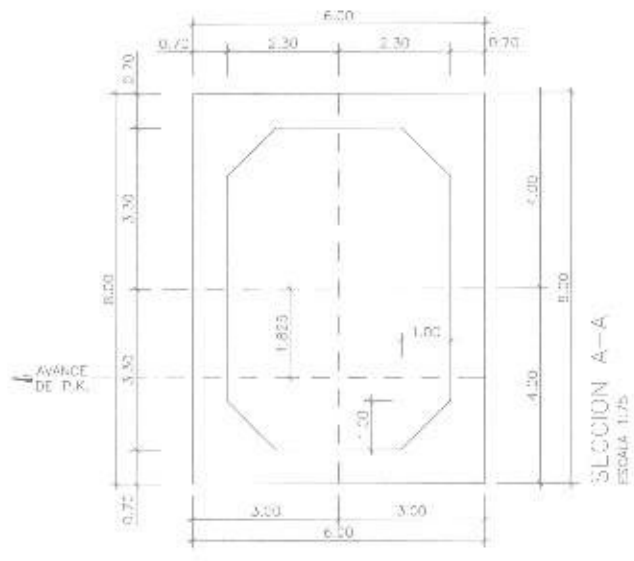
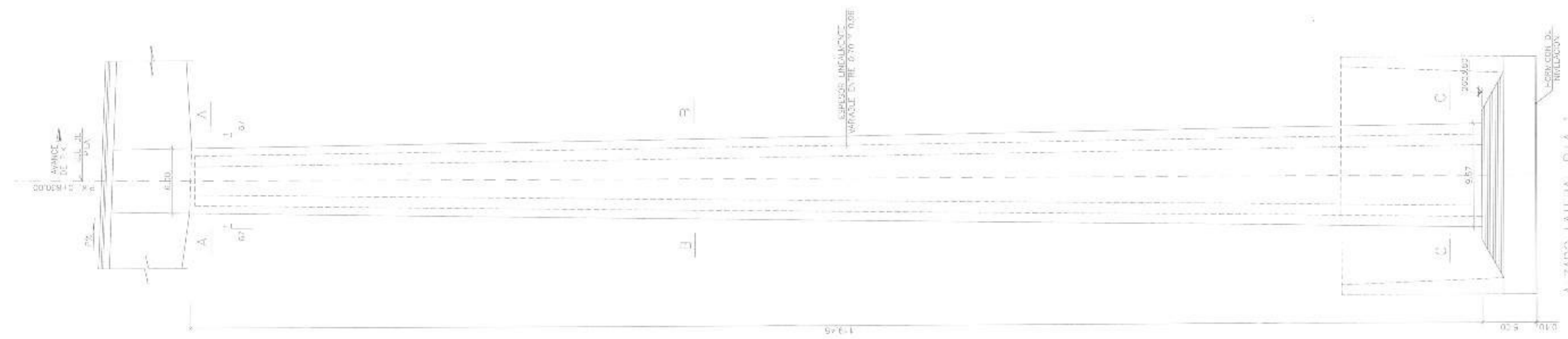
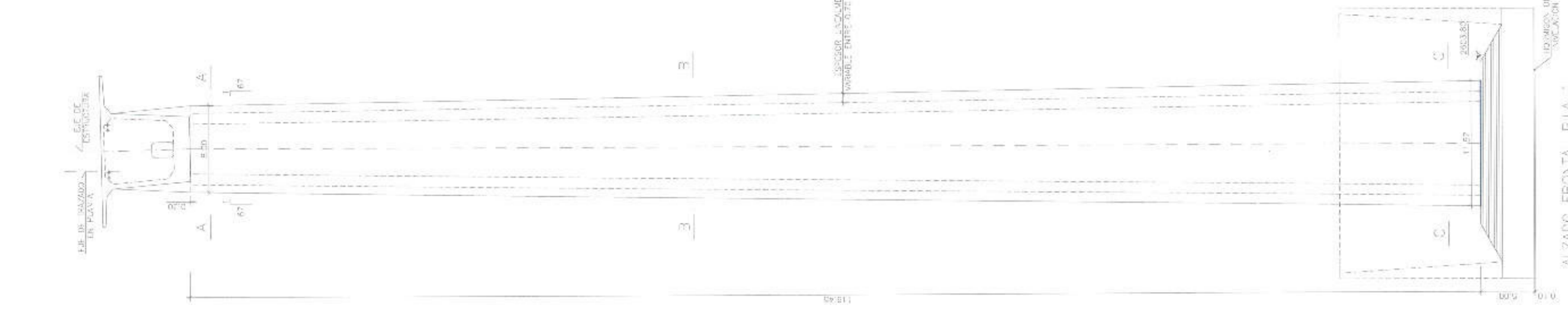
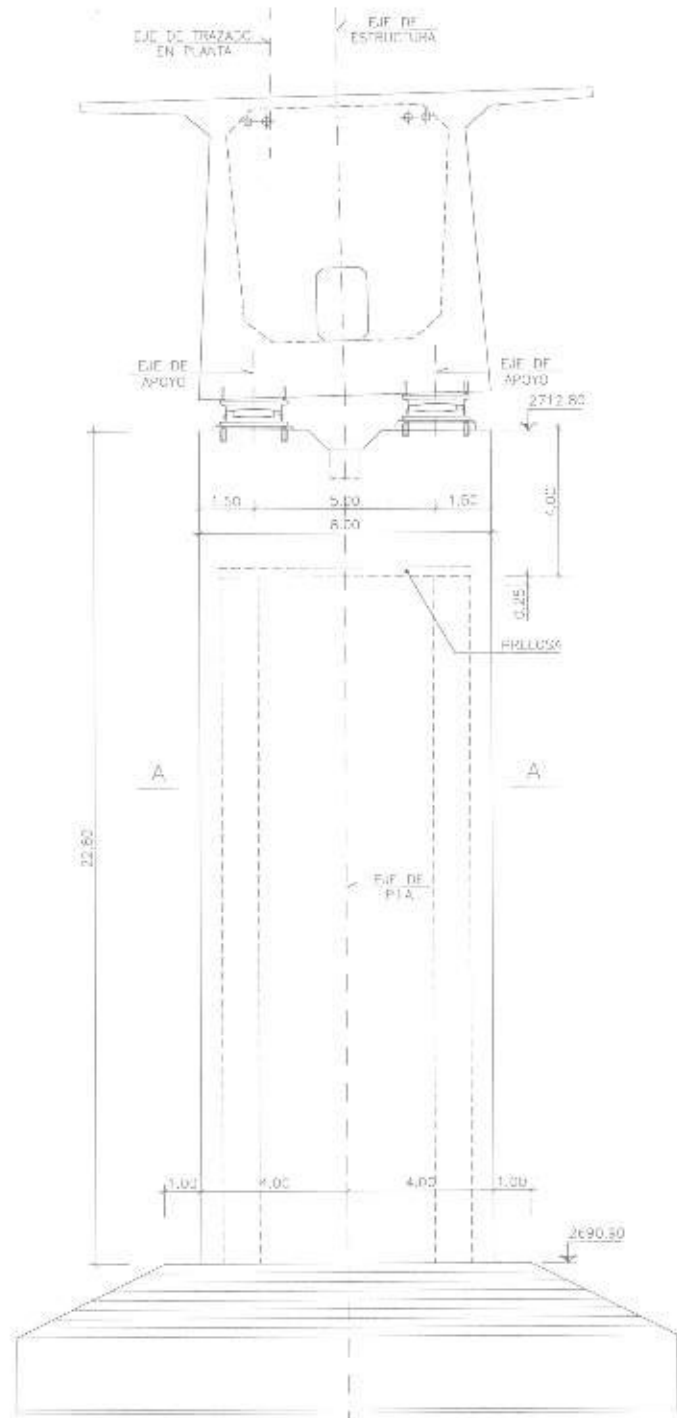


TABLA DE CANTIDADES

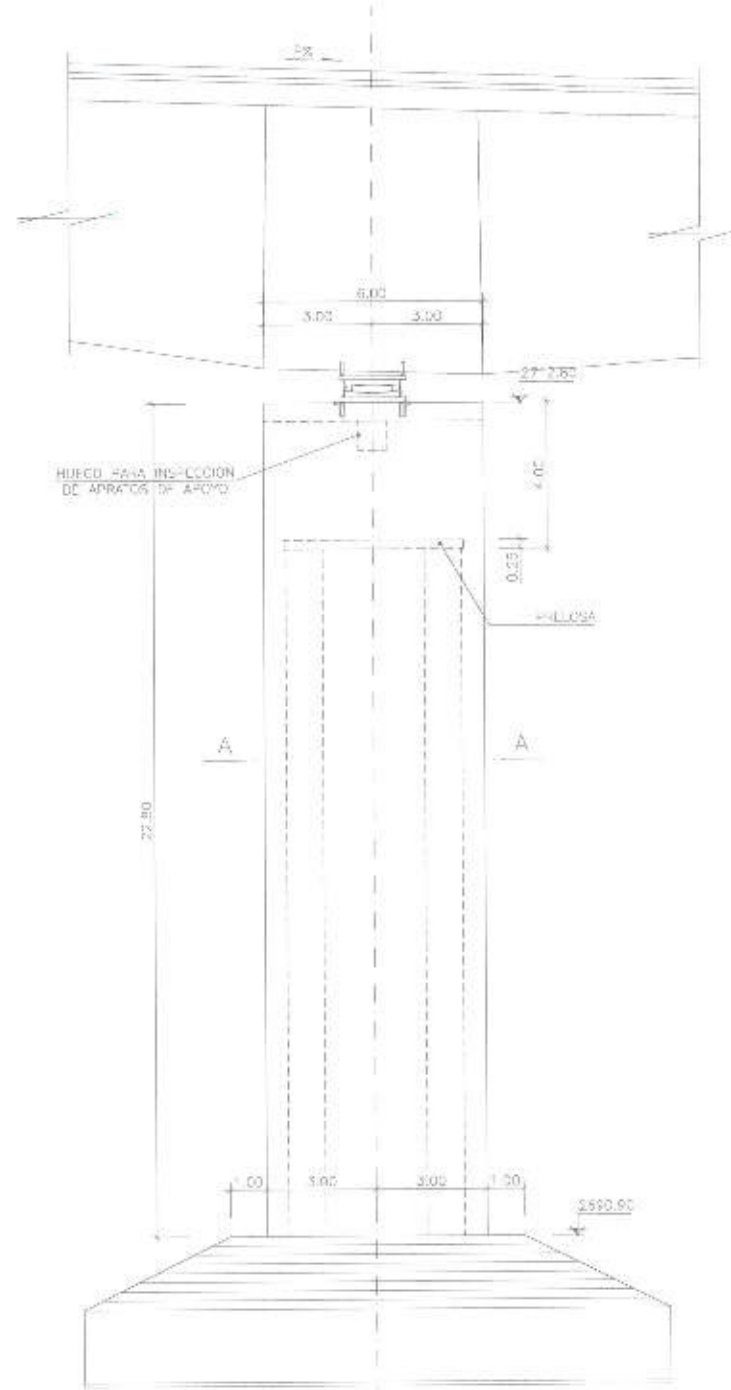
ALZADOS COLUMNAS	ALZADOS COLUMNAS
Columna simple (h=11.57) kg/cm ²	72.274,28 m ²
Área de refuerzo corrugado (s=4.200) kg/cm ²	2.620.046,79 kg



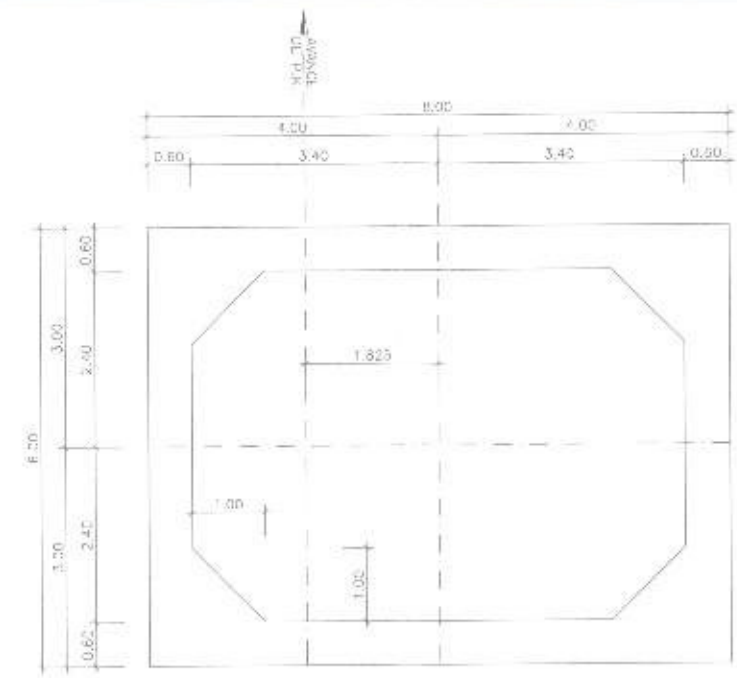
		 DIRECTOR GENERAL	 INGENIERO CIVIL	 ARQUITECTO	ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN	LIBRO Nº:	PUENTE GUAYASAMIN	ESCALA:	INDICADAS	FECHA:	06.03.04-ALZADO PILA 1. DEF 660.dwg	LÁMINA:	
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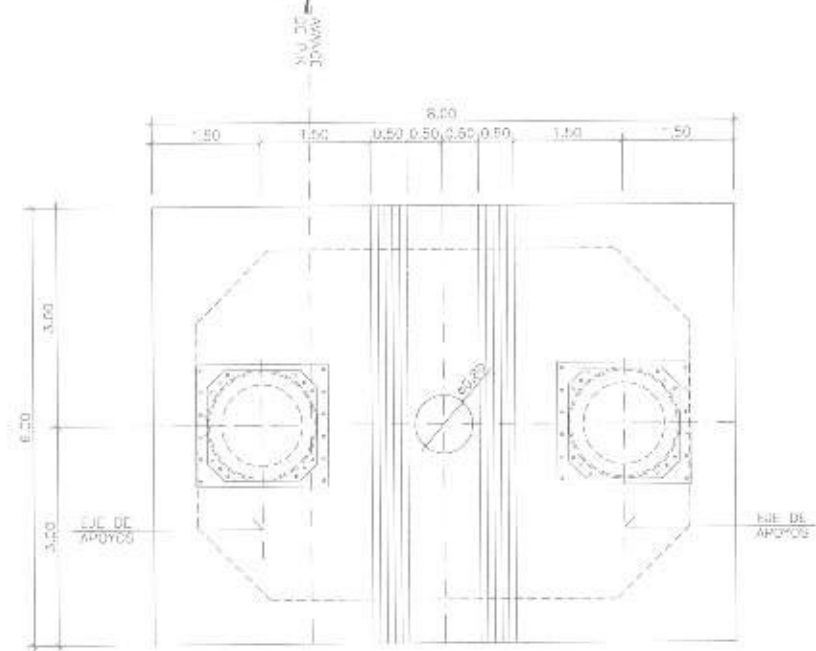
ALZADO FRONTAL PILA 3
ESCALA 1:100



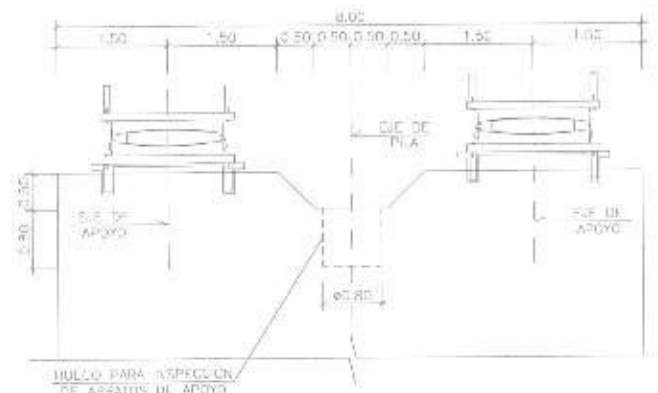
ALZADO LATERAL PILA 3
ESCALA 1:100



SECCION A-A
ESCALA 1:50

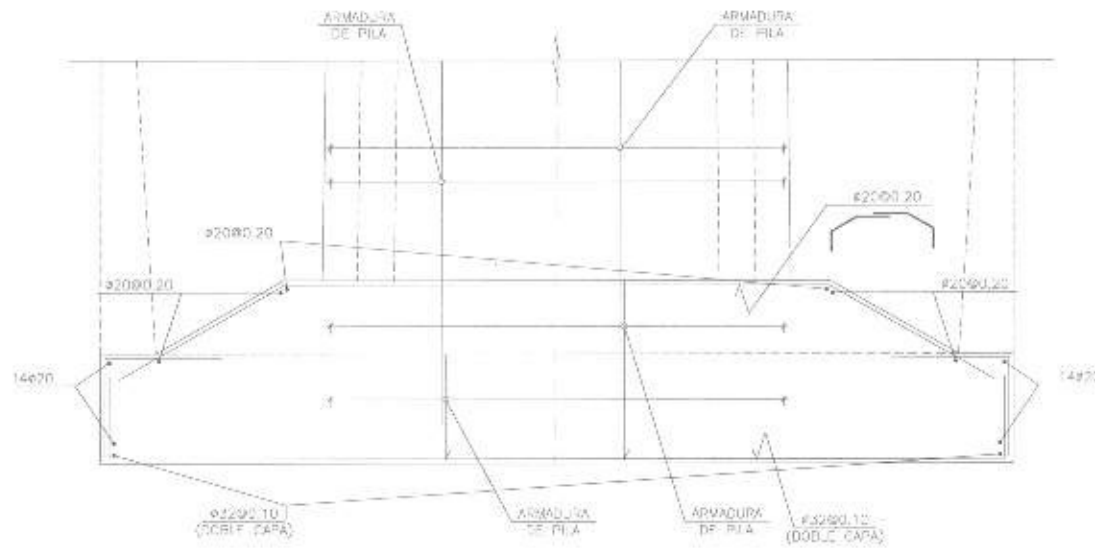


PLANTA CORONACION PILA
ESCALA 1:50

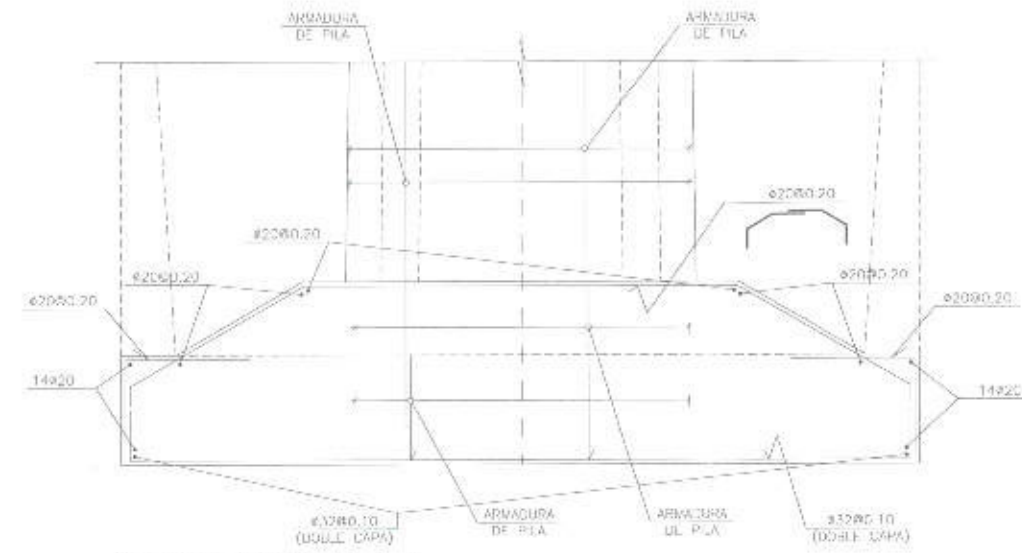


DETALLE CORONACION DE PILA
ESCALA 1:50

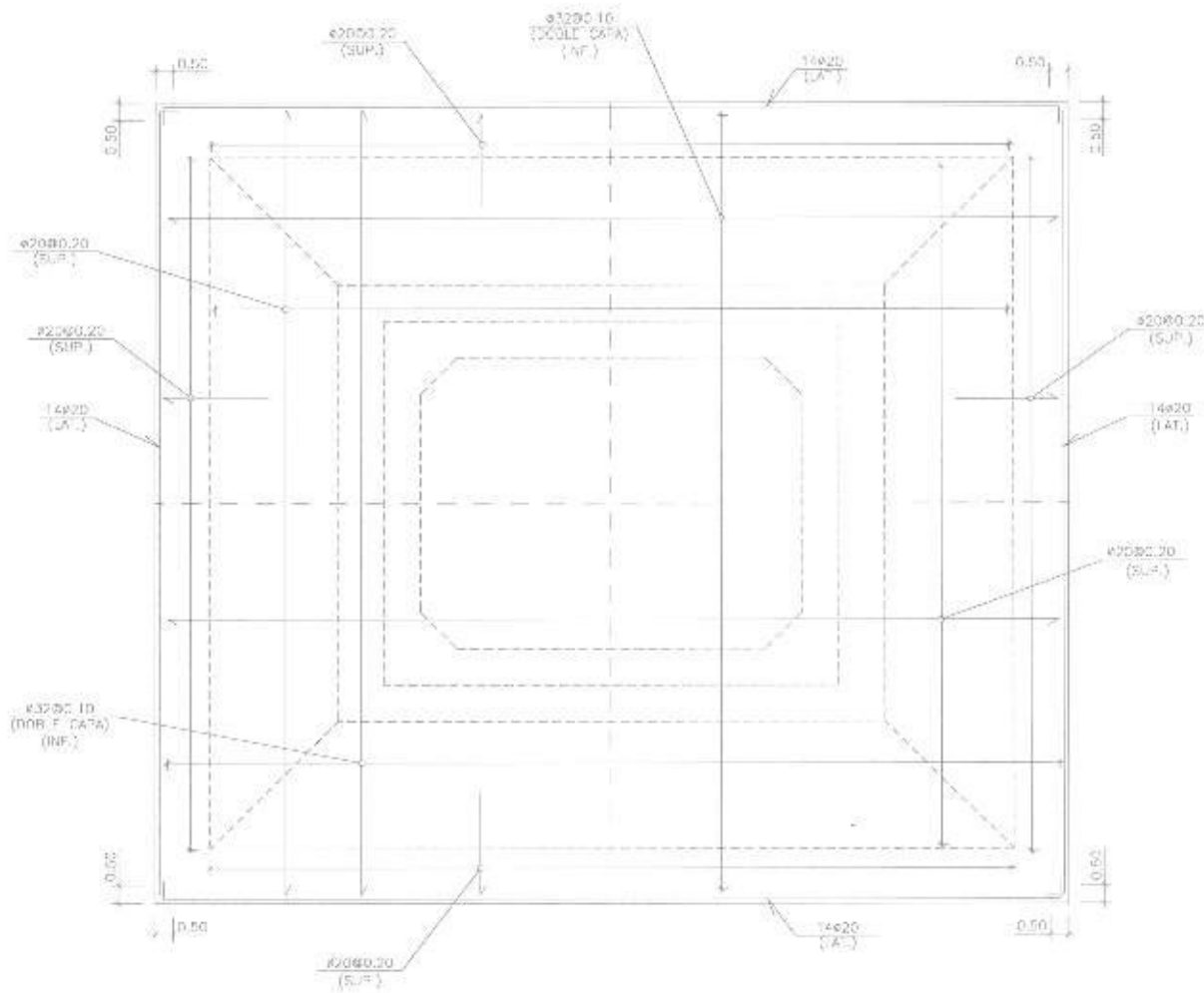
TABLA DE CANTIDADES		ALZADOS COLUMNAS	
-arricón simple f=120 Kg/cm ²		17.074,28 m ²	
Acero de refuerzo corrugado fy= 4.200 Kg/cm ²		2.500,045,78 Kg	



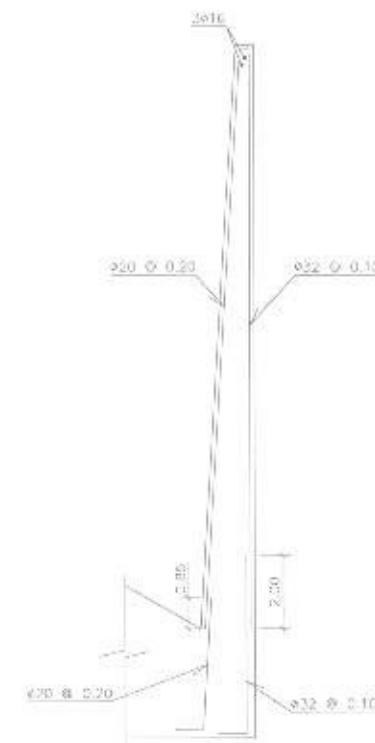
ALZADO FRONTAL PILA 1
ESCALA 1:100



ALZADO ATERAL PILA 1
ESCALA 1:100



PLANTA CIMENTACION PILA 1
ESCALA 1:100



ARMADURA DE MURO CIMENTACION PILA 1
ESCALA 1:100

TABLA DE CANTIDADES ALZADOS COLUMNAS

Hormigon simple $f_c=420 \text{ kg/cm}^2$ 12,224,26 m³
Acero de refuerzo corrugado $f_y=4200 \text{ Kg/cm}^2$ 2,700,045,79 kg

- Factor de modificación que incrementa el:
- Factor de modificación del refuerzo
- Refuerzo horizontal ubicado de manera que 30 cm de concreto
- Precio se funda por cantidad de refuerzo Top bar
- Tipo refuerzo, Bottom bar

f _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	800	1150	1500	1850
240	300	300	350	400	450	550	650	850	1050	1400	1750
280	300	300	350	400	450	500	600	800	1000	1300	1650
350	300	300	350	400	450	500	600	700	800	1150	1450
420	300	300	350	400	450	500	600	650	800	1050	1350
500	300	300	350	400	450	500	600	650	750	950	1200

f _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	550	600	650	700	800	950	1150	1350	1650
240	510	510	550	600	650	700	800	950	1100	1300	1600
280	510	510	550	600	650	700	800	900	1050	1250	1550
350	510	510	550	600	650	700	800	850	1000	1200	1500
420	510	510	550	600	650	700	800	850	1000	1200	1500
500	510	510	550	600	650	700	800	850	1000	1200	1500



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FERNANDO ROMO
CONSULTORES

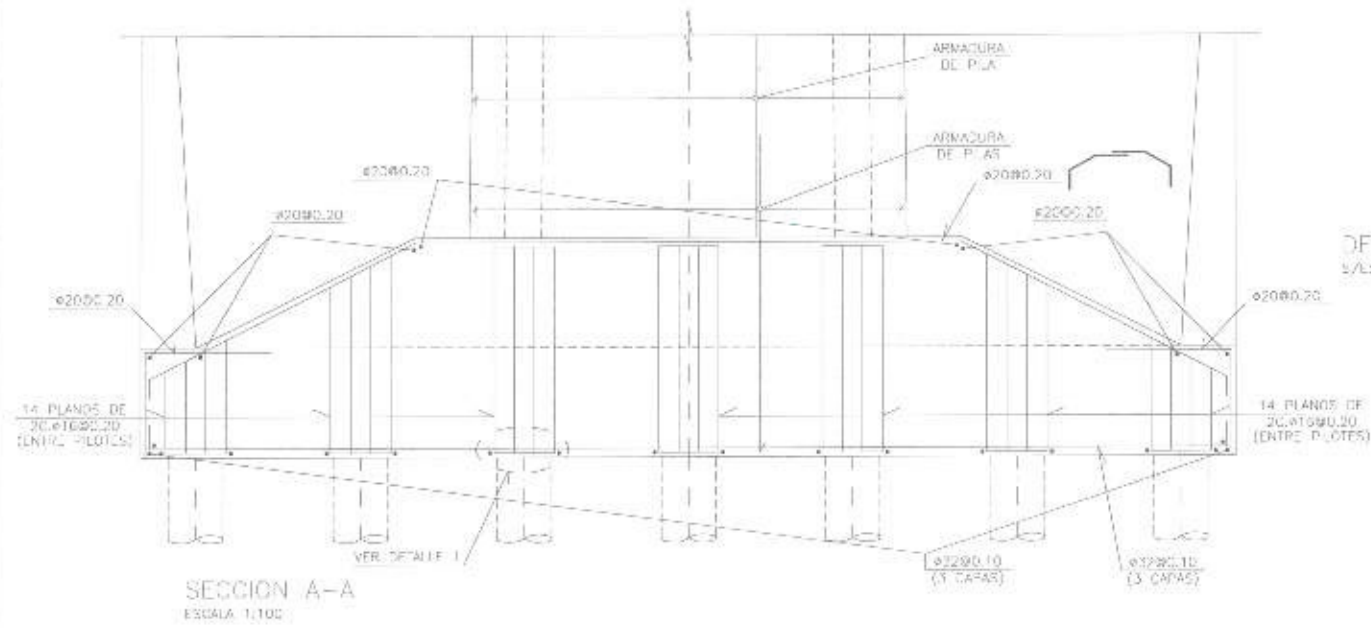
REVISOR
REVISOR
AUTORIZADO

ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

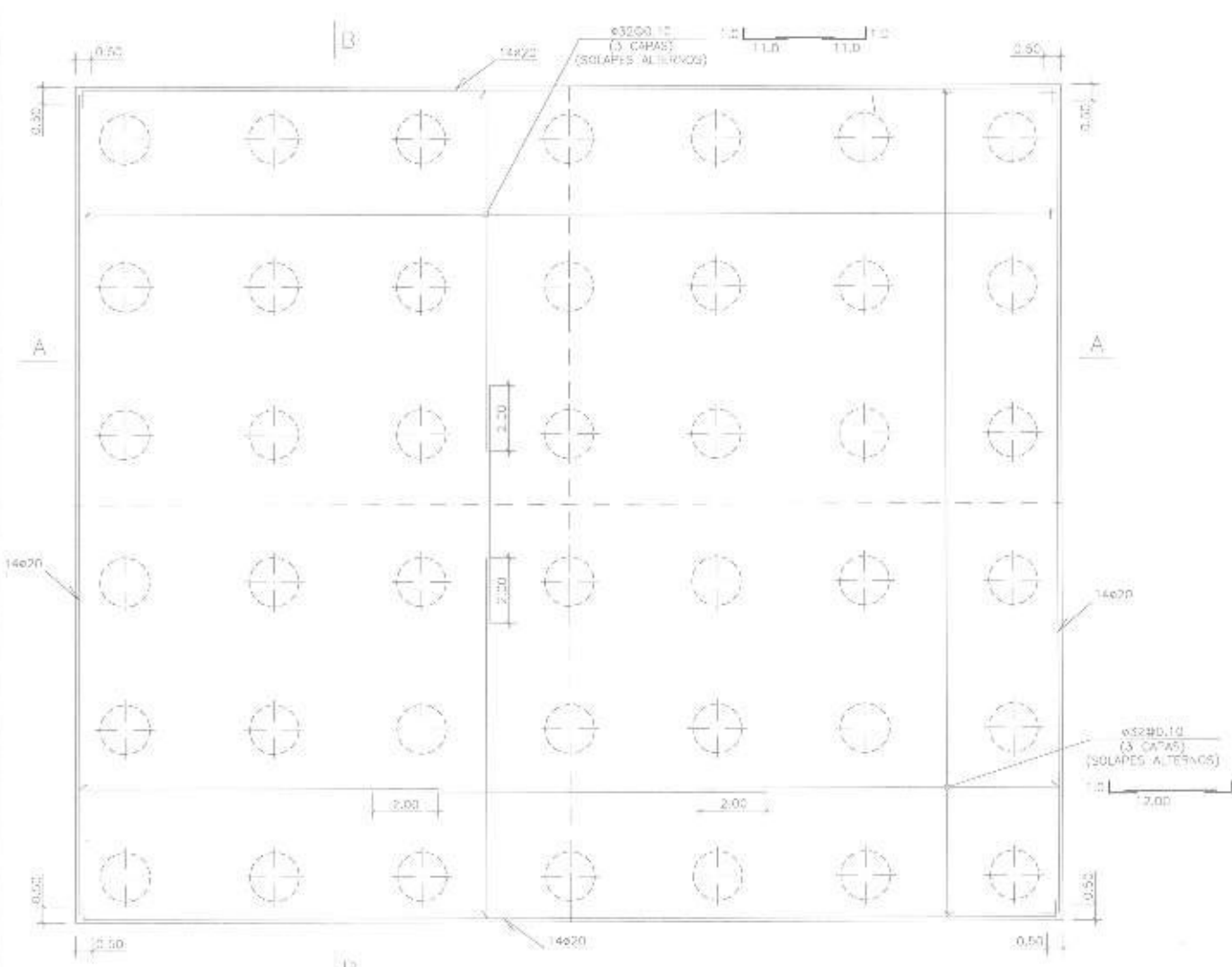
PROYECTO
PUENTE GUAYASAMIN

ESTADO
DISEÑADO

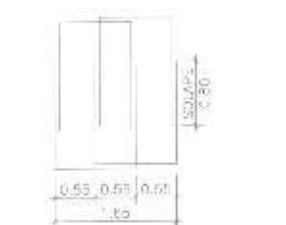
FECHA
06.03.09-ENCUADROS ARMADURAS (2) de



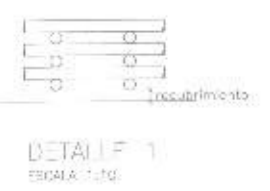
SECCION A-A
ESCALA 1:100



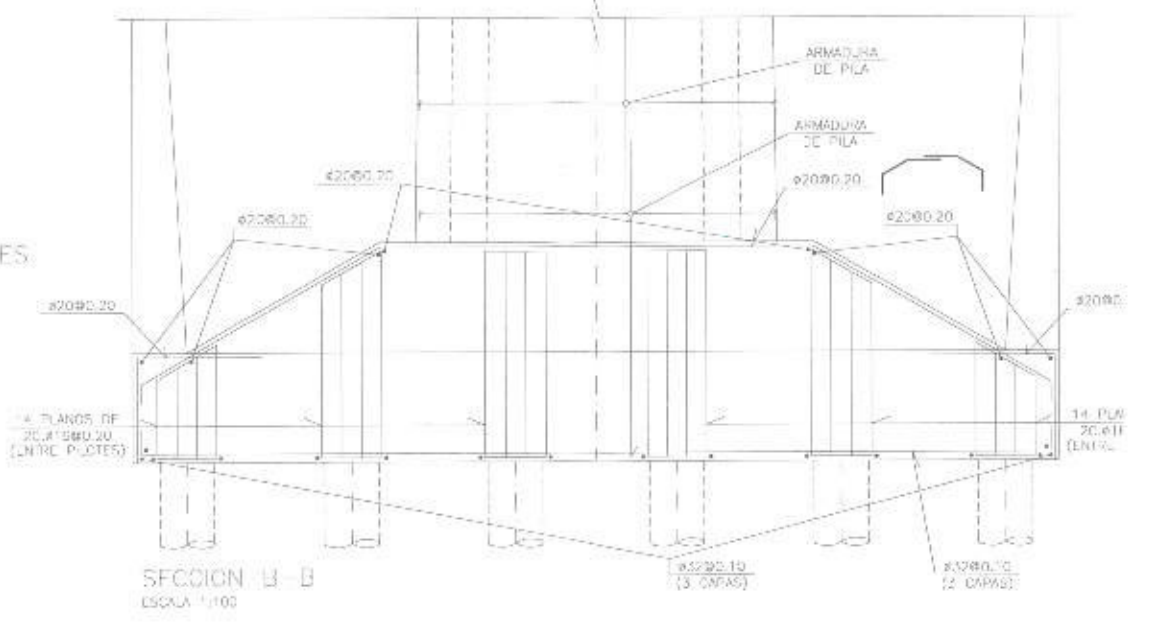
PLANTA INTERIOR
CIMENTACION PILA 2
ESCALA 1:100



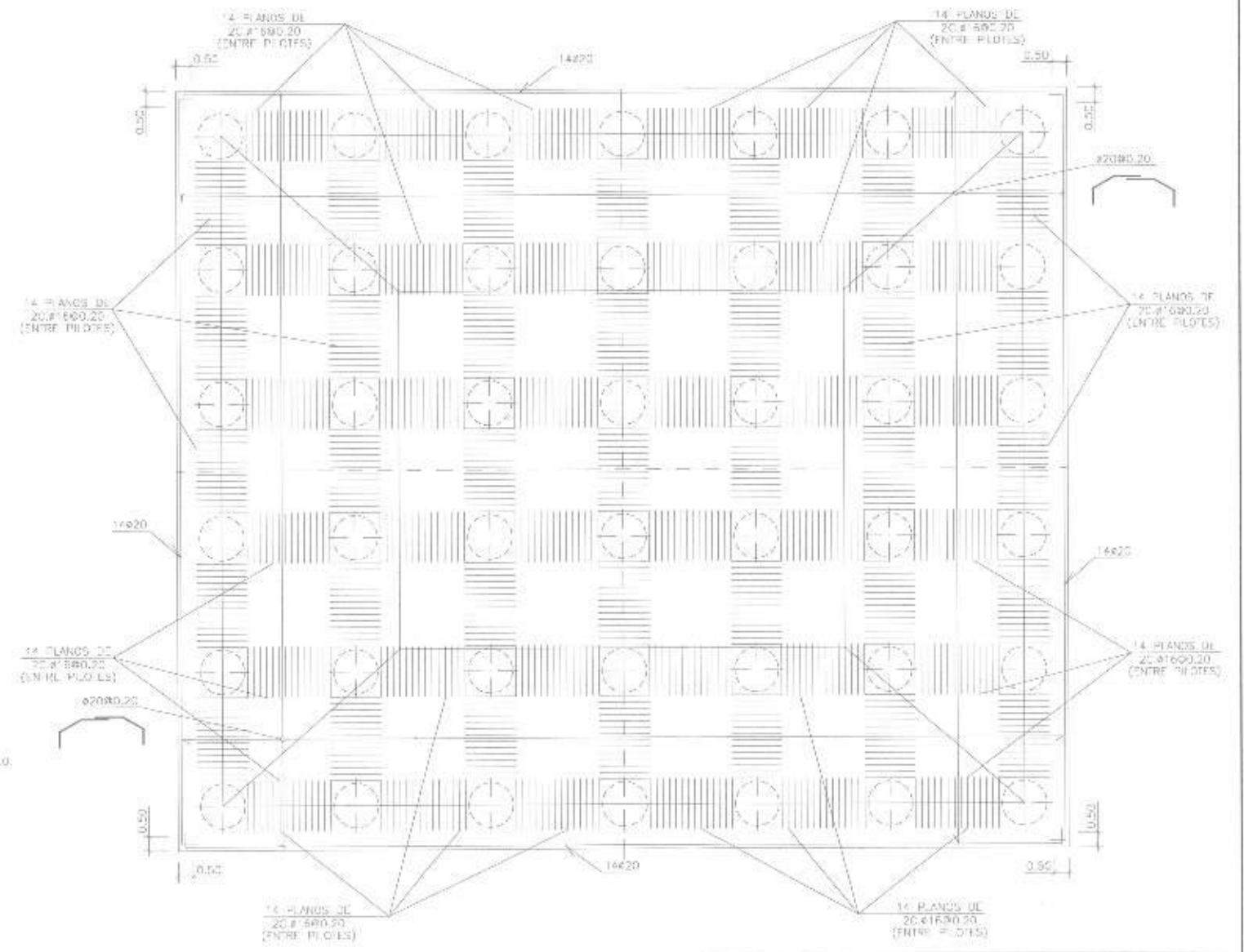
DETALLE CERCOS MÚLTIPLES
5/ESCALA



DETALLE 1
ESCALA 1:100

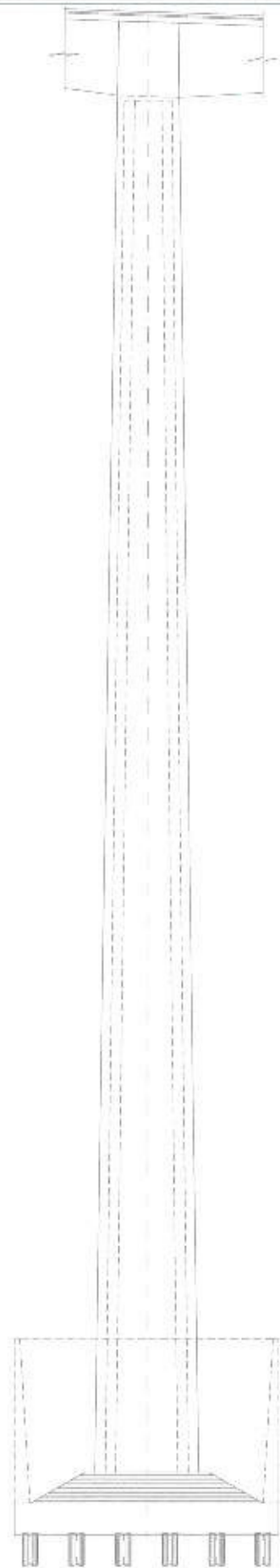


SECCION B-B
ESCALA 1:100

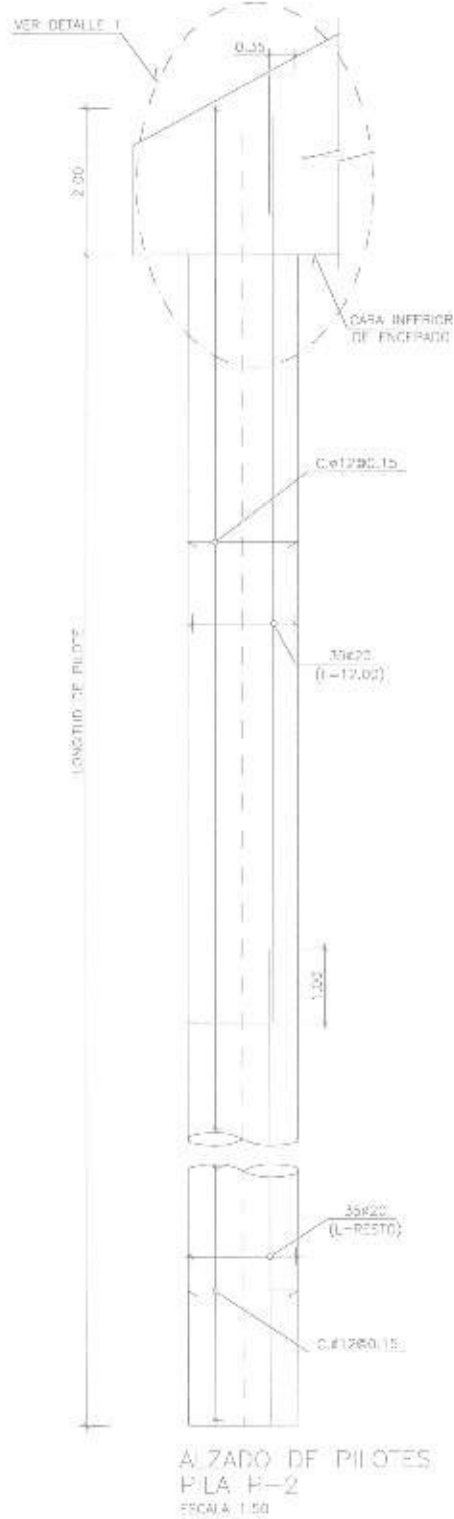


PLANTA SUPERIOR Y DISTRIBUCION
DE CERCOS EN CIMENTACION PILA 2
ESCALA 1:100

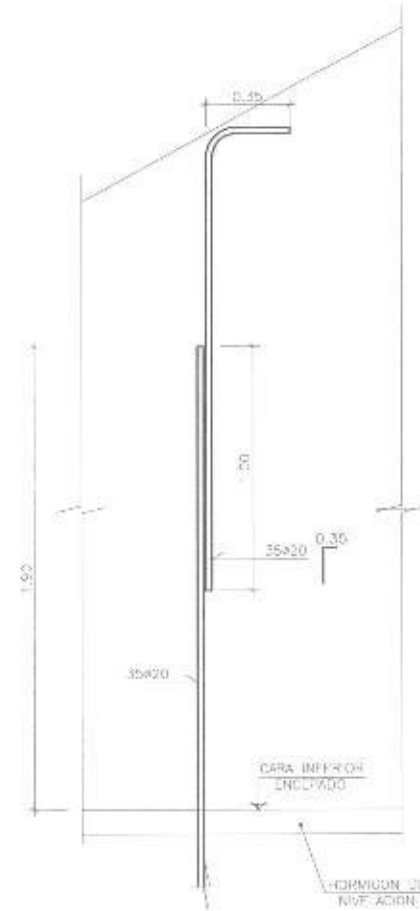
TABLA DE CANTIDADES		ALZADOS COLUMNAS
Concreto armado $f_c=420 \text{ Kg/cm}^2$		13,224.78 m ³
Acero de refuerzo corrugado $f_y=4,200 \text{ Kg/cm}^2$		7,000,245.79 Kg



ALZADO GENERAL PILA P-2
CON 42 PILOTES
ESCALA 1:300



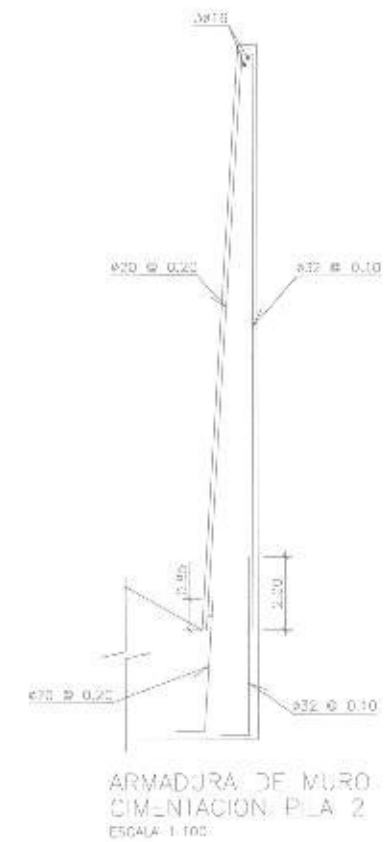
ALZADO DE PILOTES
PILA P-2
ESCALA 1:50



DETALLE 1
ESCALA 1:15



SECCION PILDIL
PILA P-2
ESCALA 1:25



ARMADURA DE MURO
CIMENTACION PILA 2
ESCALA 1:100

NOTAS:

LOS TUBOS A DISPONER PARA LA REALIZACION DEL SONDEO SON DE TIPO SERRA
NEVICOS Y DEL DIAMETRO INDICADO EN LAS SECCIONES DE LOS PILOTES.
SUS EXTREMOS HAN ROSCADOS Y LA UNION DE SUS COMPONENTES SE REALIZA
MEDIANTE MANGUITOS EN AMBOS EXTREMOS SE SITUARAN IMPUNES ROSCADOS.
DURANTE EL MAZO DE LA ARMADURA PARA SU EMPUJAMIENTO SE DEBERAN
EVITAR DEFORMACIONES QUE PUEDAN CAUSAR DAÑOS PERMANENTES
EN LOS TUBOS.

Proceder de modificación con incremento de:

- * Largo de desarrollo de refuerzo 1,50
- * Refuerzo horizontal ubicado de manera que 30 cm de concreto 1,50
- * Fresa se funda por encima de refuerzo, los bar 1,50
- * Otro refuerzo, Refuerzo bar 1,50

Tabla de desarrollo básica en tensión (tracción) [mm]

$f_y = 4200 \text{ kg/cm}^2$

f_c	[mm]										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	800	1150	1500	1850
240	300	300	350	400	450	500	550	600	1050	1400	1750
280	300	300	350	400	450	500	550	600	1000	1350	1650
350	300	300	350	400	450	500	550	600	900	1150	1450
420	300	300	350	400	450	500	550	600	850	1050	1350
500	300	300	350	400	450	500	550	600	750	950	1200

Tabla de traslapes de refuerzo en tensión (tracción) [mm]

$f_y = 4200 \text{ kg/cm}^2$

f_c	[mm]										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	595	690	850	1020	1190	1530	1950	2550	3145
240	510	510	595	680	765	850	935	1105	1445	1785	2075
280	510	510	595	680	765	850	935	1105	1400	1720	2025
350	510	510	595	680	765	850	935	1105	1330	1650	2000
420	510	510	595	680	765	850	935	1105	1360	1780	2280
500	510	510	595	680	765	850	935	1105	1275	1615	2040

Tabla de cantidades ALZADOS COLUMNAS

Concreto clase C-420 kg/cm^3	12.254,78 m^3
Acero de refuerzo corrugado $f_y = 4200 \text{ kg/cm}^2$	7.300,045,79 kg



Empresa Pública Metropolitana
de Movilidad y
Obras Públicas



REVISOR
ING. FERNANDO ROMO
DIRECTOR DE PROYECTOS

REVISOR
ING. FERNANDO ROMO
DIRECTOR DE PROYECTOS

REVISOR
ING. FERNANDO ROMO
DIRECTOR DE PROYECTOS

ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

PUENTE GUAYASAMIN

FILAS
PILOTES PILA 2, ARMADURAS

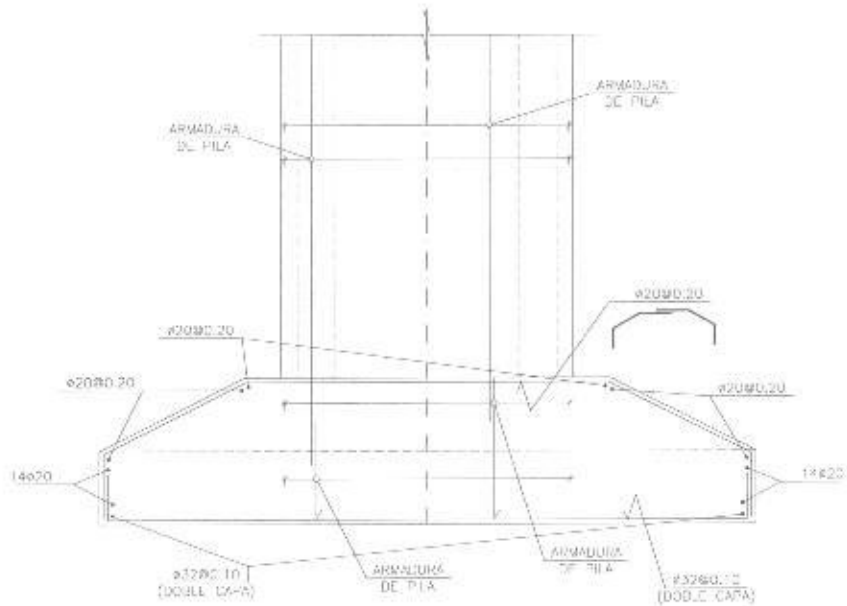
INDICADAS

NOVIEMBRE 2014

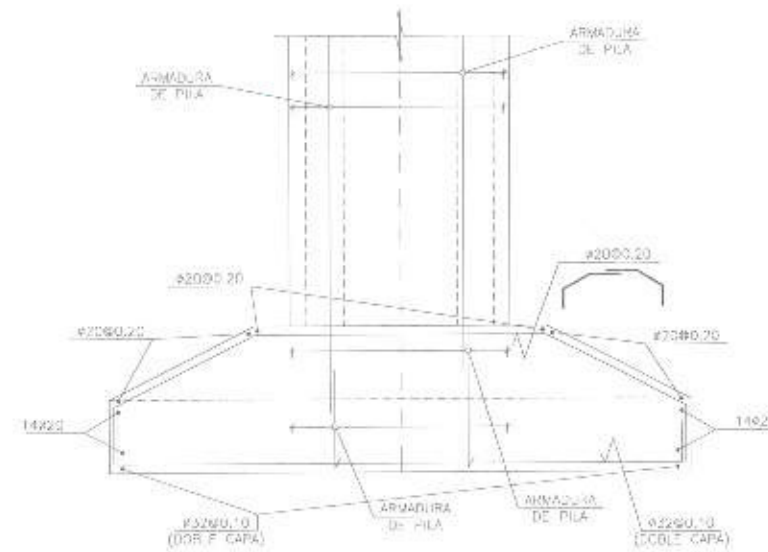
FECHA DE OBTENCION DE DATOS
06.03.11-ENCERADOS ARMADURAS (III)-R/R

FECHA DE DISEÑO
NOVIEMBRE 2014

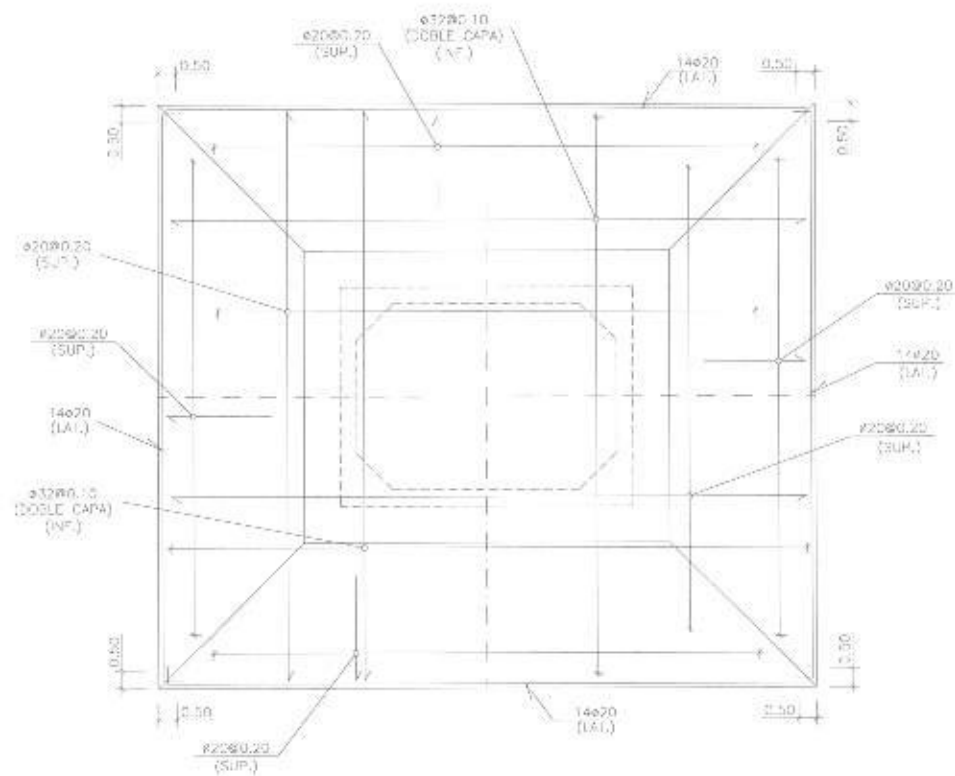
FECHA DE CONSULTA
FERNANDO ROMO CONSULTORES



ALZADO FRONTAL PILA 3
ESCALA 1:100



ALZADO LATERAL PILA 3
ESCALA 1:100



PIANTA CIMENTACION PILA 3
ESCALA 1:100

TABLA DE CANTIDADES ALZADOS COLUMNAS

Refrigerante: $16-420 \text{ Kg/cm}^2$ 12.227,28 m³
 Acero de refuerzo corrugado: $F_y = 4.200 \text{ Kg/cm}^2$ 2.550,045,79 Kg

- Detalles de modificación que incrementen la
- Sección de armadura del refuerzo
- Refuerzo estructural ubicado de manera que 30 cm de espesor fresco se funda por debajo de refuerzo, tal bar
- Otro refuerzo, Baliza, etc.

TABLA Longitud de desarrollo básica en tensión (tracción) (mm)

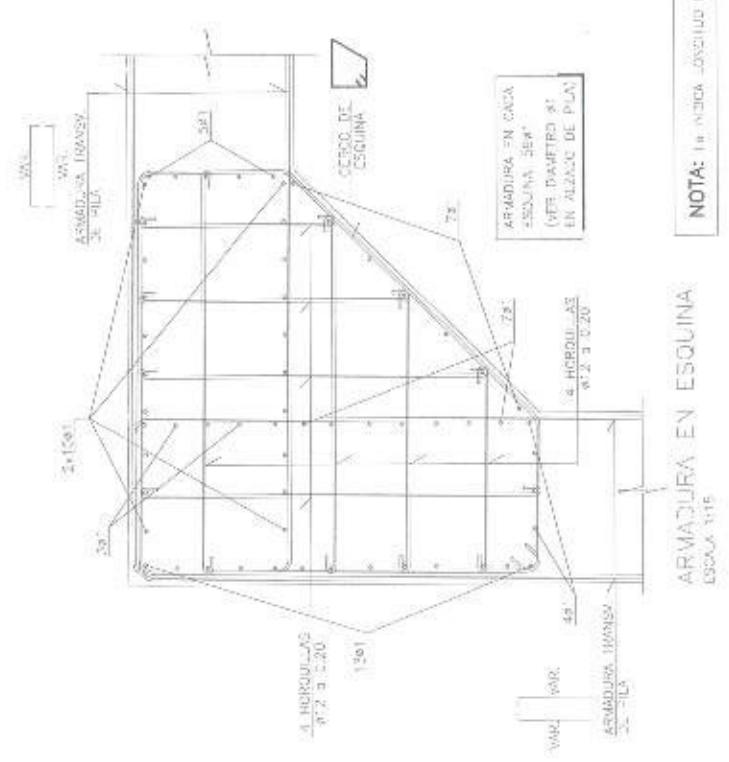
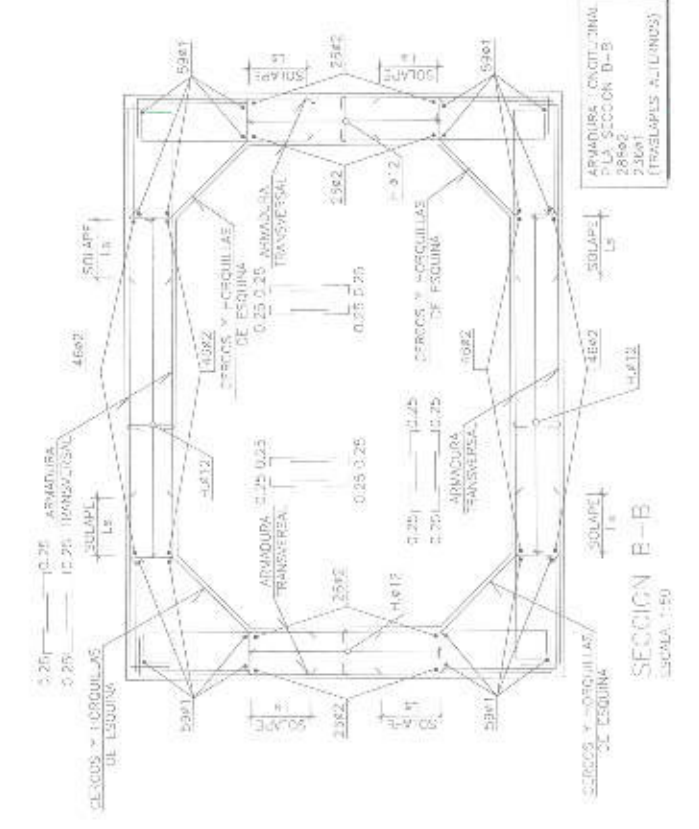
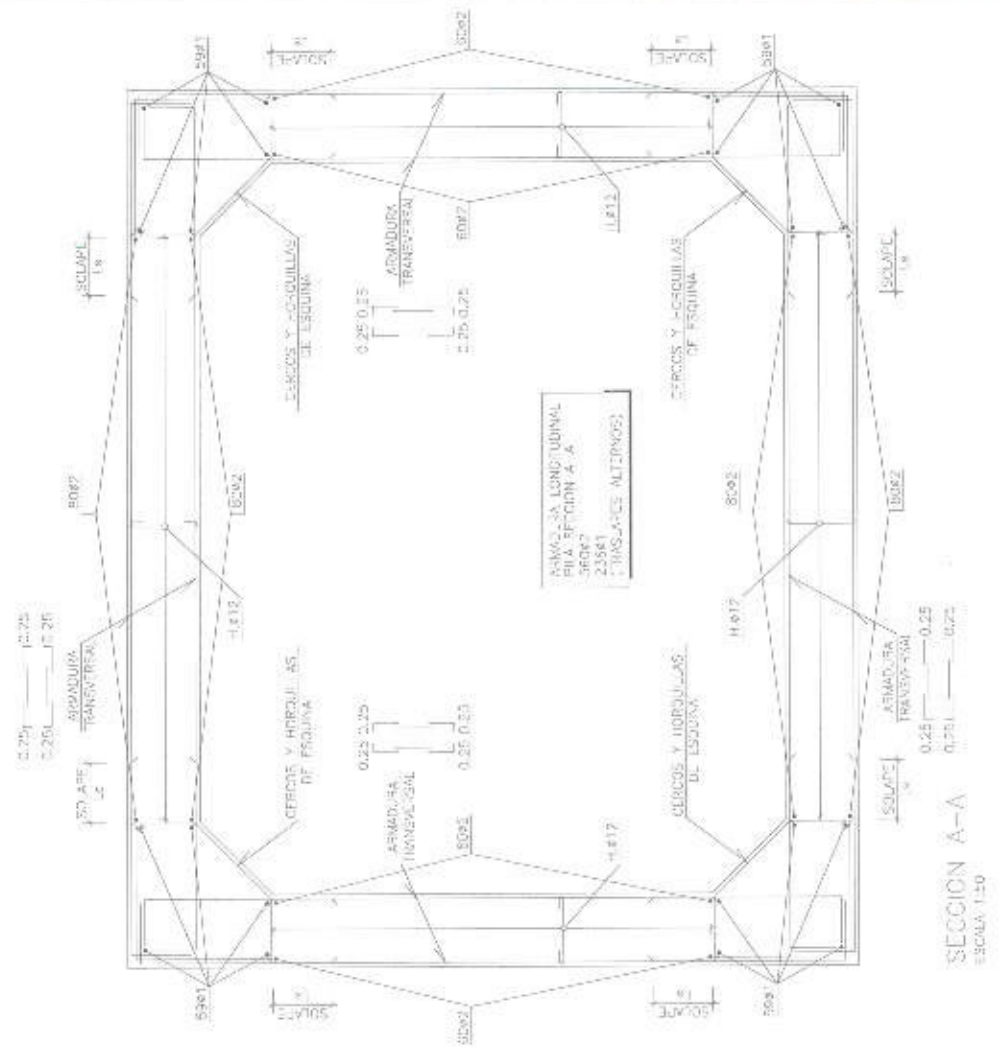
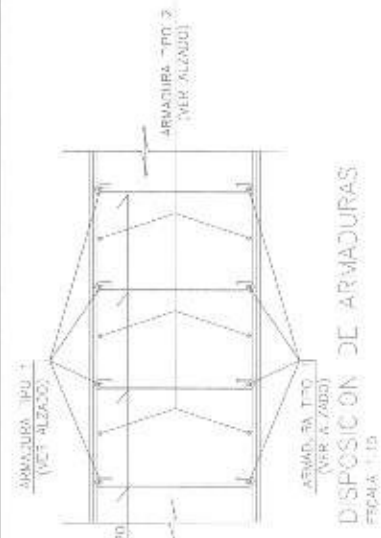
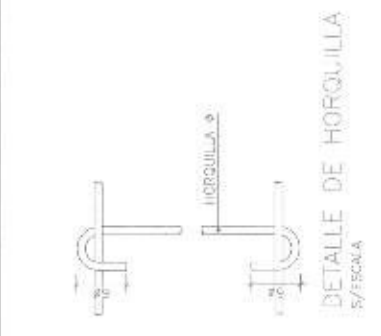
$f_y = 4200 \text{ kg/cm}^2$

f'c (kg/cm ²)	f (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	920	1150	1500	1850
240	300	300	350	400	460	560	660	850	1050	1420	1750
280	300	300	350	400	460	560	660	800	1000	1320	1650
350	300	300	350	400	460	560	660	720	900	1150	1450
420	300	300	350	400	460	560	660	700	850	1050	1350
600	300	300	350	400	460	560	660	650	750	950	1200

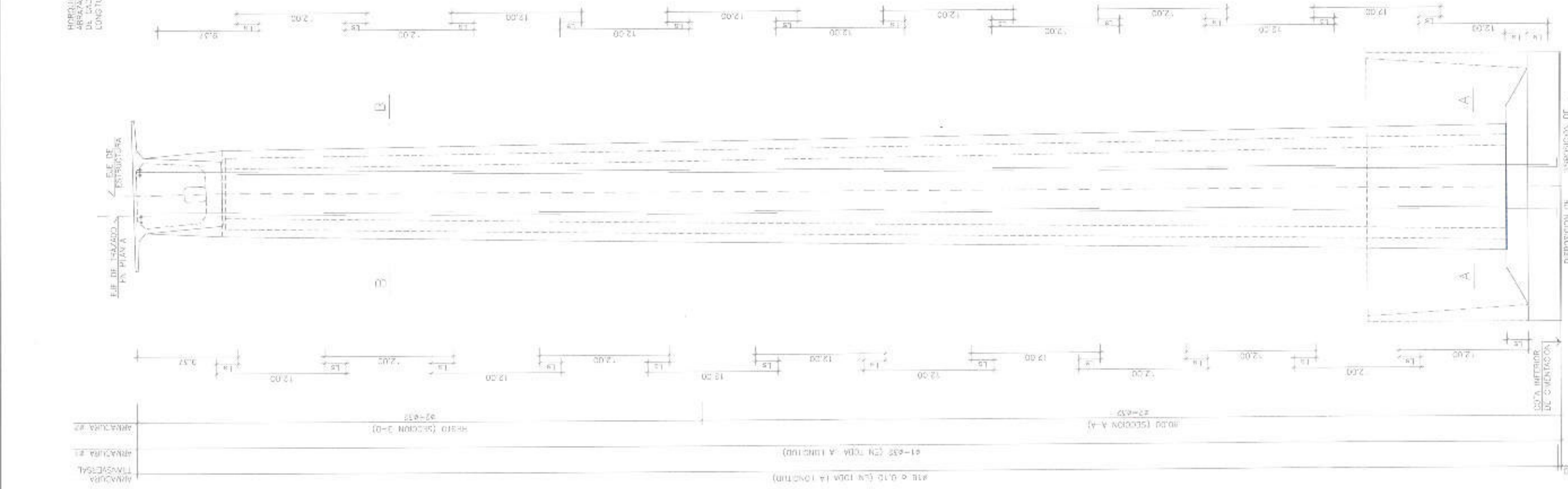
TABLA Traslapes de refuerzo en tensión (tracción) (mm)

$f_y = 4200 \text{ kg/cm}^2$

f'c (kg/cm ²)	f (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	595	680	850	1020	1190	1530	1955	2560	3140
240	510	510	595	680	785	935	1105	1445	1755	2380	2875
280	510	510	595	680	785	860	1020	1360	1700	2210	2605
350	510	510	595	680	785	850	935	1190	1520	1955	2465
420	510	510	595	680	785	850	935	1105	1360	1785	2295
600	510	510	595	680	785	860	935	1105	1275	1615	2060

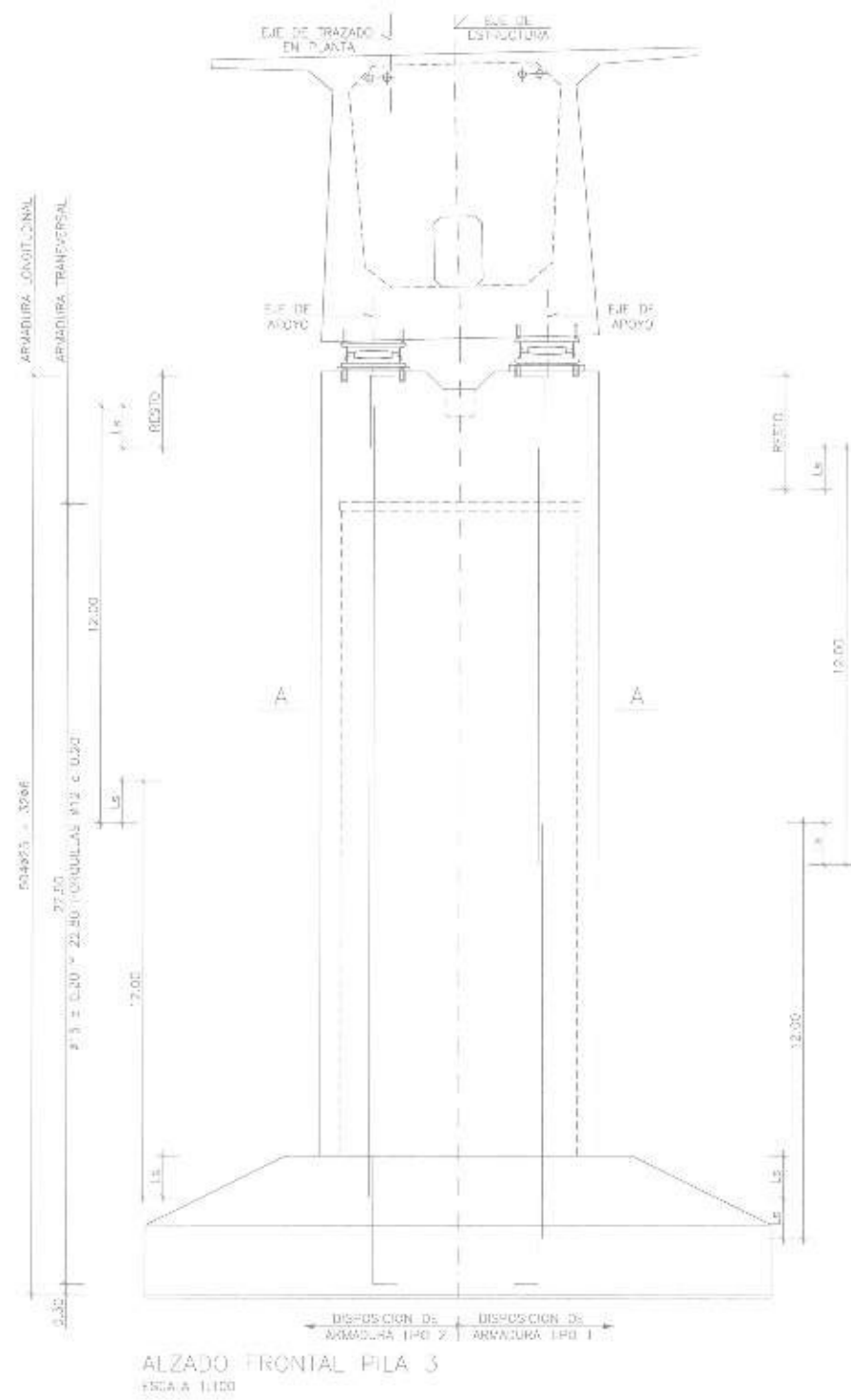


NOTA: Ver Norma Localidad de Traslape



ALZADOS COLUMNAS

12.25-28 #8	12.25-28 #8
Acero de refuerzo suministrado: Py = 4.200 kg/m ²	7.500-045/78 Kg

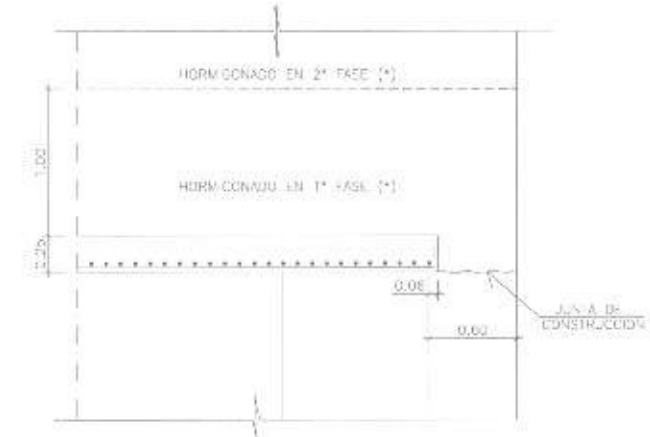


ALZADO FRONTAL PILA 3
ESCALA 1:100

NOTA: L_{tr} INDICA LONGITUD DE TRASLAPE

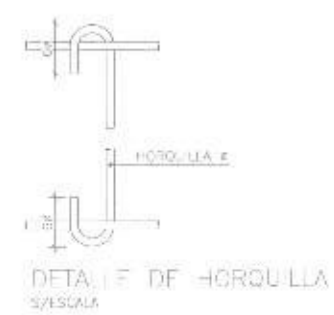


DETALLE JUNTA DE CONSTRUCCION
PARA ARCOYO DE PREFOSA
ESCALA 1:50

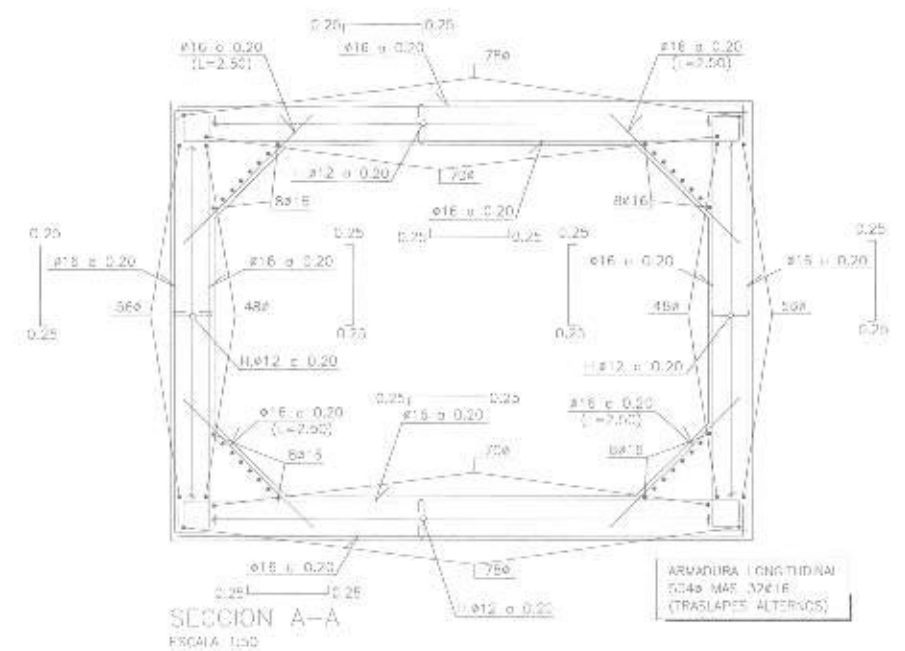


APOYO DE PREFOSA Y
HORMIGONADO CORONACION
ESCALA 1:25

(*) CUANDO EL HORMIGON DE LA PRIMERA FASE
ALCANZA 175 kg/cm² SE PROCEDERA A
HORMIGONAR LA 2ª FASE.



DETALLE DE HORQUILLA
ESCALA 1:5



SECCION A-A
ESCALA 1:50

TABLA DE CANTIDADES ALZADOS COLUMNAS

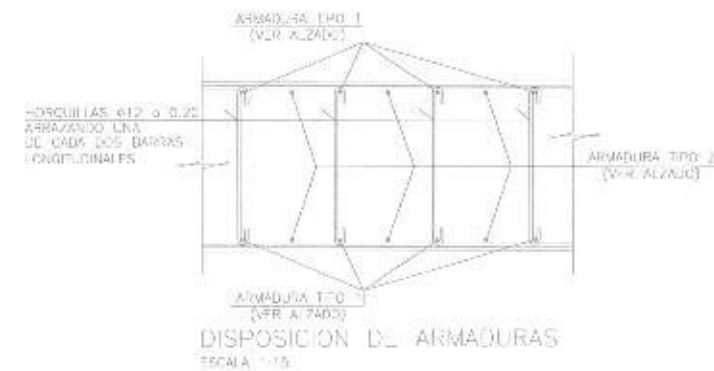
Hormigon simple fcm=420 kg/cm ²	2.224,98 m ³
Acero de refuerzo corrugado fy=4.200 kg/cm ²	2.500,045,76 Kg.

NOTA:
- LOS TRASLAPES DE REFUERZO SE
REALIZARAN DE MANERA ALICATA, DE TAL
MANERA QUE EN NINGUNA SECCION
TRANSVERSAL SE REALICE EL TRASLAPE DE
MAS DEL 50% DEL REFUERZO, A NO SER
QUE SE INDIQUE EXPRESAMENTE OTRA COSA.

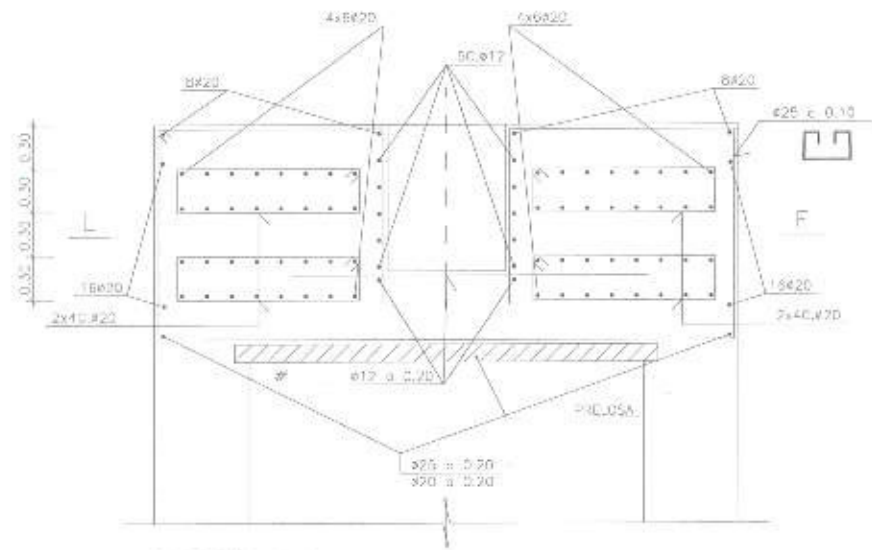
- Factores de modificación que incrementan el:
 - * Factor de utilización del refuerzo 1,40
 - * Fuerza nominal unitaria de manera que 30 cm de concreto 1,40
 - * Traslape se funda por distancia del refuerzo, Top bar 1,20
 - * Otro refuerzo, Bottom bar 1,20

f _c (kg/cm ²)	TABLA. Longitud de desarrollo básica en tensión (tracción) (mm).										
	fy = 4200 kg/cm ²										
	f (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	800	1150	1500	1850
240	300	300	350	400	450	500	650	850	1050	1400	1750
280	300	300	350	400	450	500	600	800	1000	1300	1650
350	300	300	350	400	450	500	550	700	900	1150	1450
420	300	300	350	400	450	500	550	650	800	1050	1350
600	300	300	350	400	450	500	650	850	1100	1450	1800

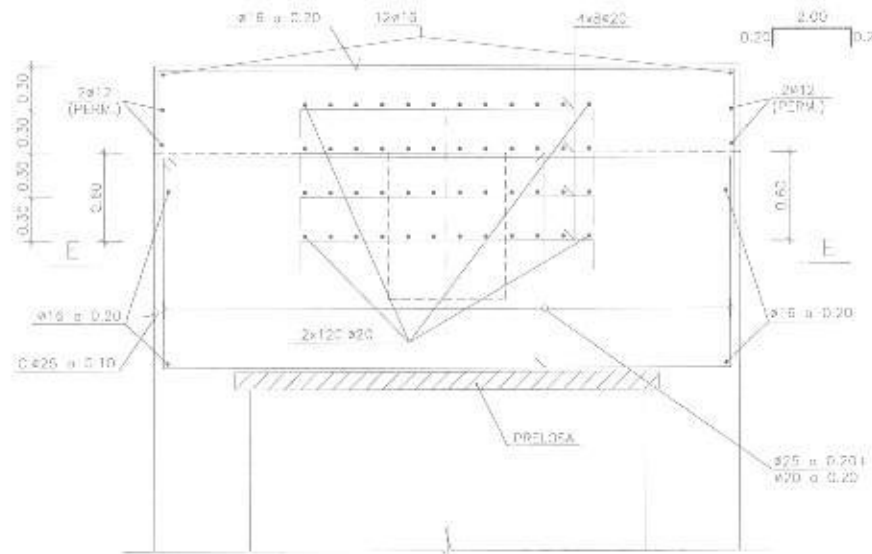
f _c (kg/cm ²)	TABLA. Traslapes de refuerzo en tensión (tracción) (mm).										
	fy = 4200 kg/cm ²										
	f (mm)										
	10	12	14	16	18	20	22	25	28	32	36
Traslape clase C											
210	510	510	595	680	850	1020	1190	1530	1955	2550	3145
240	510	510	595	680	785	905	1105	1445	1785	2380	2975
280	510	510	595	680	785	890	1070	1380	1700	2210	2805
350	510	510	595	680	785	850	935	1100	1500	1955	2455
420	510	510	595	680	785	850	935	1105	1390	1785	2295
600	510	510	595	680	785	850	935	1105	1275	1615	2040



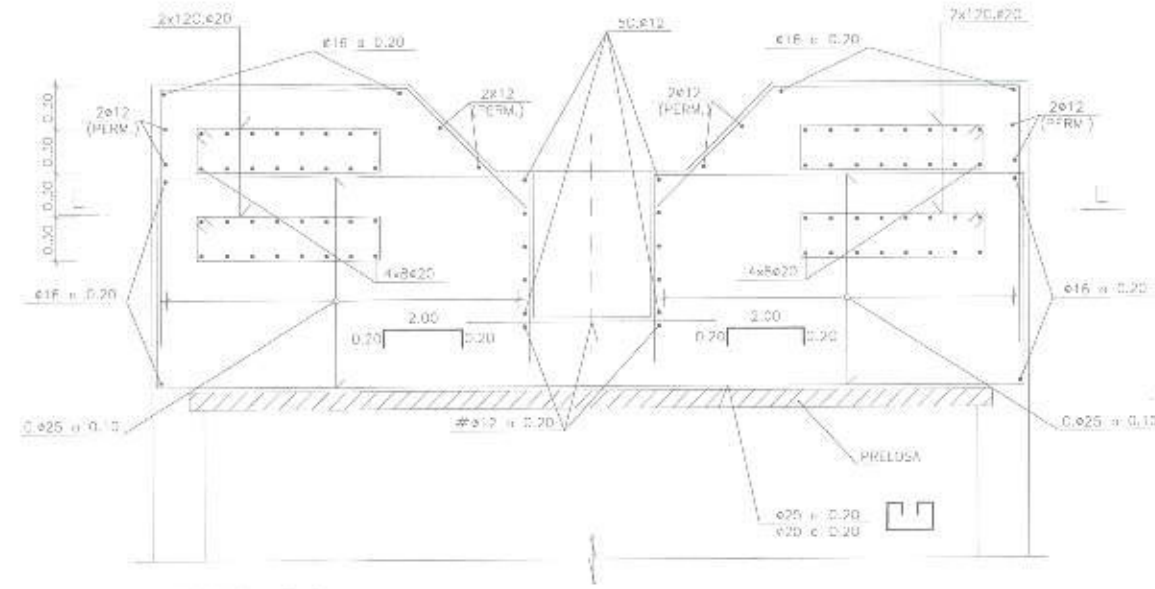
DISPOSICION DE ARMADURAS
ESCALA 1:15



SECCION A-A
ESCALA 1:25

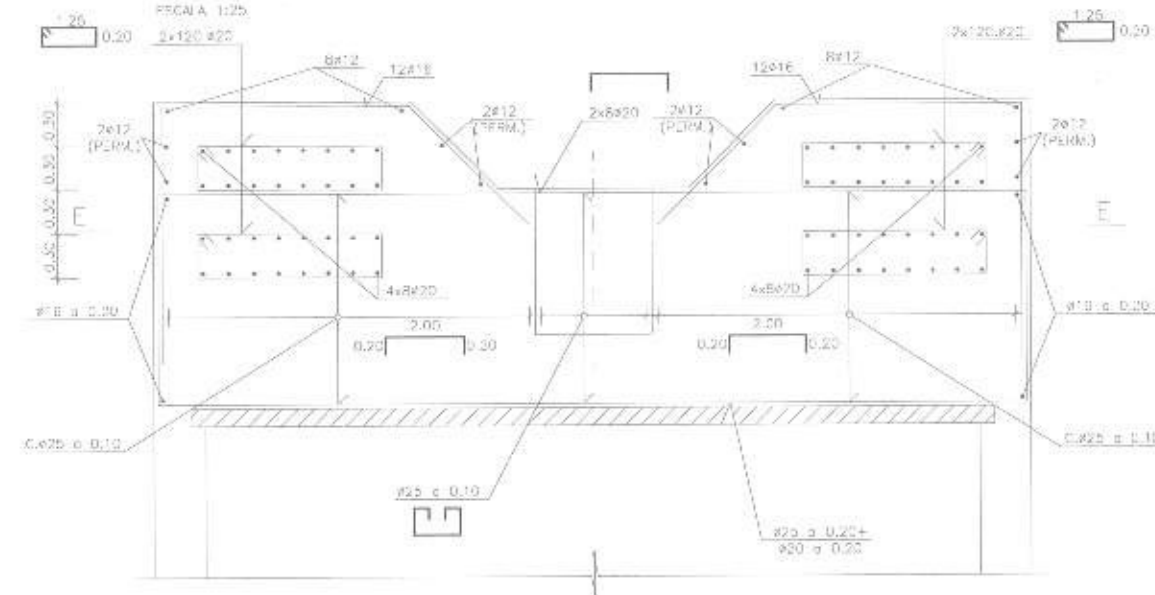


SECCION C-C
ESCALA 1:25



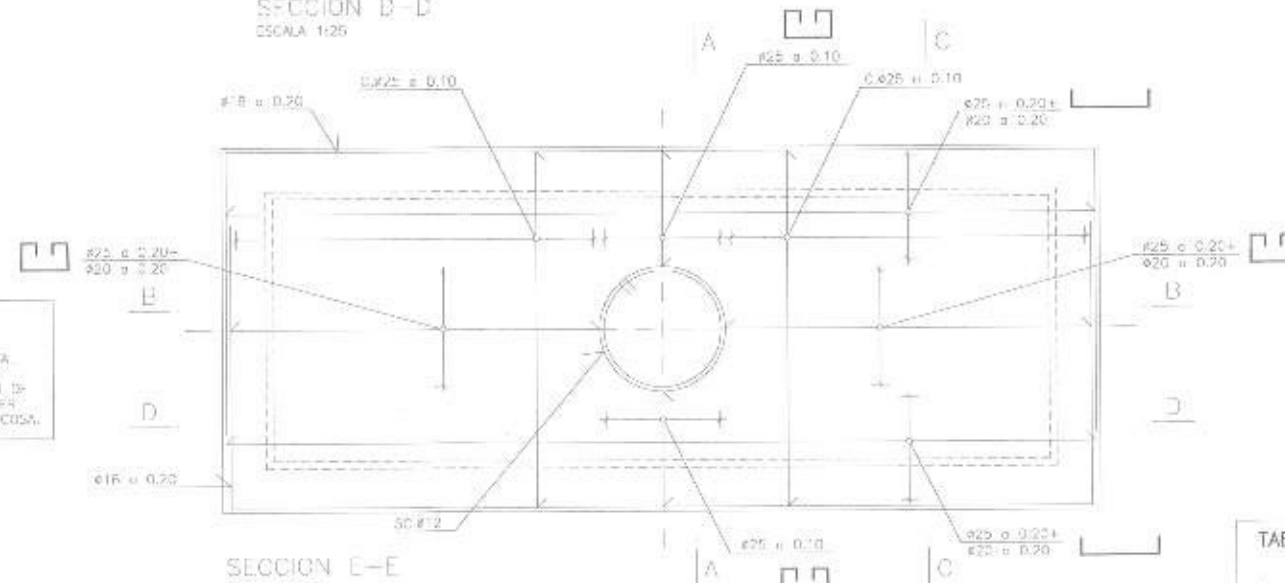
SECCION B-B

ESCALA 1:25



SECCION D-D

ESCALA 1:25



SECCION E-E

ESCALA 1:25

- Factores de modificación que incrementan el factor de colocación del refuerzo
- Refuerzo horizontal inferior de muros, con 30 cm de concreto fresco de fondo por debajo del refuerzo Top bar
- Circ. refuerzo, Bottom bar

Tabla de desarrollo básica en función d (tracción) (mm).
fy = 4200 kg/cm²

F _c (kg/cm ²)	d (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	500	700	800	1150	1500	1850
240	300	300	350	400	450	550	650	850	1200	1400	1750
280	300	300	350	400	450	500	600	800	1100	1300	1650
350	300	300	350	400	450	500	550	700	900	1100	1450
420	300	300	350	400	450	500	550	650	800	1000	1350
600	300	300	350	400	450	500	550	650	750	900	1200

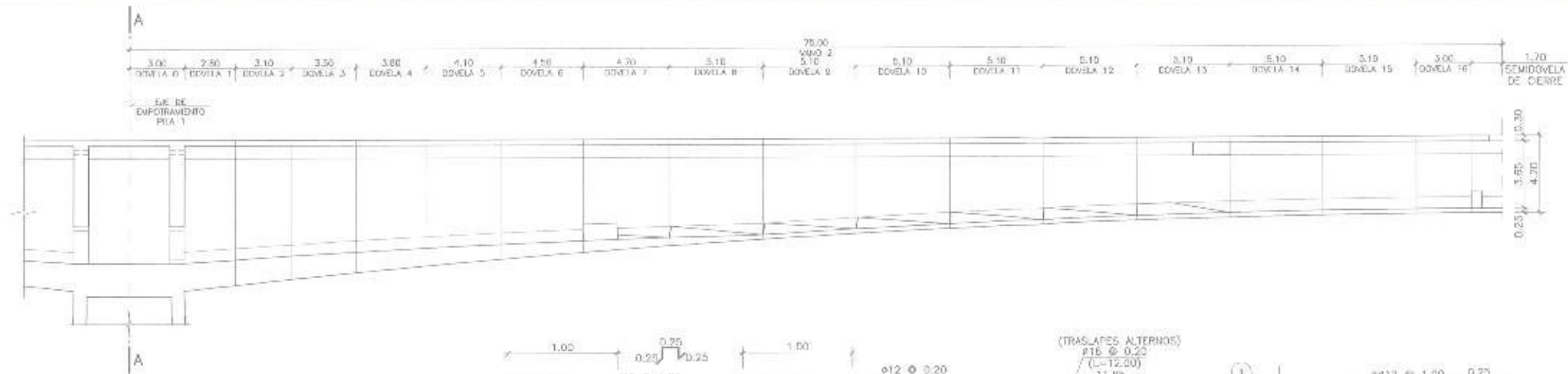
Tabla de traslapes de refuerzo en tracción (tracción) (mm).
fy = 4200 kg/cm²

F _c (kg/cm ²)	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	595	680	850	1020	1190	1530	1950	2550	3145
240	510	510	595	680	765	935	1105	1445	1785	2380	2975
280	510	510	595	680	765	950	1020	1350	1700	2210	2805
350	510	510	595	680	765	850	935	1160	1530	1955	2465
420	510	510	595	680	765	850	935	1105	1380	1795	2295
600	510	510	595	680	765	850	935	1105	1275	1615	2065

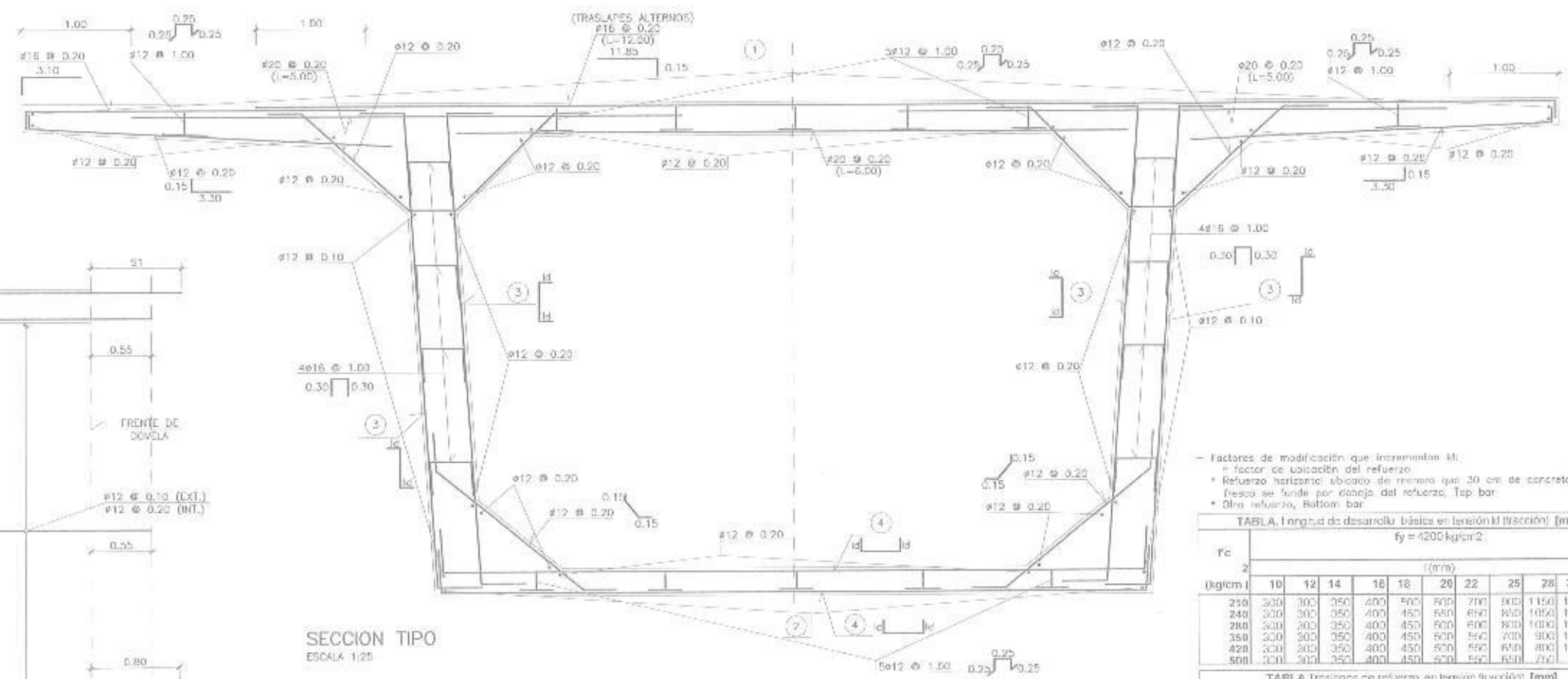
NOTA:
- LOS TRASLAPES DE REFUERZO SE REALIZARAN DE MANERA ALTERNIA DE LA MANERA QUE EN NINGUNA SECCION TRANSVERSAL SE REALICE EL TRASLAPADO MAS DEL 50% DEL REFUERZO, A NO SER QUE SE INDIQUE EXPRESAMENTE OTRA COSA.

Tabla de cantidades ALZADOS COLUMNAS

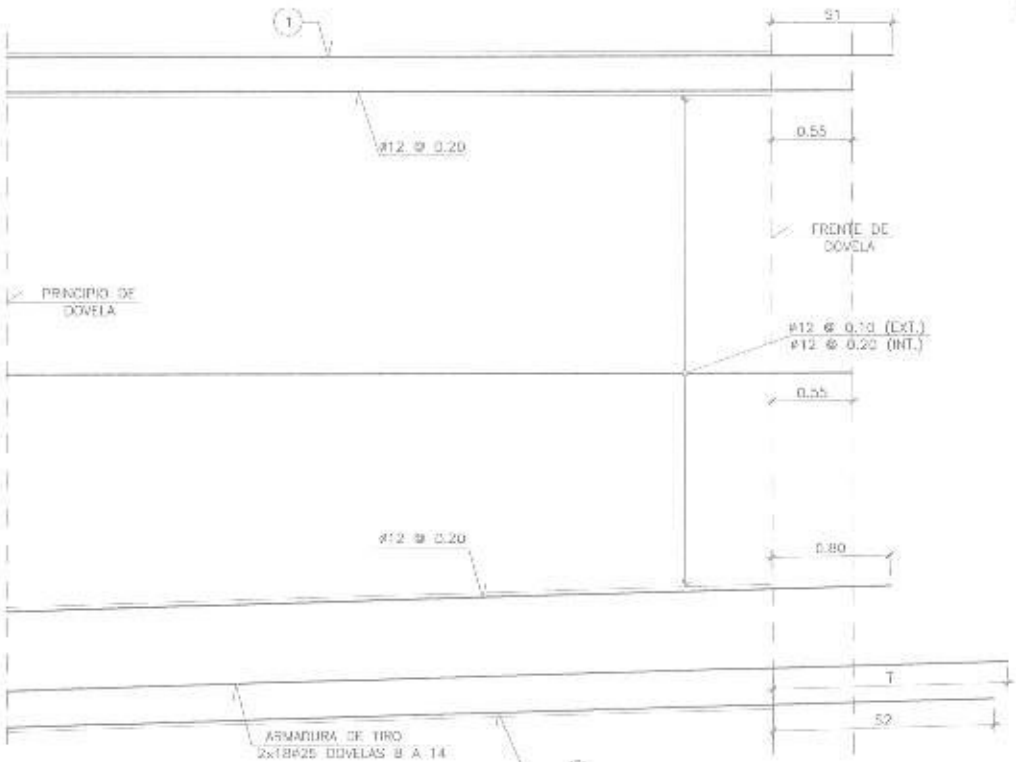
Hormigon simple f _c = 420 kg/cm ²	12,224,28 m ³
Acero de refuerzo corrugado fy = 4200 kg/cm ²	2,500,015,75 Kg



SECCION LONGITUDINAL SEMI-VANO 2
ESQUEMA DE DOVELAS
ESCALA 1:150



SECCION TIPO
ESCALA 1:25



ESQUEMA DE ARMADURA LONGITUDINAL
ESCALA 1:25

- Factores de modificación que incrementan k_1
- Factor de ubicación del refuerzo: 1.40
- Refuerzo horizontal ubicado de manera que 30 cm se concrete fresco se funda por debajo del refuerzo, Top bar: 1.00
- Otro refuerzo, Bottom bar: 1.00

TABLA. Longitud de desarrollo básica en tensión k_1 (tracción) [mm]

$f_y = 4200 \text{ kg/cm}^2$

f_c	f (mm)										
(kg/cm ²)	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	800	1150	1500	1650
240	300	300	350	400	450	500	600	800	1050	1400	1750
280	300	300	350	400	450	500	600	800	1000	1300	1650
350	300	300	350	400	450	500	600	700	900	1150	1450
420	300	300	350	400	450	500	600	650	800	1050	1350
500	300	300	350	400	450	500	600	650	700	950	1200

TABLA. Traspases de refuerzo en tensión (tracción) [mm]

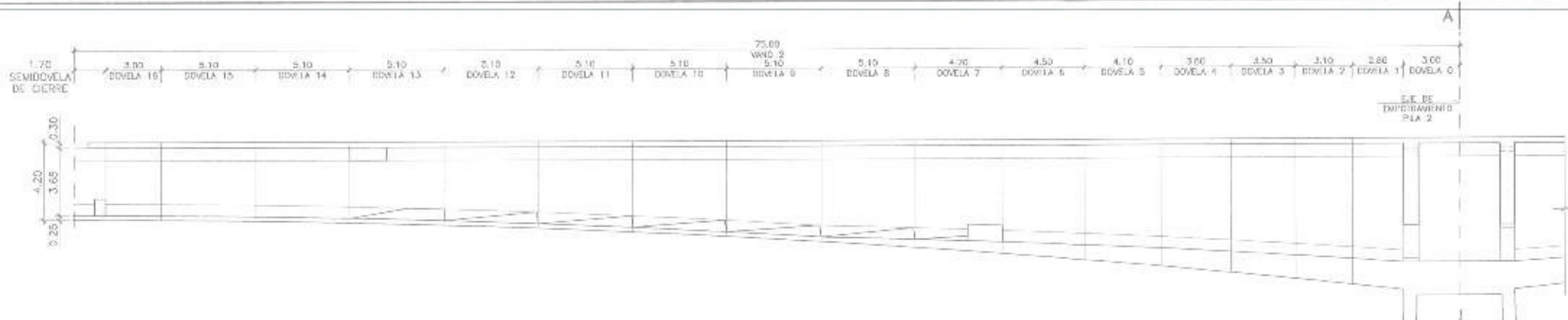
$f_y = 4200 \text{ kg/cm}^2$

f_c	f (mm)										
(kg/cm ²)	10	12	14	16	18	20	22	25	28	32	36
Traspase class C											
210	510	510	600	680	850	1020	1150	1550	1850	2500	2140
240	510	510	600	680	780	900	1100	1440	1780	2380	2070
280	510	510	600	680	760	880	1070	1360	1700	2210	2000
350	510	510	600	680	760	850	930	1190	1530	1980	2450
420	510	510	600	680	760	850	930	1100	1360	1780	2290
500	510	510	600	680	760	850	930	1100	1275	1610	2060

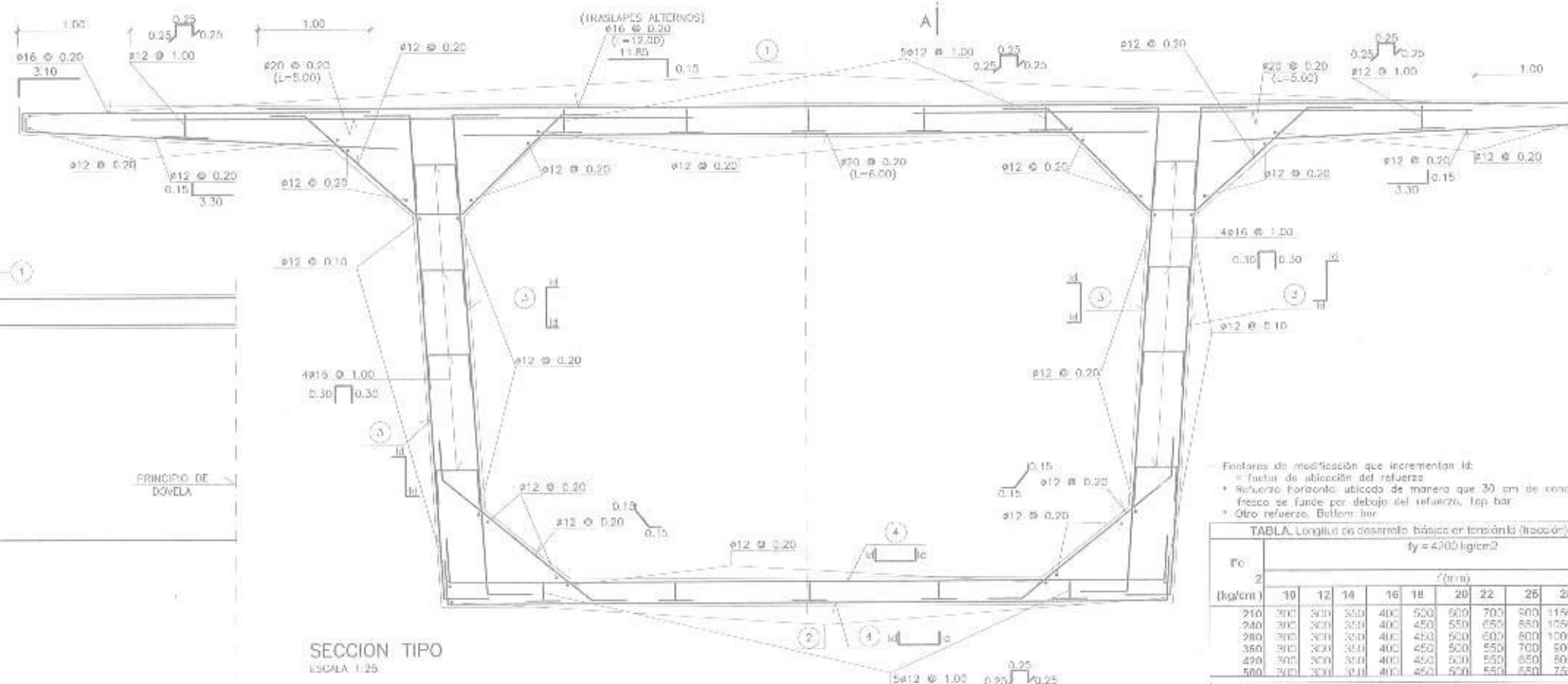
NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N°2 DEL CAPITULO 1.

CUADRO DE ARMADURAS

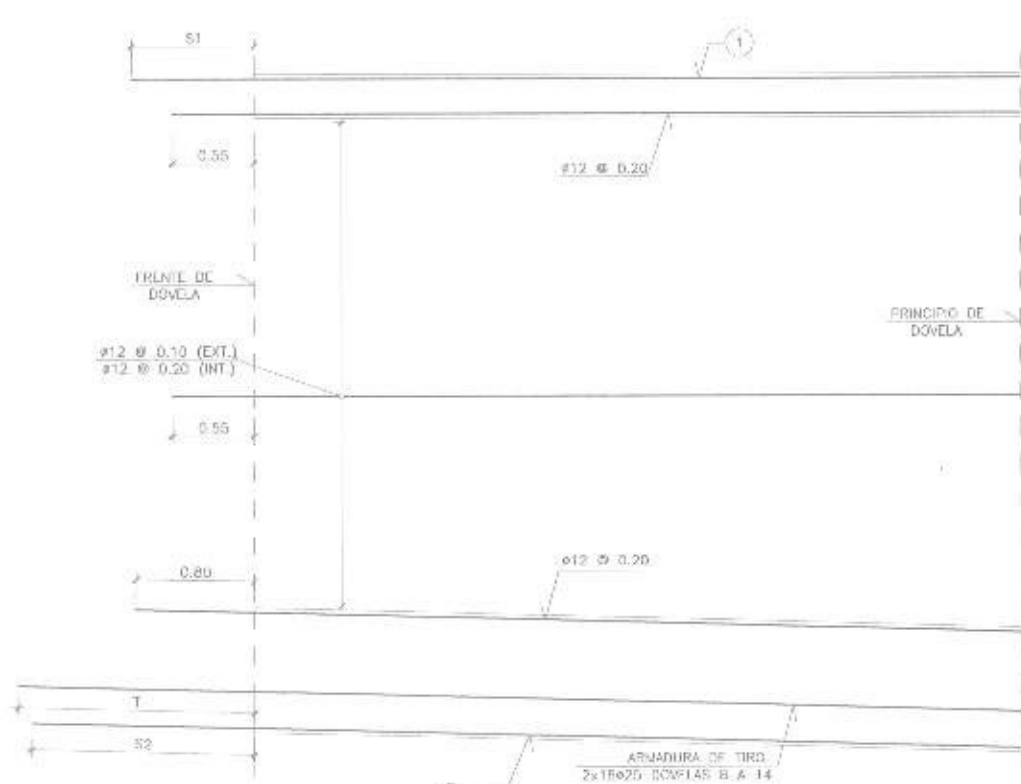
DOVELA	1 Y 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	CIERRE
ARMADURA	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
1	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
2	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
3	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+	#20 @ 0.10+
4	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20
S1 [m]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
S2 [m]	0.70	0.70	0.70	0.70	0.72	0.70	0.70	0.85	1.15	1.15	0.85	0.70	0.70	0.70	0.70	0.70
T [m]	-	-	-	-	-	-	1.60	1.60	1.60	1.60	1.60	1.60	2.50	-	-	-



SECCION LONGITUDINAL SEMI-VANO 2
ESQUEMA DE DOVELAS
ESCALA 1:150



SECCION TIPO
ESCALA 1:25



ESQUEMA DE ARMADURA LONGITUDINAL
ESCALA 1:25

- Factor de utilización del refuerzo 1,40
- Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funde por debajo del refuerzo. Top bar 1,00
- Otro refuerzo, Bottom bar 1,00

Tabla Longitud de concreto básica en tensión (tracción) (mm)

$f_y = 4200 \text{ kg/cm}^2$

f_c (kg/cm ²)	10	12	14	16	18	20	22	25	28	32	36
210	300	300	300	300	400	500	600	700	800	1150	1650
240	300	300	300	300	400	450	550	650	850	1050	1750
280	300	300	300	300	400	450	500	600	800	1000	1650
360	300	300	300	300	400	450	500	550	700	800	1450
420	300	300	300	300	400	450	500	550	650	800	1350
500	300	300	300	300	400	450	500	550	650	750	1200

Tabla Traslapes de refuerzo en tensión (tracción) (mm)

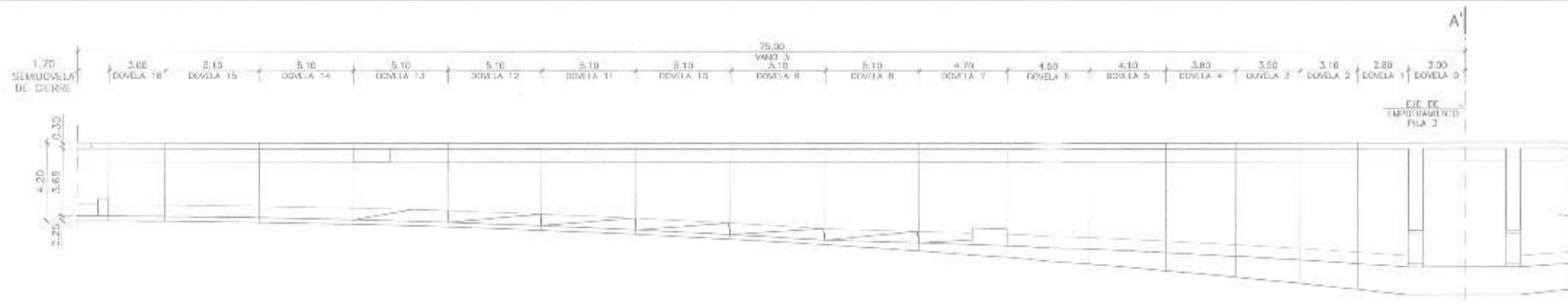
$f_y = 4200 \text{ kg/cm}^2$

f_c (kg/cm ²)	10	12	14	16	18	20	22	25	28	32	36
210	510	510	595	680	850	1070	1180	1630	1955	2550	3145
240	510	510	595	680	765	935	1105	1445	1785	2380	2975
280	510	510	595	680	765	850	1020	1360	1700	2210	2805
360	510	510	595	680	765	850	935	1180	1520	1955	2450
420	510	510	595	680	765	850	935	1105	1360	1795	2295
500	510	510	595	680	765	850	935	1105	1270	1615	2040

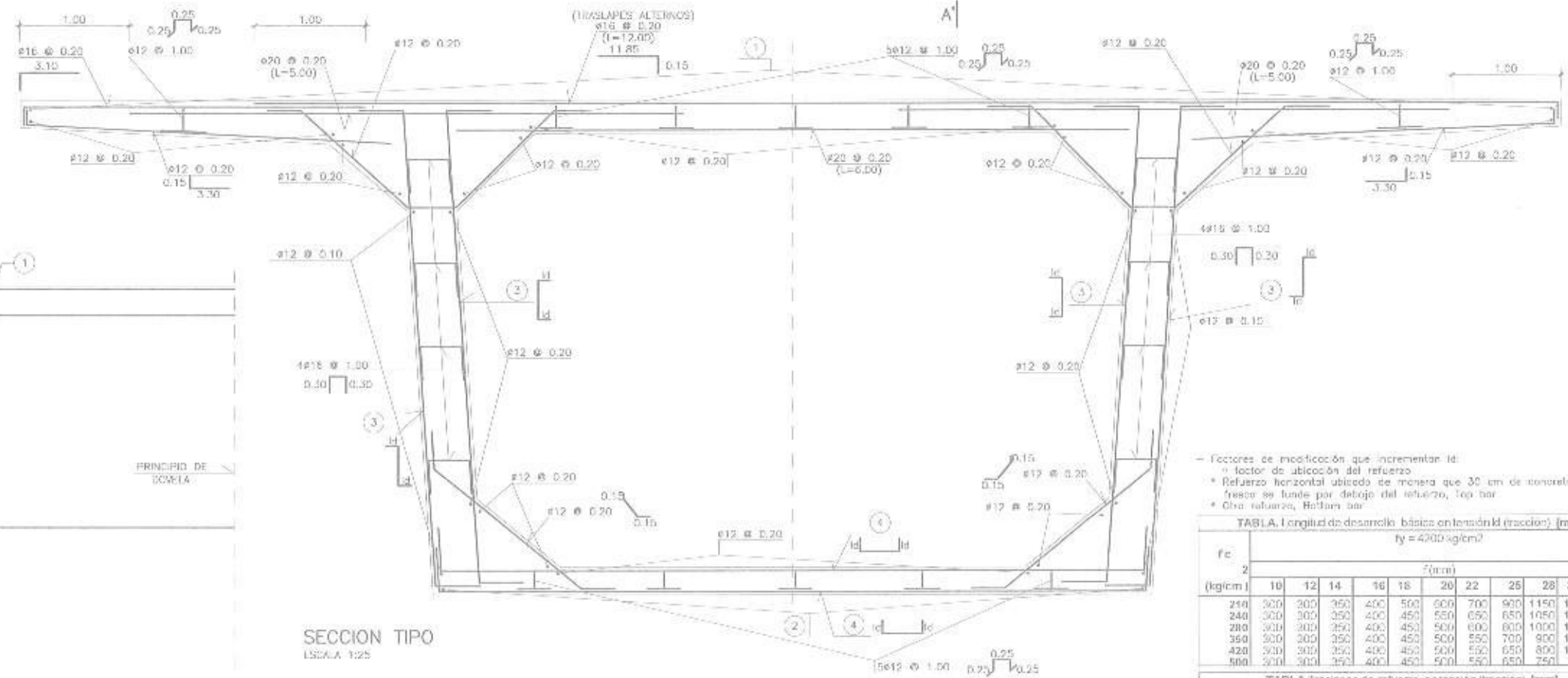
NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N°2 DEL CAPITULO I.

CUADRO DE ARMADURAS

DOVELA	1 Y 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	BIERRE
1	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
2	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.10	#20 @ 0.10	#25 @ 0.10	#25 @ 0.10	#20 @ 0.10	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
3	#25 @ 0.10 #15 @ 0.20	#20 @ 0.10+ #16 @ 0.20	#20 @ 0.10+ #16 @ 0.20	#20 @ 0.10+ #16 @ 0.20	#20 @ 0.10+ #16 @ 0.20	#20 @ 0.10+ #16 @ 0.20	#25 @ 0.10+ #15 @ 0.40	#25 @ 0.10+ #15 @ 0.40	#20 @ 0.10+ #12 @ 0.40	#20 @ 0.10+ #12 @ 0.40	#25 @ 0.10+ #12 @ 0.40	#25 @ 0.10+ #12 @ 0.40	#15 @ 0.10+ #12 @ 0.40	#16 @ 0.10+ #12 @ 0.40	#16 @ 0.10+ #12 @ 0.40	#20 @ 0.20+ #12 @ 0.40
4	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
S1[m]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
S2[m]	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.85	1.15	1.15	0.85	0.70	0.70	0.70	0.70	0.70
T[m]	-	-	-	-	-	-	1.60	1.60	1.60	1.60	1.60	1.60	2.50	-	-	-



SECCION LONGITUDINAL SEMI-VANO 3
ESQUEMA DE DOVELAS
ESCALA 1:150



SECCION TIPO
ESCALA 1:25

- Factores de modificación que incrementan f_d :
 - * Factor de ubicación del refuerzo: 1.40
 - * Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funde por debajo del refuerzo, Top bar: 1.00
 - * Otro refuerzo, Refuerzo bar: 1.00

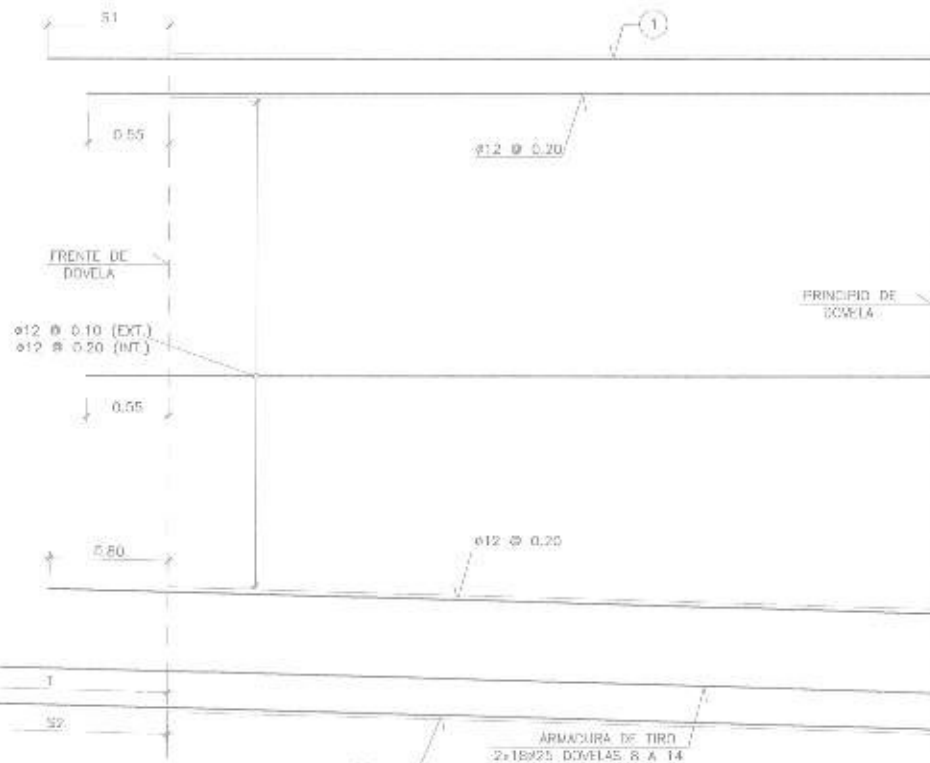
TABLA. Longitud de desarrollo básica en tracción (f_d) (mm)

f_c (kg/cm ²)	$f_y = 4200 \text{ kg/cm}^2$										
	f_d (mm)										
2	10	12	14	16	18	20	22	25	28	32	36
240	300	300	350	400	500	600	700	900	1150	1500	1800
240	300	300	350	400	450	550	650	850	1050	1400	1700
280	300	300	350	400	450	500	600	800	1000	1300	1600
360	300	300	350	400	450	500	550	700	900	1150	1450
420	300	300	350	400	450	500	550	650	800	1050	1350
500	300	300	350	400	450	500	550	650	750	950	1200

TABLA. Traslapes de refuerzo en tracción (tracción) (mm)

f_c (kg/cm ²)	$f_y = 4200 \text{ kg/cm}^2$										
	f_d (mm)										
2	10	12	14	16	18	20	22	25	28	32	36
210	510	510	595	680	800	1020	1190	1520	1950	2550	3145
240	510	510	595	680	765	935	1105	1440	1785	2340	2915
280	510	510	595	680	765	850	1020	1360	1700	2210	2805
360	510	510	595	680	765	850	935	1100	1350	1955	2465
420	510	510	595	680	765	850	935	1100	1350	1785	2285
500	510	510	595	680	765	850	935	1100	1350	1610	2080

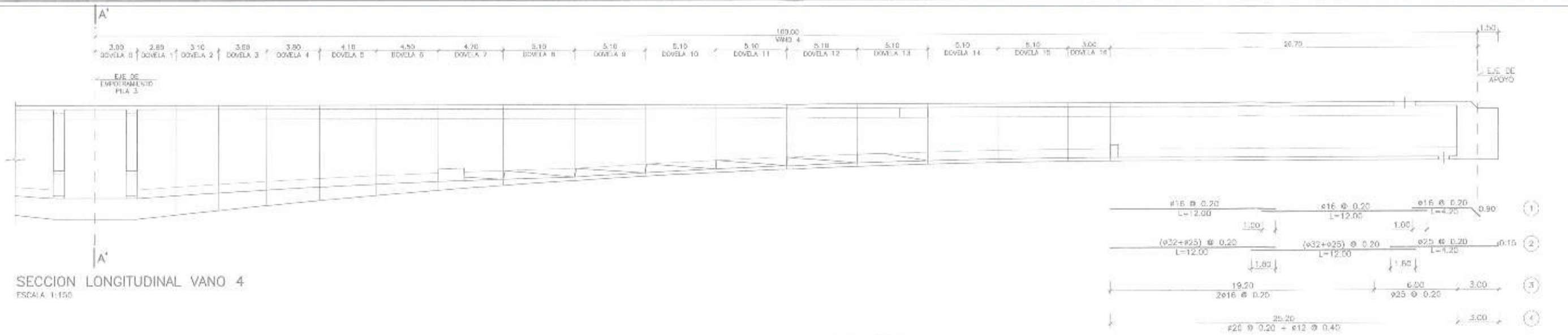
NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N°2 DEL CAPITULO 1.



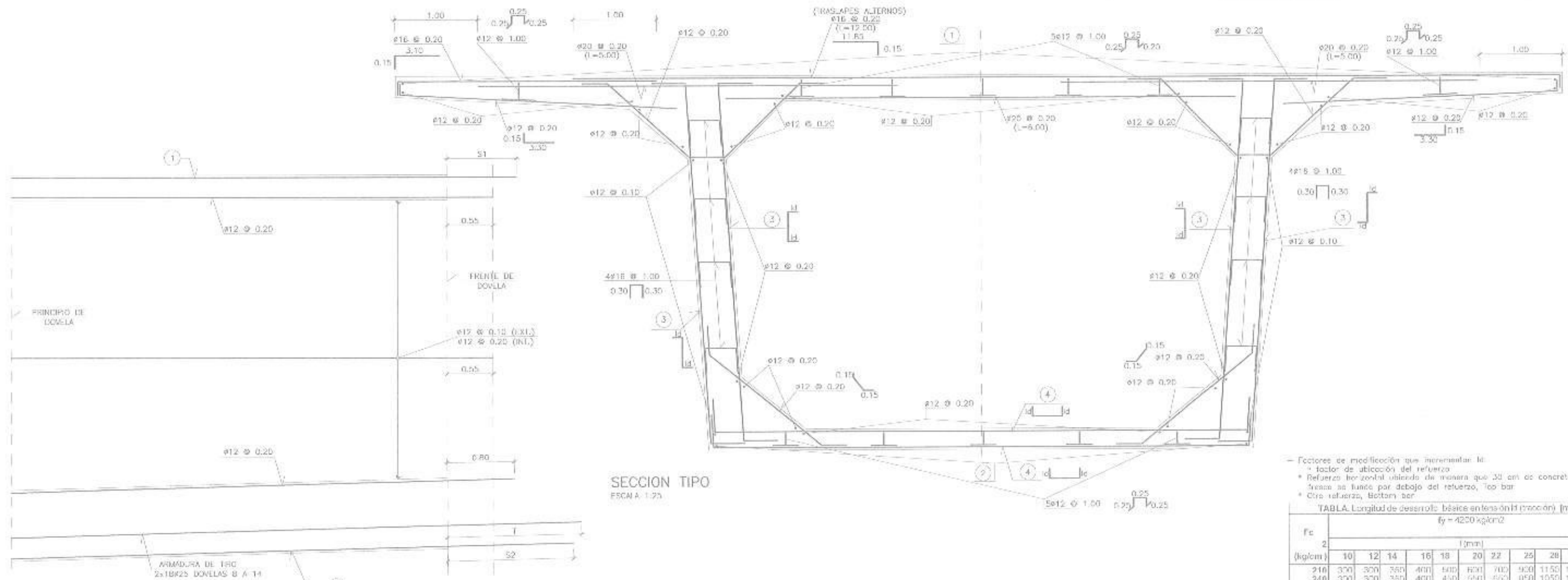
ESQUEMA DE ARMADURA LONGITUDINAL
ESCALA 1:25

CUADRO DE ARMADURAS

DOVELA	1 Y 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	CIERRE
1	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
2	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#20 @ 0.10	#25 @ 0.10	#20 @ 0.10	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
3	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#25 @ 0.20	#25 @ 0.20	#16 @ 0.10	#16 @ 0.10	#20 @ 0.20
4	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#12 @ 0.40	#12 @ 0.40	#12 @ 0.40	#12 @ 0.40	#12 @ 0.40
S1 [m]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
S2 [m]	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.85	1.15	1.15	0.85	0.70	0.70	0.70	0.70	0.70
l [m]	-	-	-	-	-	-	1.60	1.60	1.50	1.50	1.60	1.60	2.50	-	-	-



SECCION LONGITUDINAL VANO 4
ESCALA: 1:150



SECCION TIPO
ESCALA: 1:25

ESQUEMA DE ARMADURA LONGITUDINAL
ESCALA: 1:25

CUADRO DE ARMADURAS

DOVELA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ARMADURA	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
1	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
2	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10	#20 @ 0.10
3	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20	#16 @ 0.20
4	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20	#25 @ 0.20
S1[m]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
S2[m]	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.85	1.15	1.15	0.85	0.70	0.70	0.70	0.70
T[m]	-	-	-	-	-	-	-	1.60	1.60	1.60	1.60	1.60	1.60	2.20	-	-

NOTA:
VER ESPECIFICACIONES TECNICAS DE
MATERIALES EN HOJA Nº2 DEL CAPITULO I

Factores de modificación que incrementan k_d :

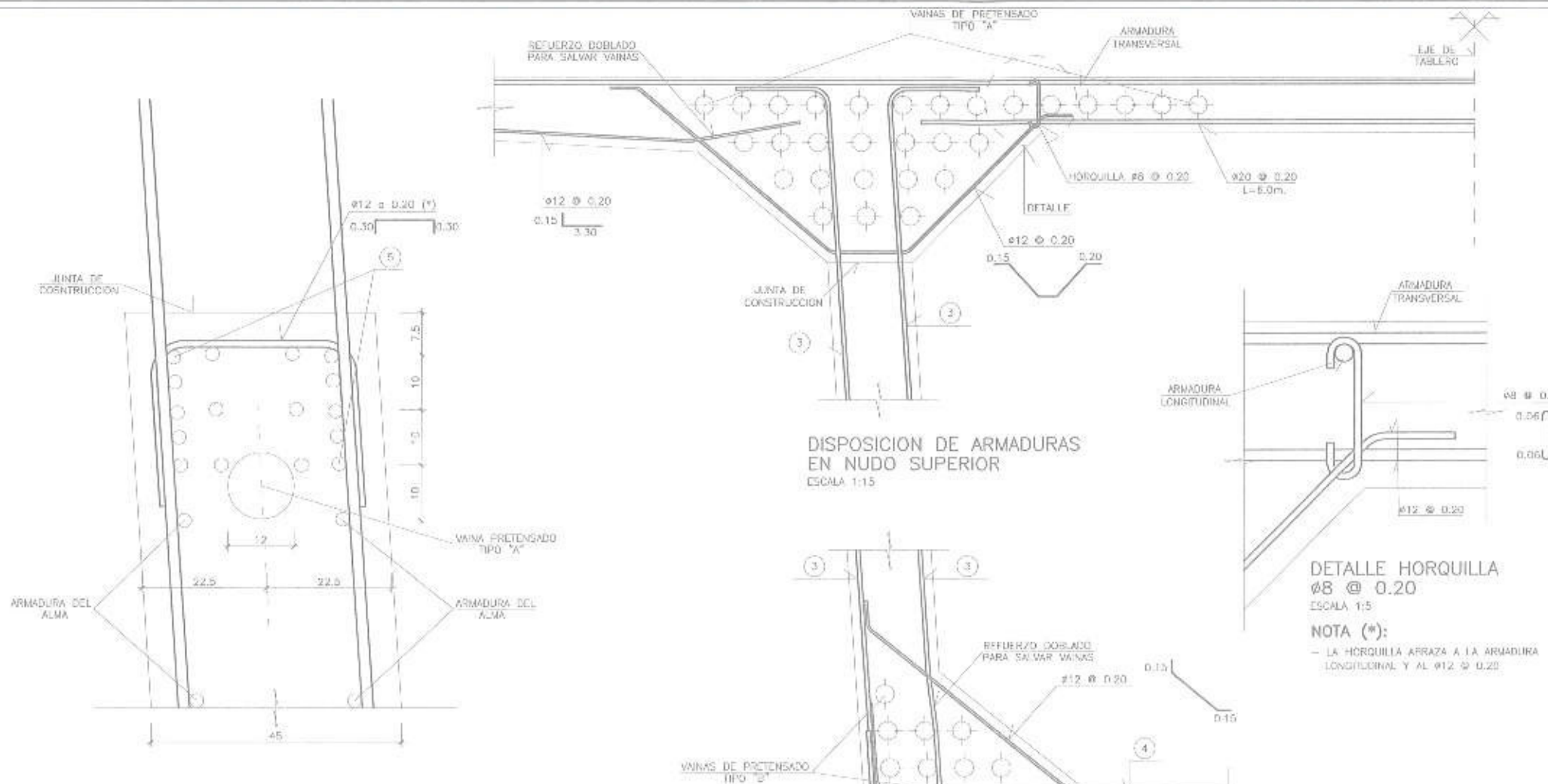
- Factor de ubicación del refuerzo: 1.40
- Refuerzo horizontal utilizado de manera que sea en concreto: 1.40
- Acera en función por debajo del refuerzo, "top bar": 1.00
- Otro refuerzo, Bottom bar: 1.00

TABLA Longitud de desarrollo: básica en tensión ($f_{tracción}$) (mm).

F _c	f _y = 4250 kg/cm ²										
	l (mm)										
(kg/cm ²)	10	12	14	16	18	20	22	25	28	32	36
210	370	370	370	400	430	430	430	430	430	430	430
240	370	370	370	400	430	430	430	430	430	430	430
280	370	370	370	400	430	430	430	430	430	430	430
350	370	370	370	400	430	430	430	430	430	430	430
420	370	370	370	400	430	430	430	430	430	430	430
600	370	370	370	400	430	430	430	430	430	430	430

TABLA Traspases de refuerzo: en tensión ($f_{tracción}$) (mm).

F _c	f _y = 4200 kg/cm ²										
	l (mm)										
(kg/cm ²)	10	12	14	16	18	20	22	25	28	32	36
210	610	610	610	660	660	660	660	660	660	660	660
240	610	610	610	660	660	660	660	660	660	660	660
280	610	610	610	660	660	660	660	660	660	660	660
350	610	610	610	660	660	660	660	660	660	660	660
420	610	610	610	660	660	660	660	660	660	660	660
600	610	610	610	660	660	660	660	660	660	660	660



DETALLE DISPOSICION REFUERZO #5 EN VANOS 1 Y 3
ESCALA 1:5
(COTAS EN cm.)
NOTA (*):
- ESTA ARMADURA SE INTERRUMPIRA AL PASO DE LAS VAINAS TIPO "A".

DISPOSICION DE ARMADURAS EN NUDO INFERIOR
ESCALA 1:15

ARMADURA DE CARTELA INFERIOR EN LOSA ≥ 40cm
ESCALA 1:15

- Refuerzo de inclinación que incrustan en el factor de colocación del refuerzo. 1,40
- * Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funde por debajo del refuerzo. Top bar 1,00
- * Otro refuerzo, Bottom bar 1,00

TABLA Longitud de desarrollo básica en tensión (tracción) (mm)

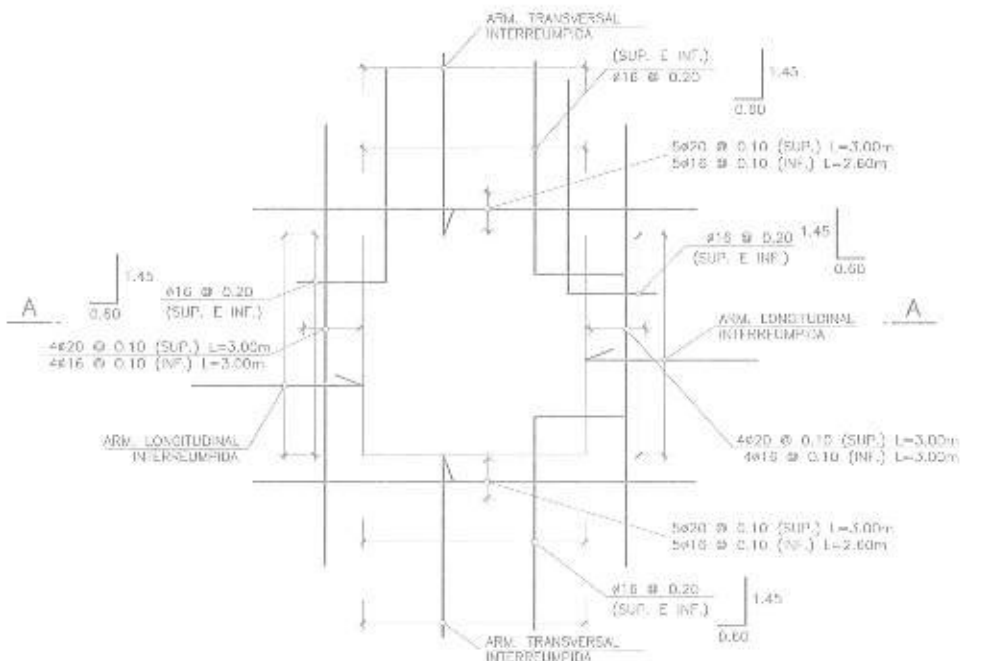
f _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	(mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	307	307	350	400	450	500	550	600	650	700	750
240	307	307	350	400	450	500	550	600	650	700	750
280	307	307	350	400	450	500	550	600	650	700	750
360	307	307	350	400	450	500	550	600	650	700	750
420	307	307	350	400	450	500	550	600	650	700	750
600	307	307	350	400	450	500	550	600	650	700	750

TABLA Traslapes de refuerzo en tensión (tracción) (mm)

f _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	(mm)										
	10	12	14	16	18	20	22	25	28	32	36
Traslape clase C											
210	510	510	595	680	765	850	935	1020	1105	1190	1275
240	510	510	595	680	765	850	935	1020	1105	1190	1275
280	510	510	595	680	765	850	935	1020	1105	1190	1275
360	510	510	595	680	765	850	935	1020	1105	1190	1275
420	510	510	595	680	765	850	935	1020	1105	1190	1275
600	510	510	595	680	765	850	935	1020	1105	1190	1275

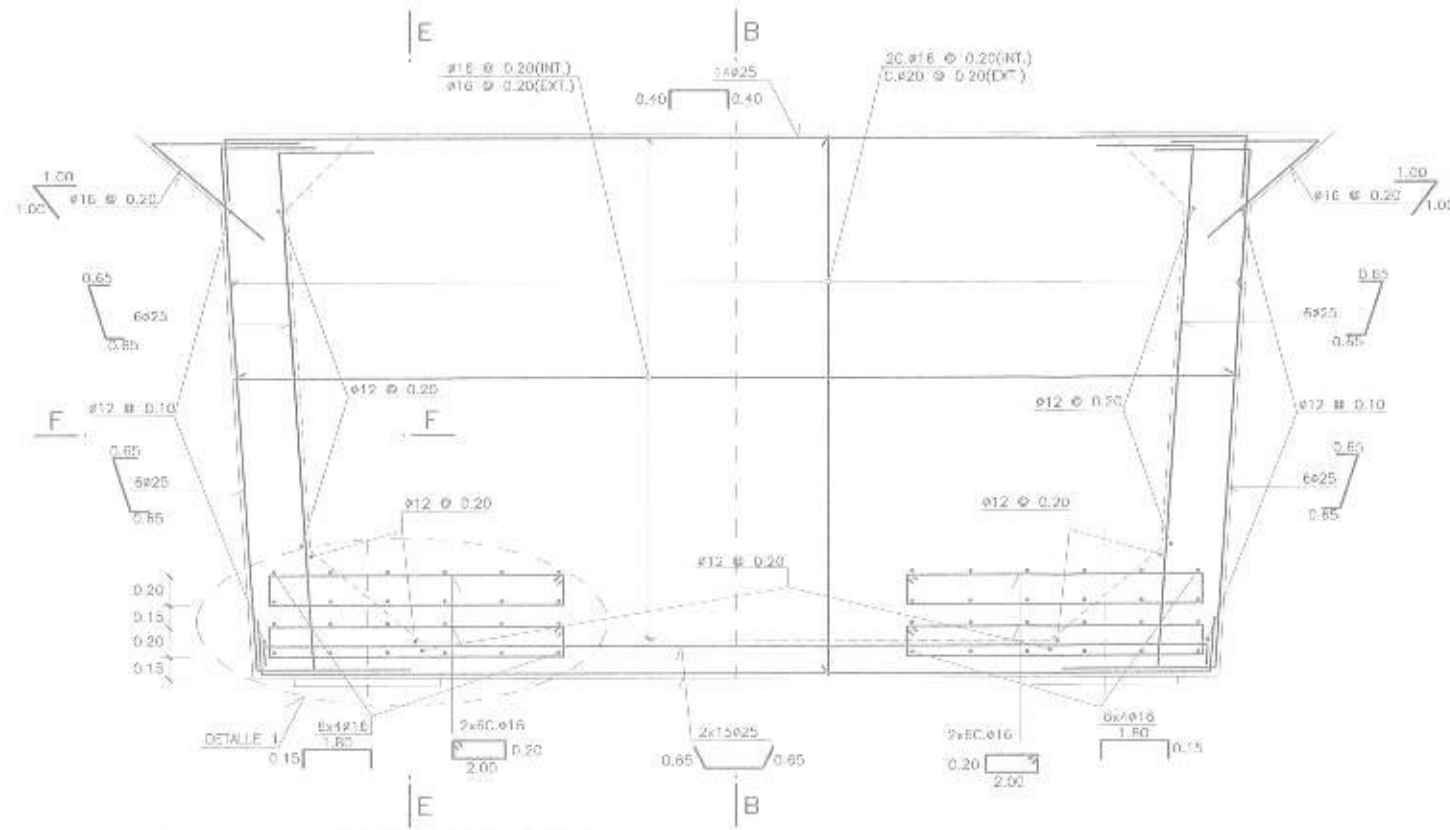
- UNIDAD DE MEDICION Y PASO DE CADA UNO DE LOS HITOS SEGUN ESPECIFICACIONES TECNICAS.

NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA Nº2 DEL CAPITULO 1.

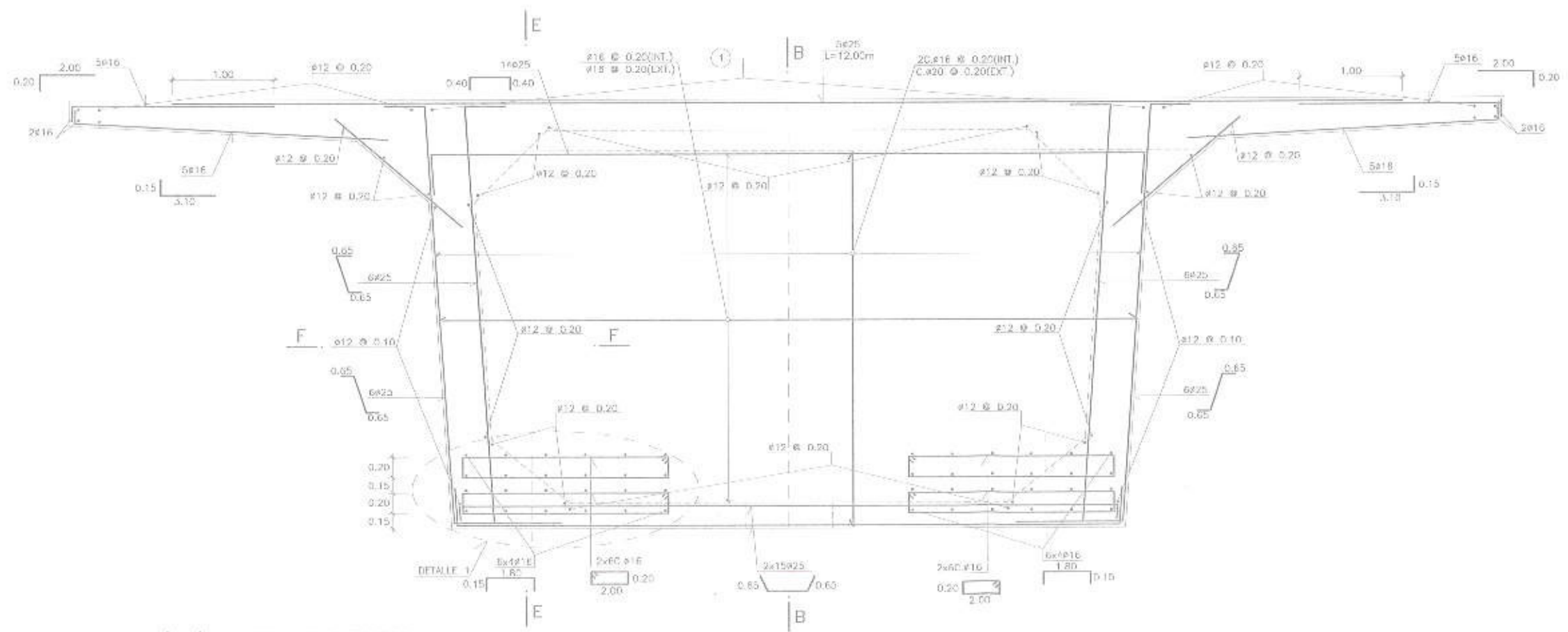


ARMADURA DE REFUERZO EN HUECO PROVISIONAL EN LOSA SUPERIOR VANO 1 Y 3
ESCALA 1:25

SECCION A-A
ESCALA 1:25



SECCION C-C RIOSTRA DE ESTRIBOS
ESCALA 1:25



SECCION C'-C' RIOSTRA DE ESTRIBOS
ESCALA 1:25

- Factores de modificación que incrementan la
 ** factor de ubicación del refuerzo
 * Refuerzo horizontal ubicado de manera que "X" cm de concreto
 quede sin funde por debajo del refuerzo, Top bar
 * Otro refuerzo, Bottom bar

TABLA 1. longitud de desarrollo básica en tensión (l_{bd}) [mm]

f_y = 4200 kg/cm²

f _c (kg/cm ²)	l _{bd} (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	800	1100	1500	1850
240	300	300	350	400	450	550	650	750	1050	1400	1750
280	300	300	350	400	450	500	600	700	1000	1300	1650
350	300	300	350	400	450	500	550	600	800	1150	1450
420	300	300	350	400	450	500	550	600	800	1150	1450
500	300	300	350	400	450	500	550	600	800	1150	1450

TABLA. traslapes de refuerzo en tensión (l_{ov}) [mm]

f_y = 4200 kg/cm²

f _c (kg/cm ²)	l _{ov} (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	610	610	690	810	1020	1150	1300	1450	1850	2550	3140
240	610	610	690	810	960	1105	1245	1385	1785	2380	2975
280	610	610	690	810	960	1105	1245	1385	1785	2380	2975
350	610	610	690	810	960	1105	1245	1385	1785	2380	2975
420	610	610	690	810	960	1105	1245	1385	1785	2380	2975
500	610	610	690	810	960	1105	1245	1385	1785	2380	2975



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FERNANDO ROMO
INGENIERO CIVIL

PROYECTO:
ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

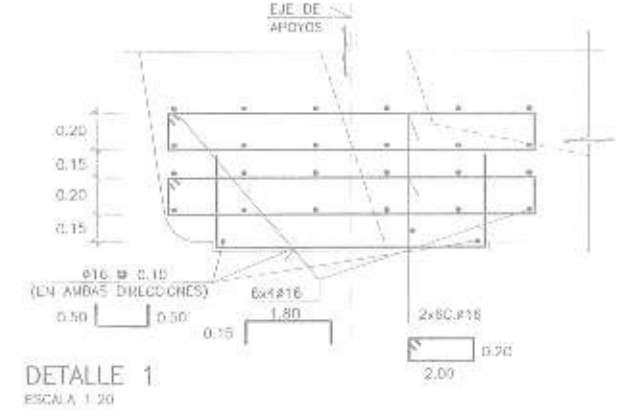
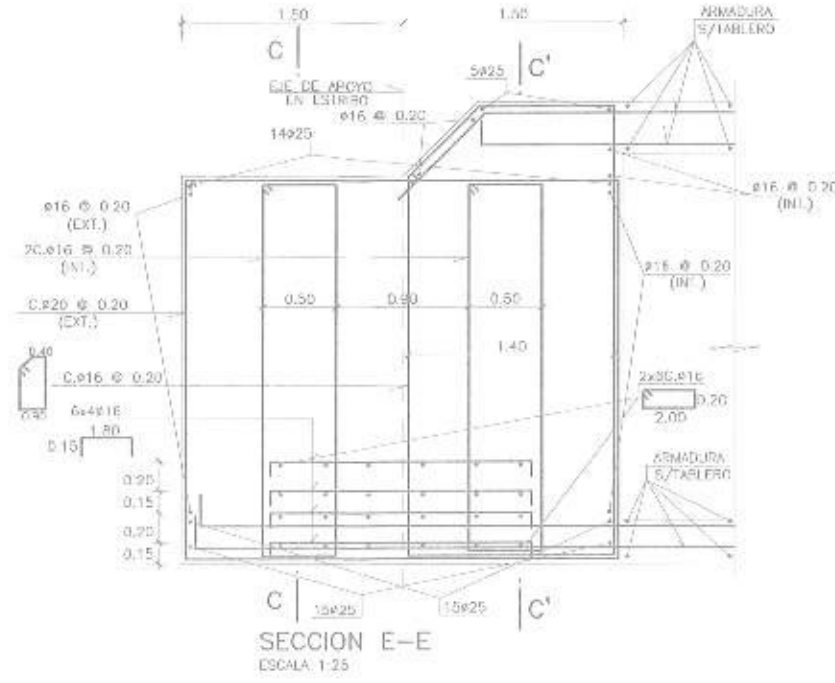
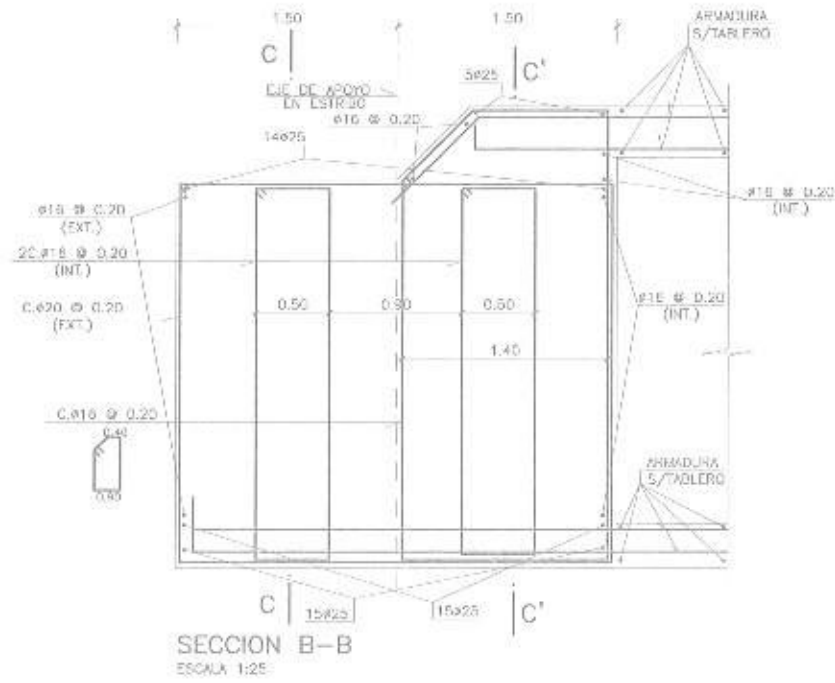
USUARIO:
PUENTE GUAYASAMIN

FECHA:
NOVIEMBRE 2014

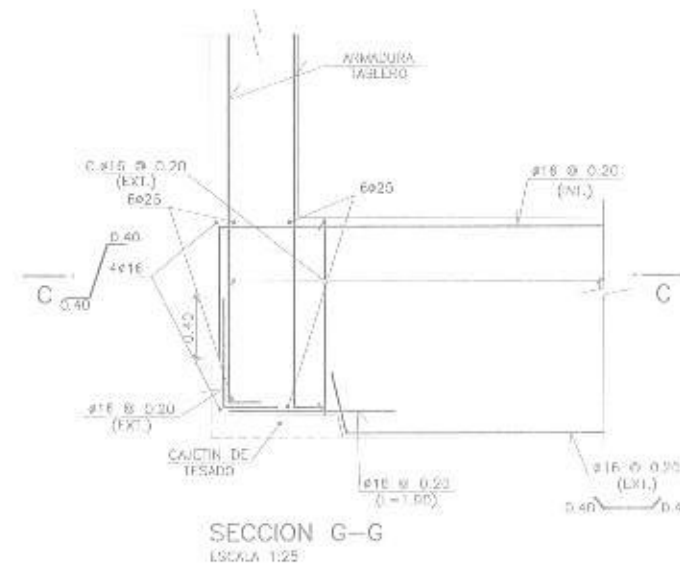
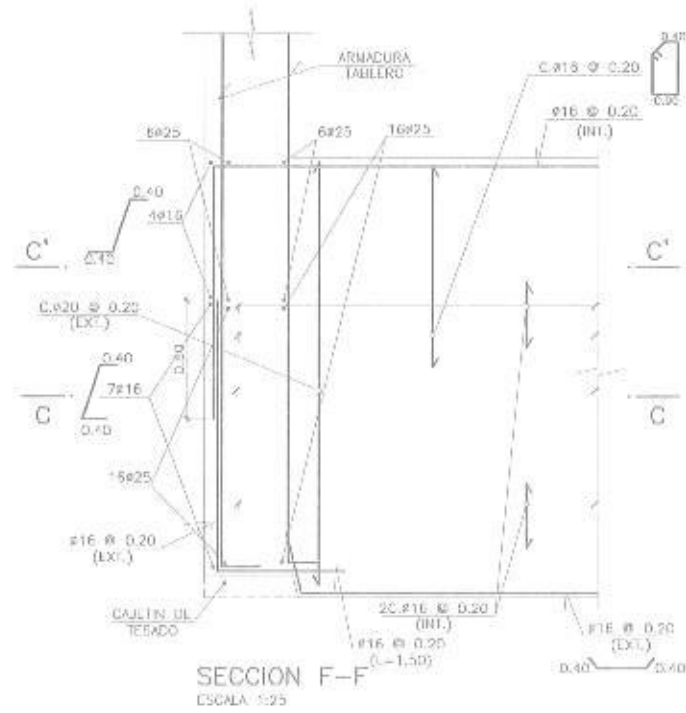
FECHA DE DISEÑO:
06 DE 02 DE TABLERO PAR (VZC) dg

FECHA DE REVISIÓN:
NOVIEMBRE 2014

REVISOR:
FERNANDO ROMO GARCIA



NOTAS:
- LAS MESETAS DE MORTERO DE ESPESOR SUPERIOR A 5.0cm.
- SE ARMARAN CON EL DETALLE INDICADO.



Factores de modificación que incrementan f_y :
 * Factor de utilización del refuerzo: 1.40
 * Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funde por debajo del refuerzo Top bar: 1.00
 * Otro refuerzo, Bottom bar: 1.00

TABLA Longitud de desarrollo básica en tensión (tracción) [mm]
 $f_y = 4200 \text{ kg/cm}^2$

f_c (kg/cm ²)	d (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	310	320	330	340	350	360	370	380	390	400
240	300	310	320	330	340	350	360	370	380	390	400
280	300	310	320	330	340	350	360	370	380	390	400
350	300	310	320	330	340	350	360	370	380	390	400
420	300	310	320	330	340	350	360	370	380	390	400
500	300	310	320	330	340	350	360	370	380	390	400

TABLA Trislopes de refuerzo en torsión (tracción) [mm]
 $f_y = 4200 \text{ kg/cm}^2$

f_c (kg/cm ²)	d (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	510	510	510	510	510	510	510	510	510
240	510	510	510	510	510	510	510	510	510	510	510
280	510	510	510	510	510	510	510	510	510	510	510
350	510	510	510	510	510	510	510	510	510	510	510
420	510	510	510	510	510	510	510	510	510	510	510
500	510	510	510	510	510	510	510	510	510	510	510



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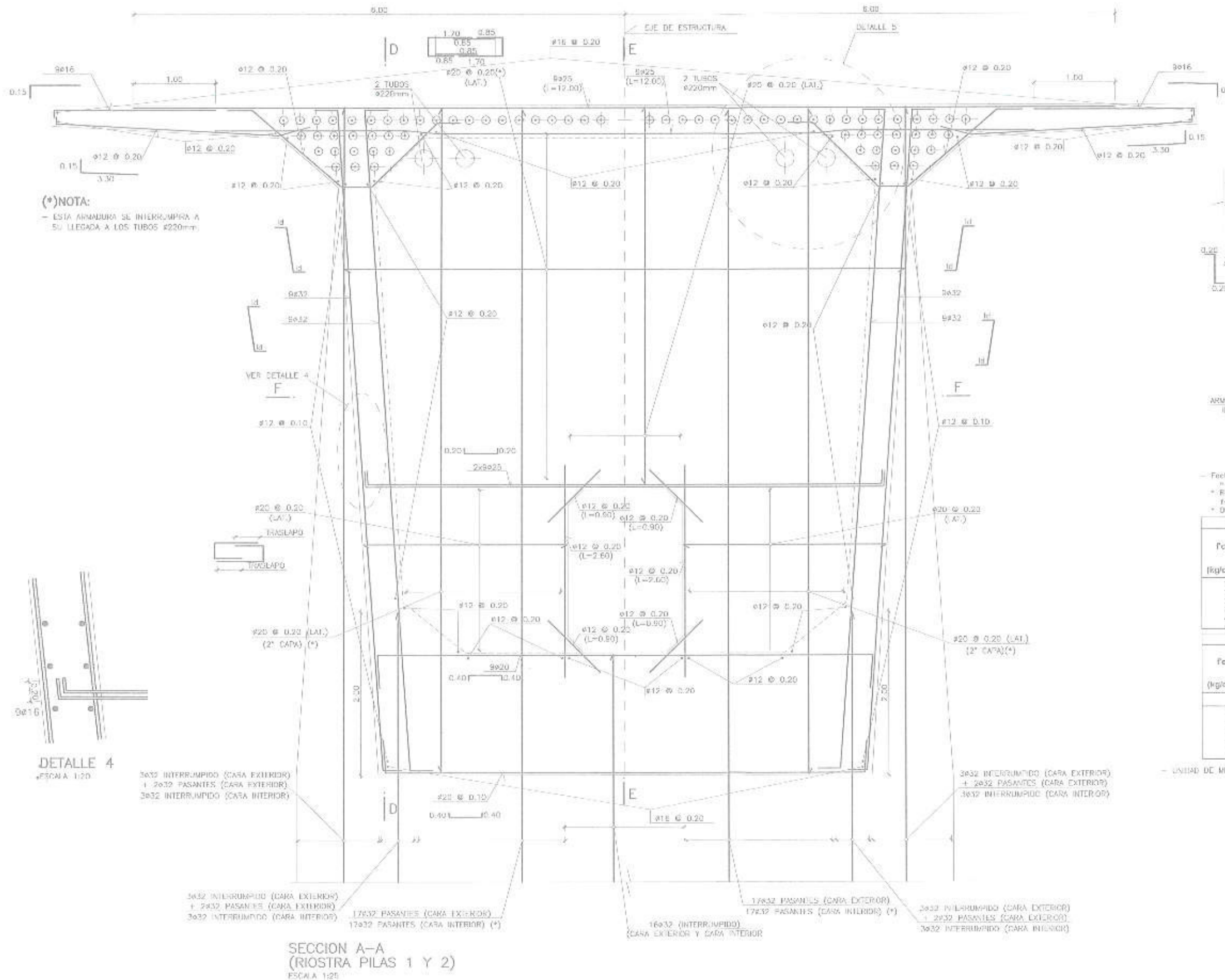
INGENIERO CIVIL
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ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCION DEL
PUENTE GUAYASAMIN

PROYECTO: PUENTE GUAYASAMIN
CONTENIDO: TABLERO ARMADURAS (D)

FECHA: NOVIEMBRE 2014

FECHA: NOVIEMBRE 2014
PROYECTO: PUENTE GUAYASAMIN



- Features de modificación que incrementos lo:
- Factor de ubicación del refuerzo
- Refuerzo horizontal ubicada de manera que 30 cm de concreto fresco se funda por debajo del refuerzo. Top bar
- Otro refuerzo, Bottom bar

TABLA Longitud de desarrollo básica extensión (tracción) [mm]

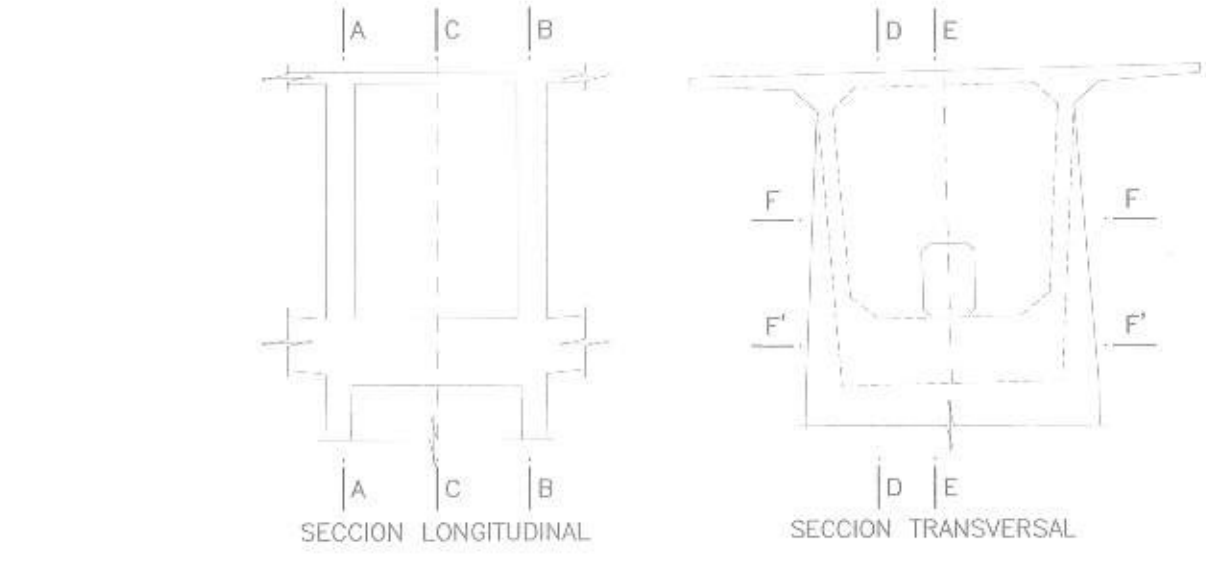
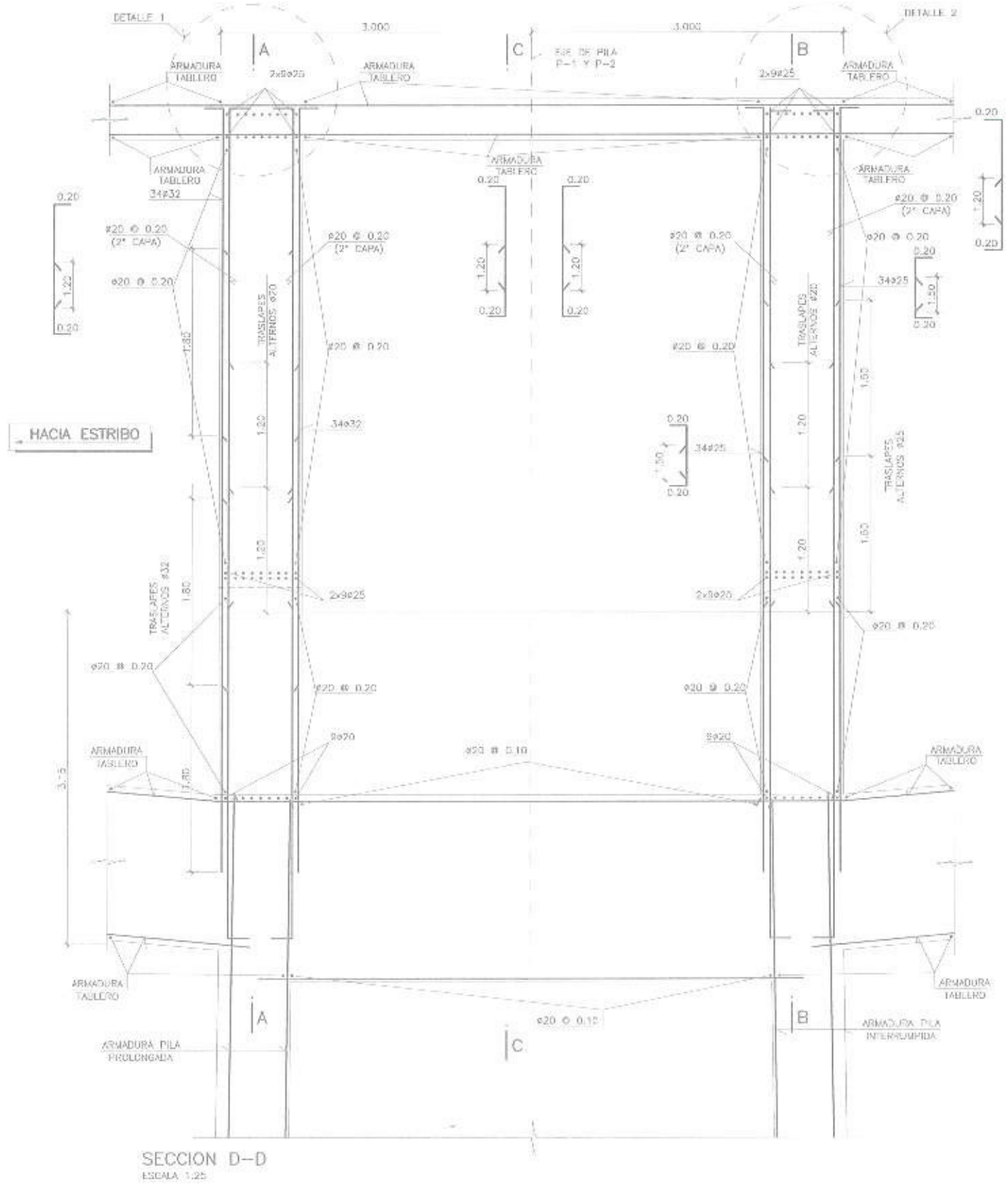
f _c (kg/cm ²)	fy = 4200 kg/cm ²										
	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	450	500	550	600	650	700	750
240	300	300	350	400	450	500	550	600	650	700	750
280	300	300	350	400	450	500	550	600	650	700	750
350	300	300	350	400	450	500	550	600	650	700	750
420	300	300	350	400	450	500	550	600	650	700	750
500	300	300	350	400	450	500	550	600	650	700	750

TABLA Traslapes de refuerzo extensión (tracción) [mm]

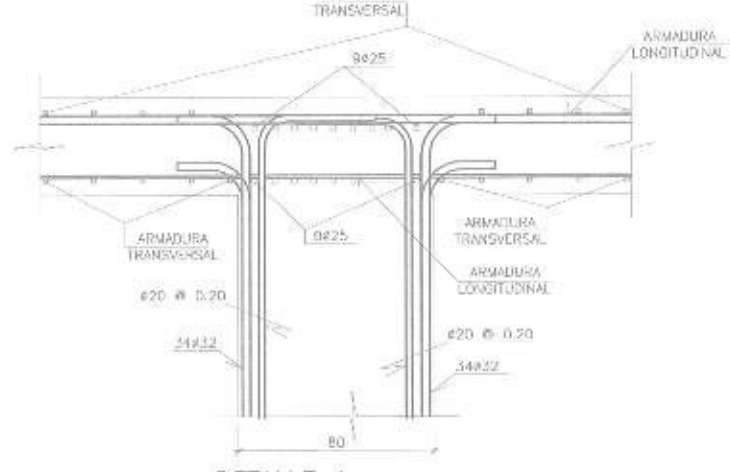
f _c (kg/cm ²)	fy = 4200 kg/cm ²										
	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	565	580	650	1020	1180	1520	1655	2500	3145
240	510	510	565	580	650	1020	1180	1445	1705	2300	2975
280	510	510	565	580	650	1020	1070	1360	1700	2310	3025
350	510	510	565	580	650	1020	1070	1360	1630	1970	2475
420	510	510	565	580	650	1020	1070	1360	1630	1785	2275
500	510	510	565	580	650	1020	1070	1360	1630	1615	2040

- UNIDAD DE MEDICIÓN Y PAZO DE CADA UNO DE LOS HITOS SEGUN ESPECIFICACIONES TECNICAS.

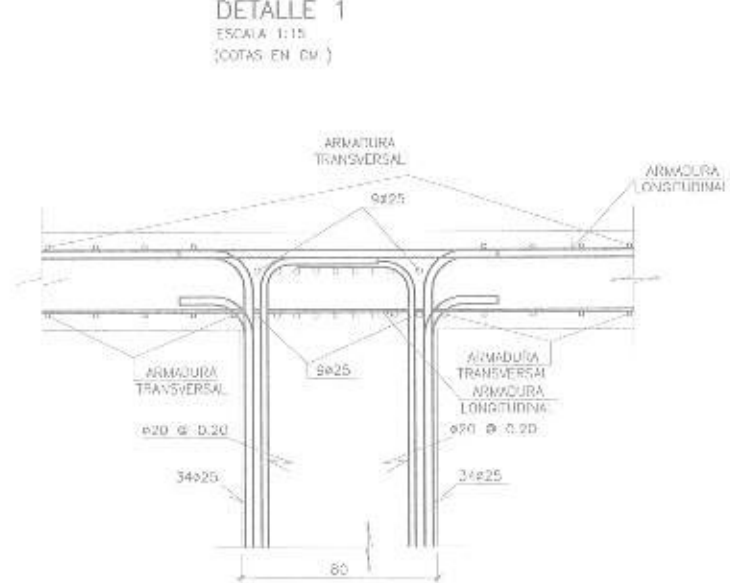
NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA #12 DEL CAPITULO 1.



RIOSTRA DE PILAS
ESCALA 1:100



DETALLE 1
ESCALA 1:15
(COTAS EN CM.)



DETALLE 2
ESCALA 1:15
(COTAS EN CM.)

NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES DE HOJA Nº2 DEL CAPITULO 1.

- Factores de modificación que incrementan la:
- Factor de ubicación del refuerzo: 1,40
- Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funda por debajo del refuerzo, Top bar: 1,00
- Otro refuerzo, Bottom bar: 1,00

TABLA Longitud de desarrollo básica en tensión (tracción) (mm)

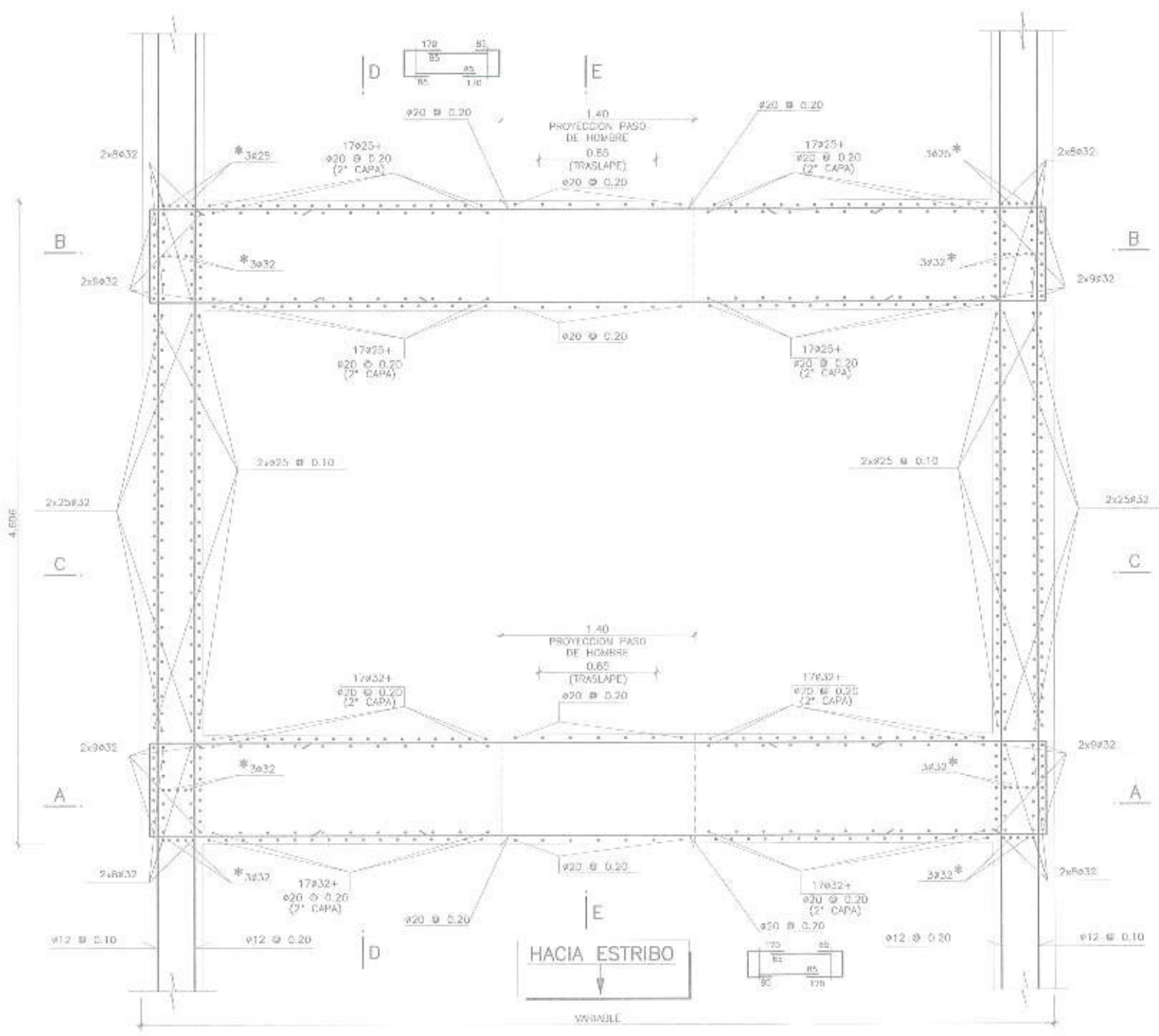
$f_y = 4200 \text{ kg/cm}^2$

f_c (kg/cm ²)	d (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	800	1150	1500	1850
240	300	300	350	400	450	550	650	800	1050	1400	1750
280	300	300	350	400	450	500	600	800	1000	1300	1650
350	300	300	350	400	450	500	550	700	900	1150	1450
420	300	300	350	400	450	500	550	650	800	1050	1350
500	300	300	350	400	450	500	550	650	750	950	1250

TABLA Traslapes en refuerzo en tensión (tracción) (mm)

$f_y = 4200 \text{ kg/cm}^2$

f_c (kg/cm ²)	d (mm)										
	10	12	14	16	18	20	22	25	28	32	36
Traslape clase C											
210	510	510	590	690	800	1020	1180	1320	1950	2550	3145
240	510	510	585	680	785	995	1160	1440	1780	2340	2875
280	510	510	585	680	785	950	1020	1360	1700	2210	2800
350	510	510	585	680	765	850	935	1190	1530	1955	2455
420	510	510	585	680	765	850	935	1105	1360	1785	2295
500	510	510	585	680	765	850	935	1105	1360	1785	2295



SECCION F'-F'
ESCALA 1:20

* VER SECCION A-A PLANO 14/21 CAP.8

- Factores de modificación que incrementan los:
 - * Factor de ubicación del refuerzo: 1,10
 - * Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funde por debajo del refuerzo, Top bar: 1,10
 - * Otro refuerzo, Bottom bar: 1,00

TABLA Longitud de desarrollo básica en tracción (tracción) (mm)

$f_y = 4200 \text{ kg/cm}^2$

f_c (kg/cm ²)	f (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	300	300	300	300	300	300	300	300	300
240	300	300	300	300	300	300	300	300	300	300	300
280	300	300	300	300	300	300	300	300	300	300	300
350	300	300	300	300	300	300	300	300	300	300	300
420	300	300	300	300	300	300	300	300	300	300	300
500	300	300	300	300	300	300	300	300	300	300	300

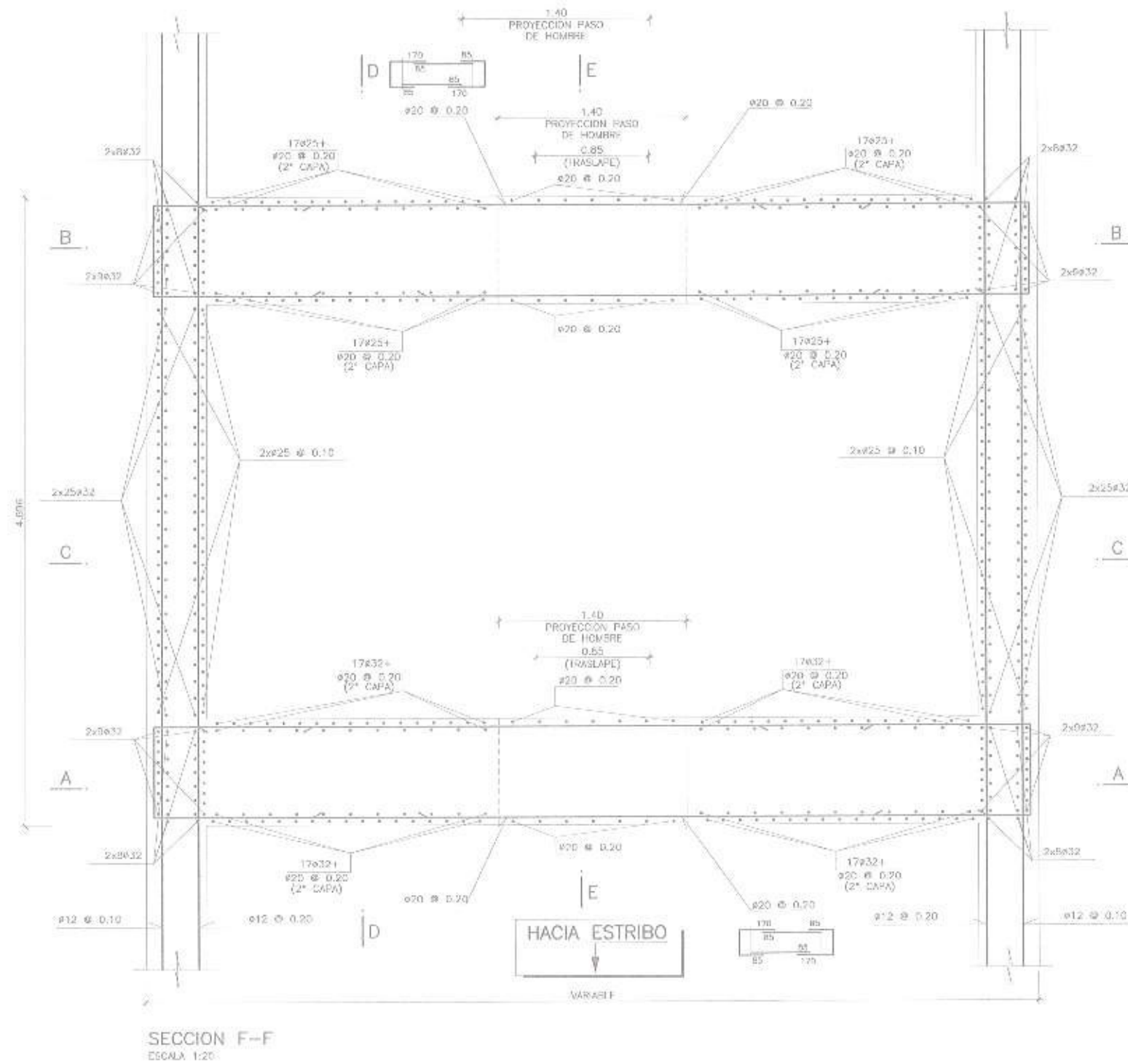
TABLA Traslapes de refuerzo en tracción (tracción) (mm)

$f_y = 4200 \text{ kg/cm}^2$

Traslape clase C

f_c (kg/cm ²)	f (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	595	680	765	850	1020	1105	1530	1950	2350
240	510	510	595	680	765	850	1020	1105	1445	1785	2175
280	510	510	595	680	765	850	1020	1360	1700	2210	2505
350	510	510	595	680	765	850	1020	1360	1700	2210	2505
420	510	510	595	680	765	850	1020	1360	1700	2210	2505
500	510	510	595	680	765	850	1020	1360	1700	2210	2505

NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N°2 DEL CAPITULO 1.



- Factores de modificación que incrementan l_d :
 - factor de ubicación del refuerzo: 1.40
 - Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funde por debajo del refuerzo, Top bar: 1.00
 - Otro refuerzo, Bottom bar: 1.00

TABLA. Longitud de desarrollo básica en tensión l_d (tracción) [mm]

$f_y = 4200 \text{ kg/cm}^2$

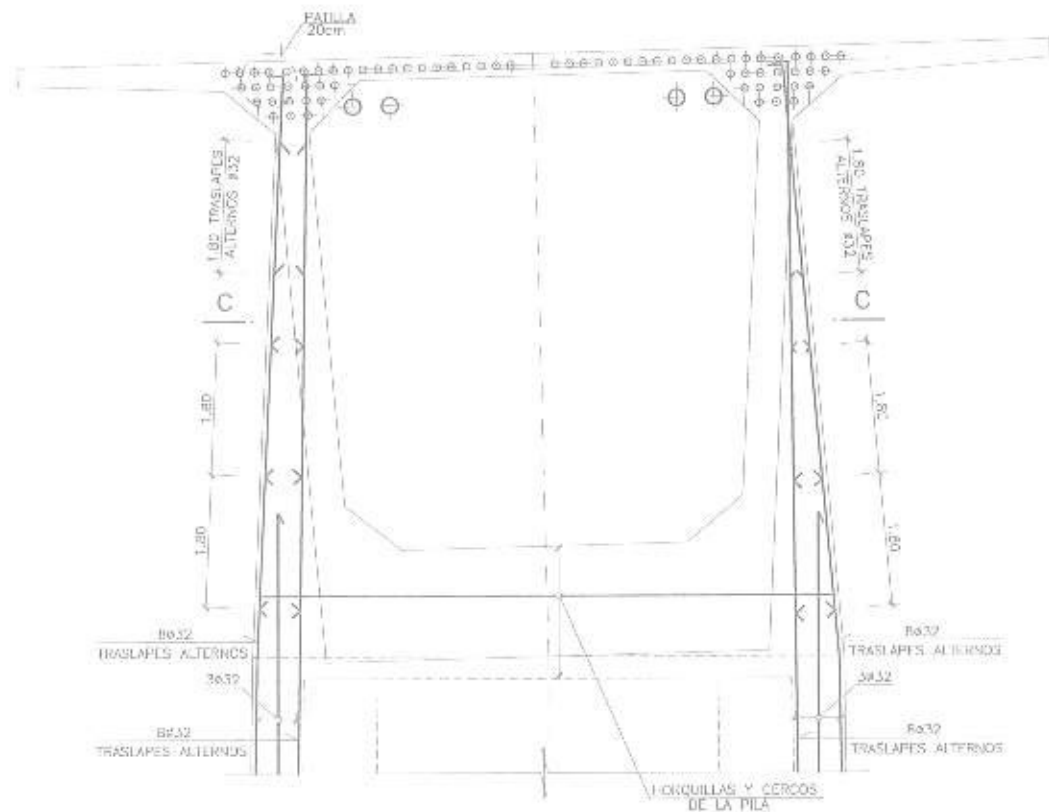
f_c (kg/cm ²)	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	307	314	321	328	335	342	349	356	363	370
240	300	307	314	321	328	335	342	349	356	363	370
280	300	307	314	321	328	335	342	349	356	363	370
350	300	307	314	321	328	335	342	349	356	363	370
420	300	307	314	321	328	335	342	349	356	363	370
500	300	307	314	321	328	335	342	349	356	363	370

TABLA. Transapes de refuerzo en tensión (tracción) [mm]

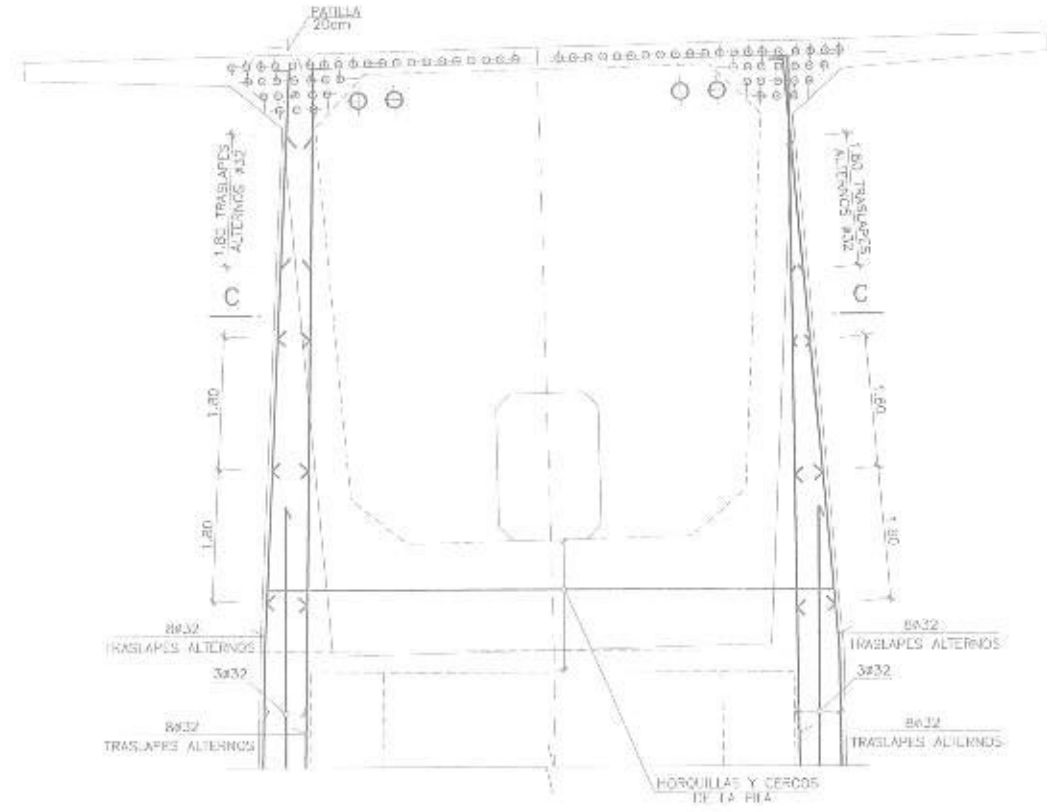
$f_y = 4200 \text{ kg/cm}^2$

f_c (kg/cm ²)	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
Traspape clase C											
210	510	510	510	510	510	510	510	510	510	510	510
240	510	510	510	510	510	510	510	510	510	510	510
280	510	510	510	510	510	510	510	510	510	510	510
350	510	510	510	510	510	510	510	510	510	510	510
420	510	510	510	510	510	510	510	510	510	510	510
500	510	510	510	510	510	510	510	510	510	510	510

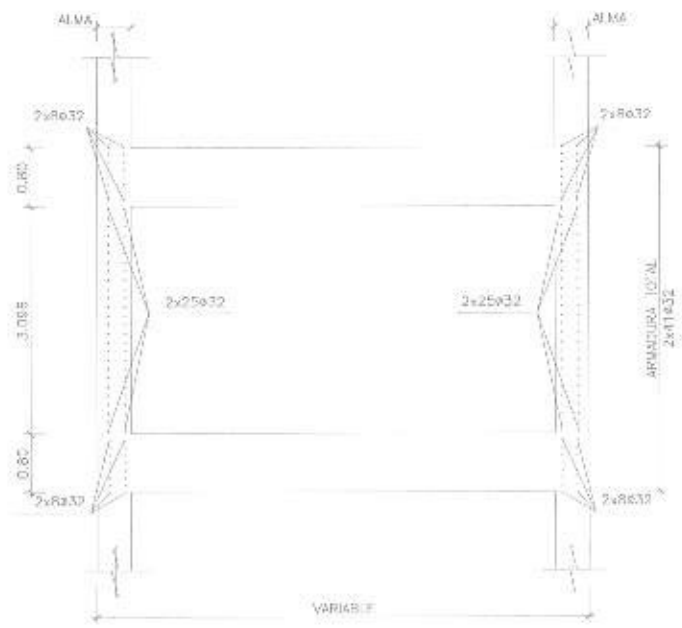
NOTA:
- VER ESPECIFICACIONES TÉCNICAS DE MATERIALES EN HOJA Nº DEL CAPÍTULO 1.



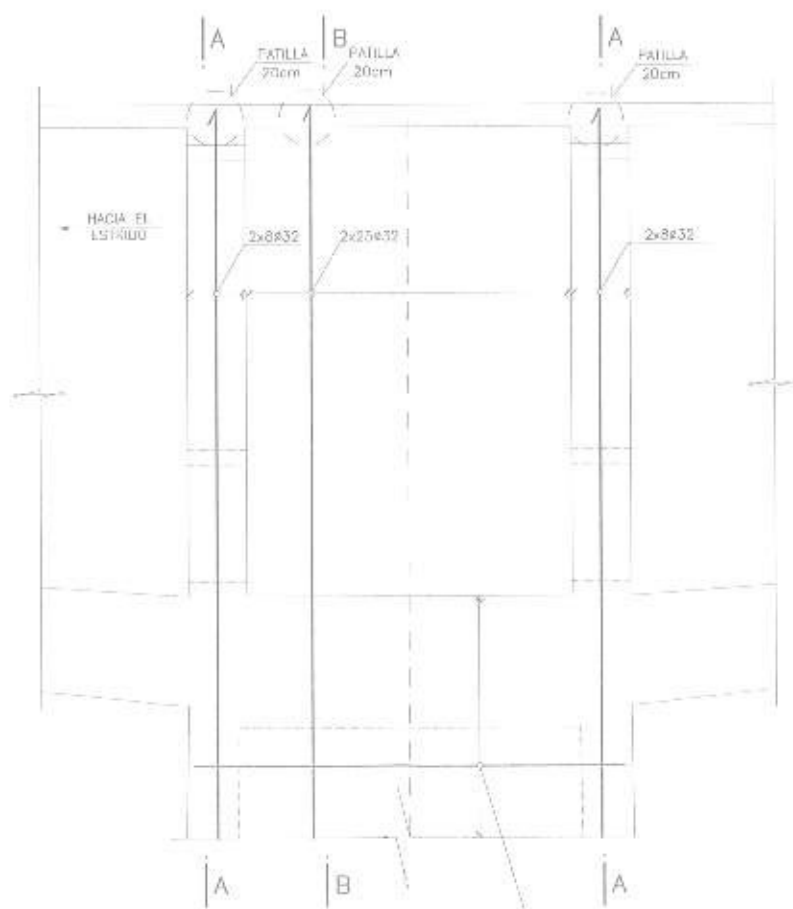
SECCION B-B
ESCALA 1:50



SECCION A-A
ESCALA 1:50



SECCION C-C
ESCALA 1:50



ARMADURA LATERAL PILA
ESCALA 1:50

NOTA:
- LA ARMADURA LATERAL DE LA PILA, FORMADA POR 2x11#32 EN CADA LADO, SERA ADICIONAL A LA ARMADURA DE ALMAS DEL TABLERO, Y SE DISPONDRÁ EN 2ª OPA.

NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N°2 DEL CAPITULO I.

- Factores de modificación que incrementan Id.
- Factor de ubicación del refuerzo
- Refuerzo horizontal ubicado en concreto que 30 cm de concreto fresco se func por debajo del refuerzo, Top bar
- Otro refuerzo, Bottom bar

TABLA Longitud de desarrollo básica en tensión (hacia) (mm)

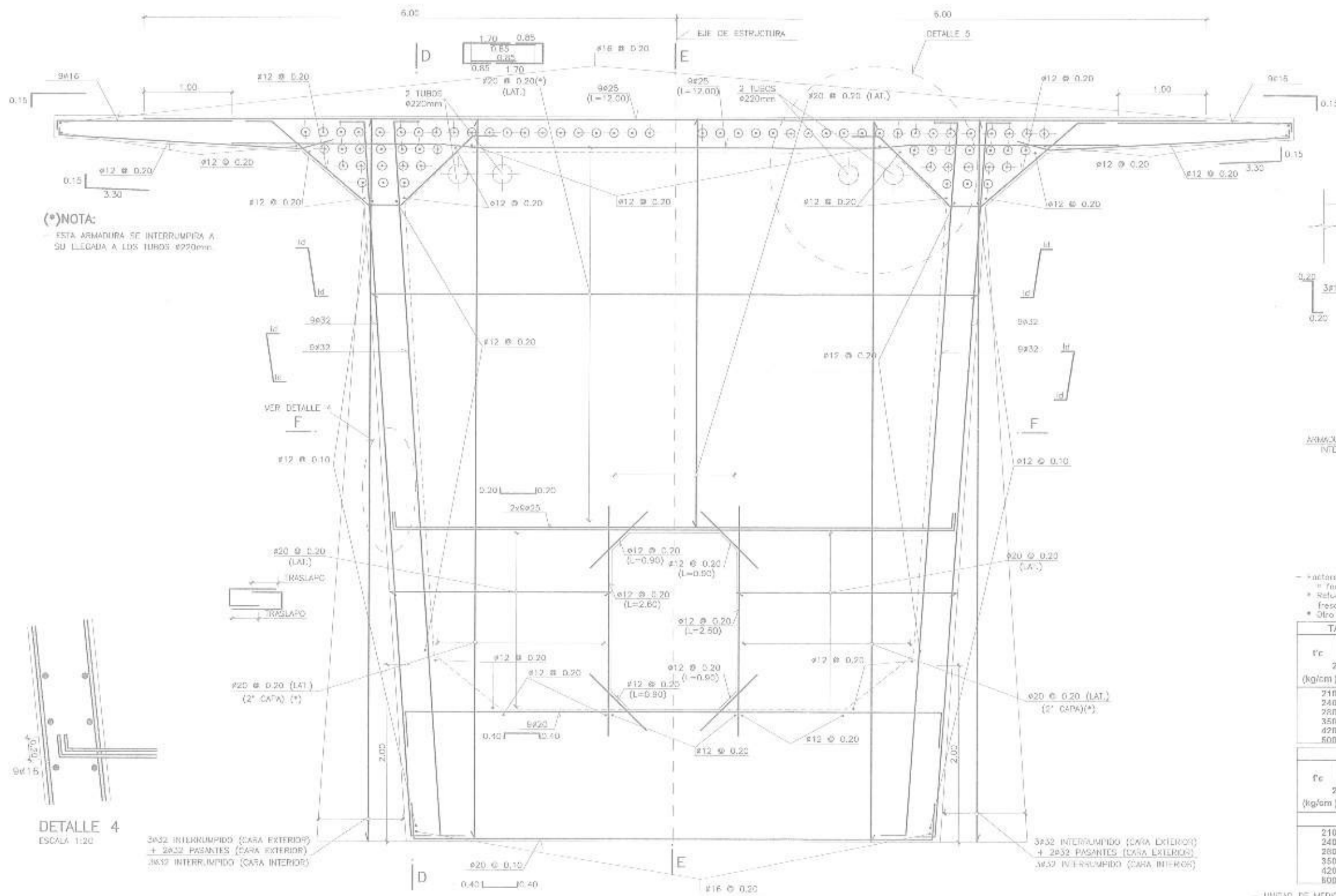
$f_y = 4200 \text{ kg/cm}^2$

f _c (kg/cm ²)	f (mm)										
	10	12	14	16	18	20	22	25	28	32	36
2											
210	300	370	350	430	500	600	700	800	1150	1500	1850
240	310	370	350	430	450	550	650	850	1050	1400	1750
280	300	370	340	430	450	500	650	800	1000	1300	1650
350	310	370	340	420	450	500	550	700	800	1150	1450
420	310	370	340	430	450	500	550	650	800	1050	1350
500	310	370	340	430	450	500	550	650	750	950	1200

TABLA Traslapes de refuerzo en tensión (hacia) (mm)

$f_y = 4200 \text{ kg/cm}^2$

f _c (kg/cm ²)	f (mm)										
	10	12	14	16	18	20	22	25	28	32	36
2											
Traslape clase C											
210	510	510	595	600	650	1020	1100	1030	1360	2550	3145
240	510	510	595	600	650	705	925	1105	1440	1785	2670
280	510	510	595	600	660	760	960	1120	1320	1760	2210
350	510	510	595	680	765	850	925	1100	1500	1955	2455
420	510	510	595	680	765	850	925	1105	1360	1785	2295
500	510	510	600	680	765	850	925	1105	1275	1510	2020



- Factor de modificación que incrementa la:
- * Factor de ubicación del refuerzo
- * Refuerzo horizontal adicional de mínimo que 30 cm de concreto fresco se fonde por debajo del refuerzo, top bar
- * Otro refuerzo, bottom bar

TABLA Longitud de desarrollo básica en tensión (tracción) [mm]
fy = 4200 kg/cm²

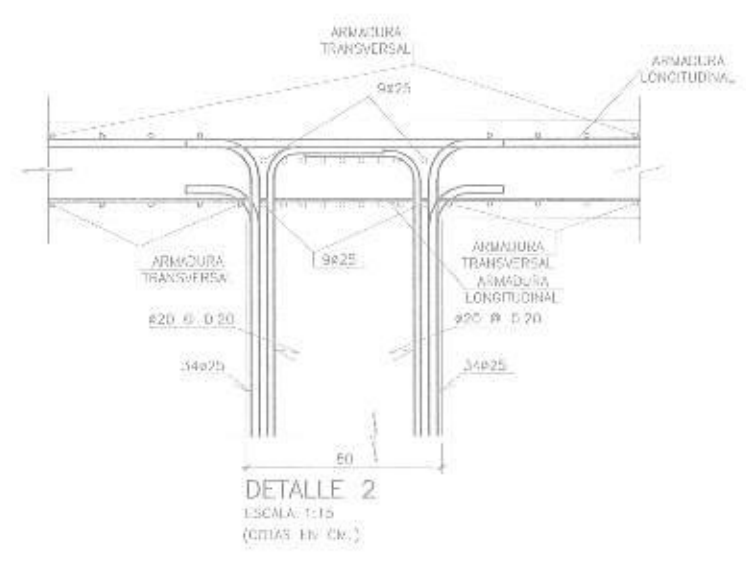
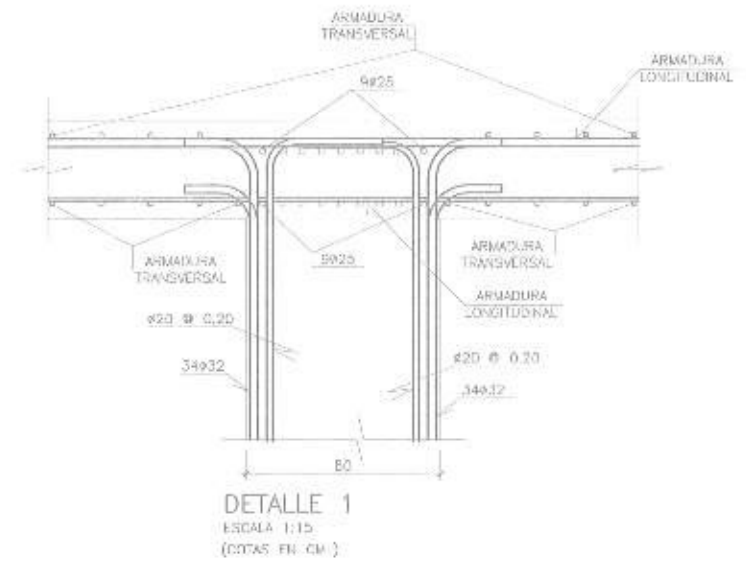
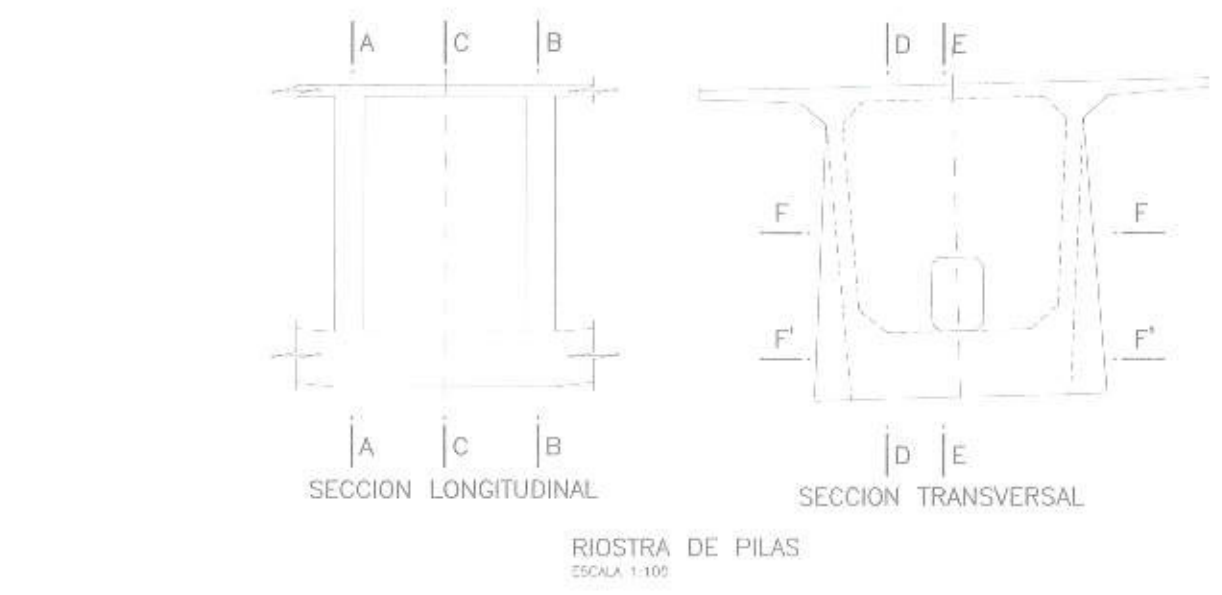
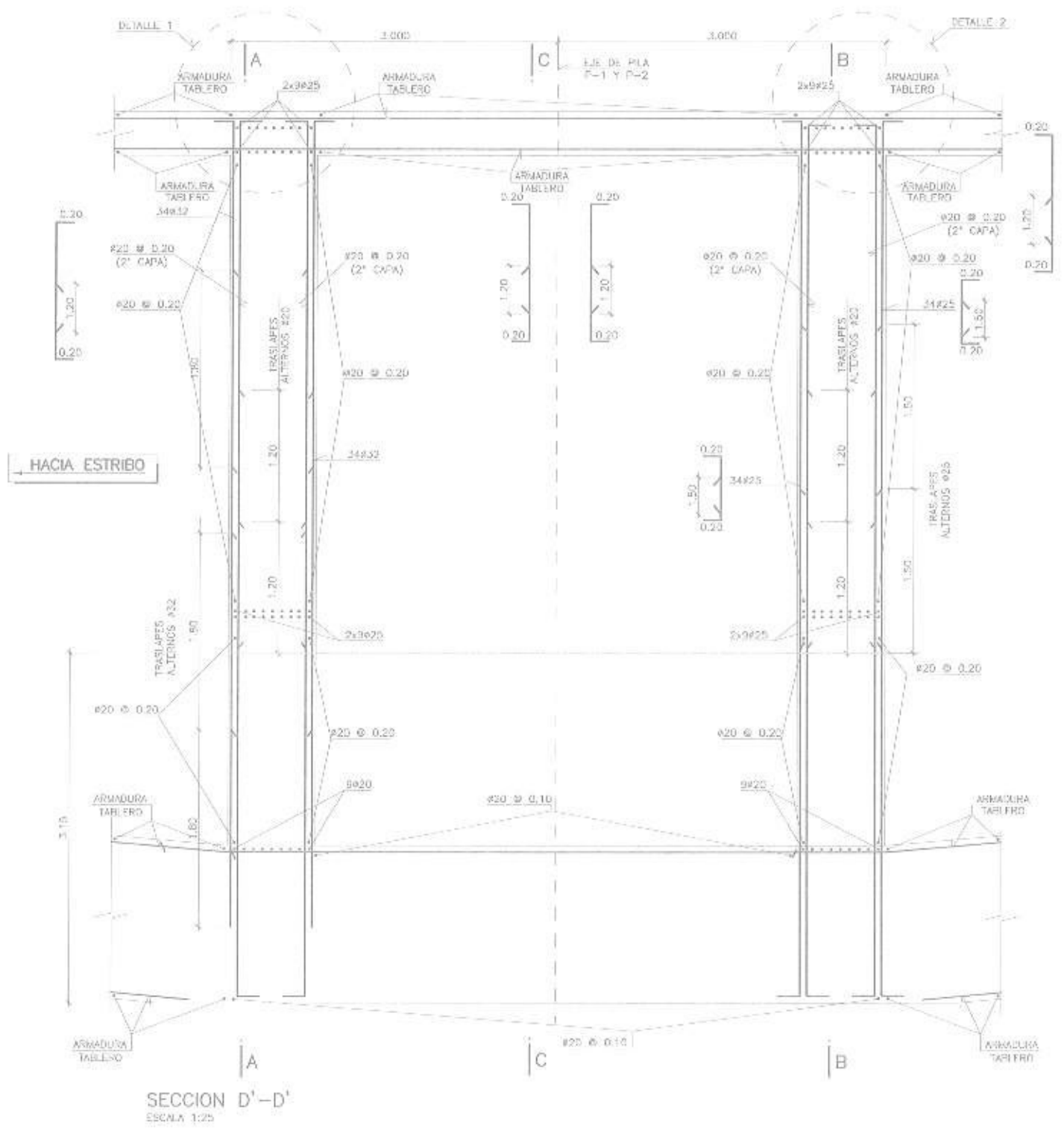
f'c	d (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	320	350	400	450	500	550	600	650	700	750
240	300	320	350	400	450	500	550	600	650	700	750
280	300	320	350	400	450	500	550	600	650	700	750
350	300	320	350	400	450	500	550	600	650	700	750
420	300	320	350	400	450	500	550	600	650	700	750
600	300	320	350	400	450	500	550	600	650	700	750

TABLA Traspases de refuerzo en tensión (tracción) [mm]
fy = 4200 kg/cm²

f'c	d (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	595	680	765	850	935	1020	1105	1190	1275
240	510	510	595	680	765	850	935	1020	1105	1190	1275
280	510	510	595	680	765	850	935	1020	1105	1190	1275
350	510	510	595	680	765	850	935	1020	1105	1190	1275
420	510	510	595	680	765	850	935	1020	1105	1190	1275
600	510	510	595	680	765	850	935	1020	1105	1190	1275

UNIDAD DE MEDICIÓN Y PAGO DE CADA UNO DE LOS RIOS SEGUN ESPECIFICACIONES TÉCNICAS.

NOTA:
- VER ESPECIFICACIONES TÉCNICAS DE MATERIALES EN HOJA N°2 DEL CAPÍTULO I



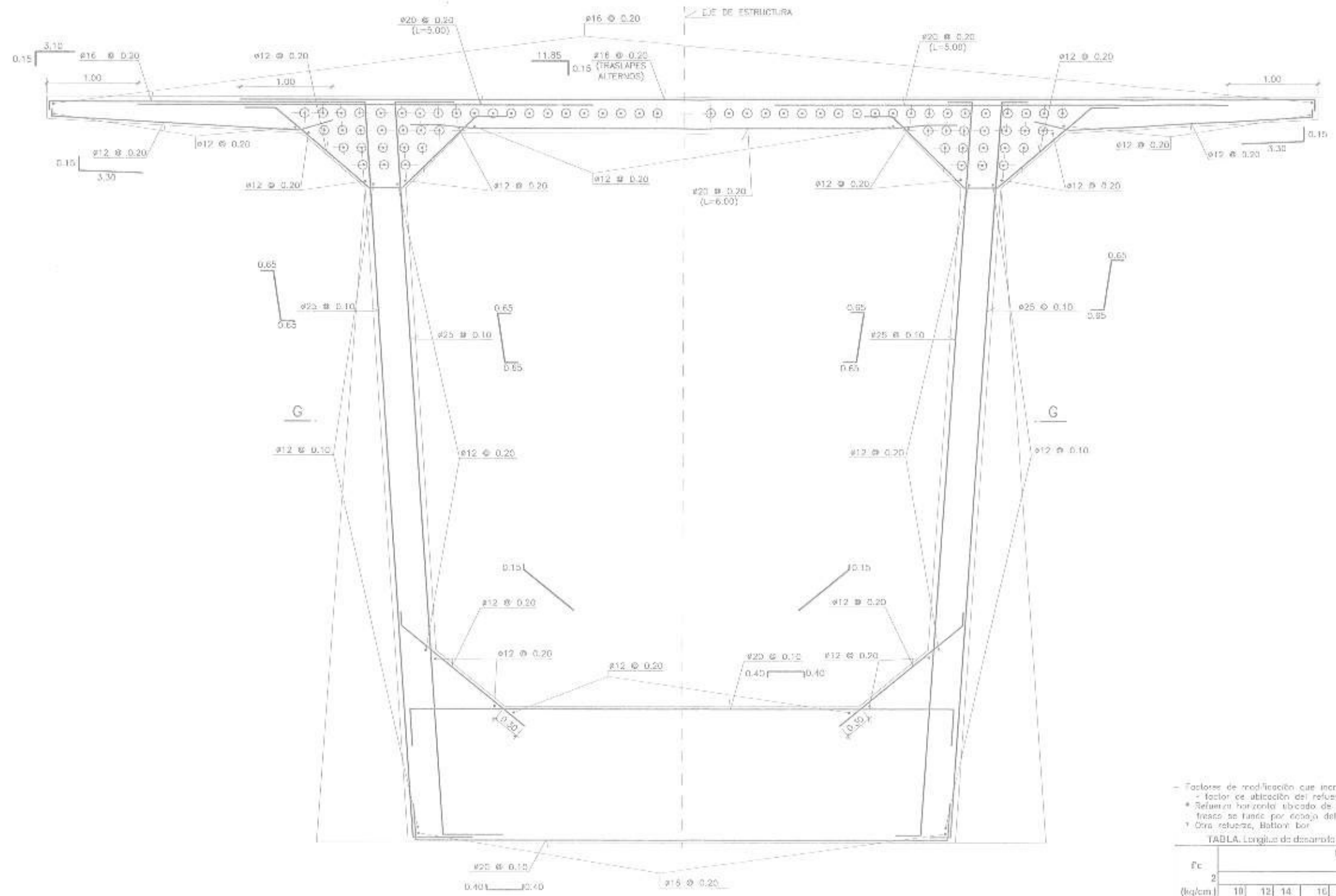
NOTA:
 VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N° 001 CAPITULO 1.
 Factores de modificación que incrementar el:
 * Factor de ubicación del refuerzo 1,42
 * Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funde por debajo del refuerzo, 1ap bar 1,03
 * Otro refuerzo, bottom bar 1,03

TABLA. Longitud de desarrollo básica en tensión (tracción) [mm].

f _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	Φ (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	800	1150	1500	1850
240	300	300	350	400	450	550	650	850	1050	1400	1750
280	300	300	350	400	450	500	600	800	1000	1300	1650
350	300	300	350	400	450	500	550	700	900	1150	1450
420	300	300	350	400	450	500	550	650	800	1050	1350
500	300	300	350	400	450	500	550	650	750	950	1200

TABLA. Traspases de refuerzo - tensión (tracción) [mm].

f _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	Φ (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	595	680	860	1020	1190	1530	1950	2550	3145
240	510	510	595	680	795	935	1105	1445	1785	2380	2975
280	510	510	595	680	795	935	1025	1365	1700	2210	2805
360	510	510	595	680	795	935	935	1190	1530	1955	2485
420	510	510	595	680	795	935	935	1105	1390	1795	2295
500	510	510	595	680	795	935	935	1105	1275	1615	2065



SECCION C'-C'
ESCALA 1:25

NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N°2 DEL CAPITULO 1.

- Factores de modificación que incrementan lo:
 - factor de ubicación del refuerzo
 - * Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funcie por encima del refuerzo, Top bar
 - † Otro refuerzo, Bottom bar

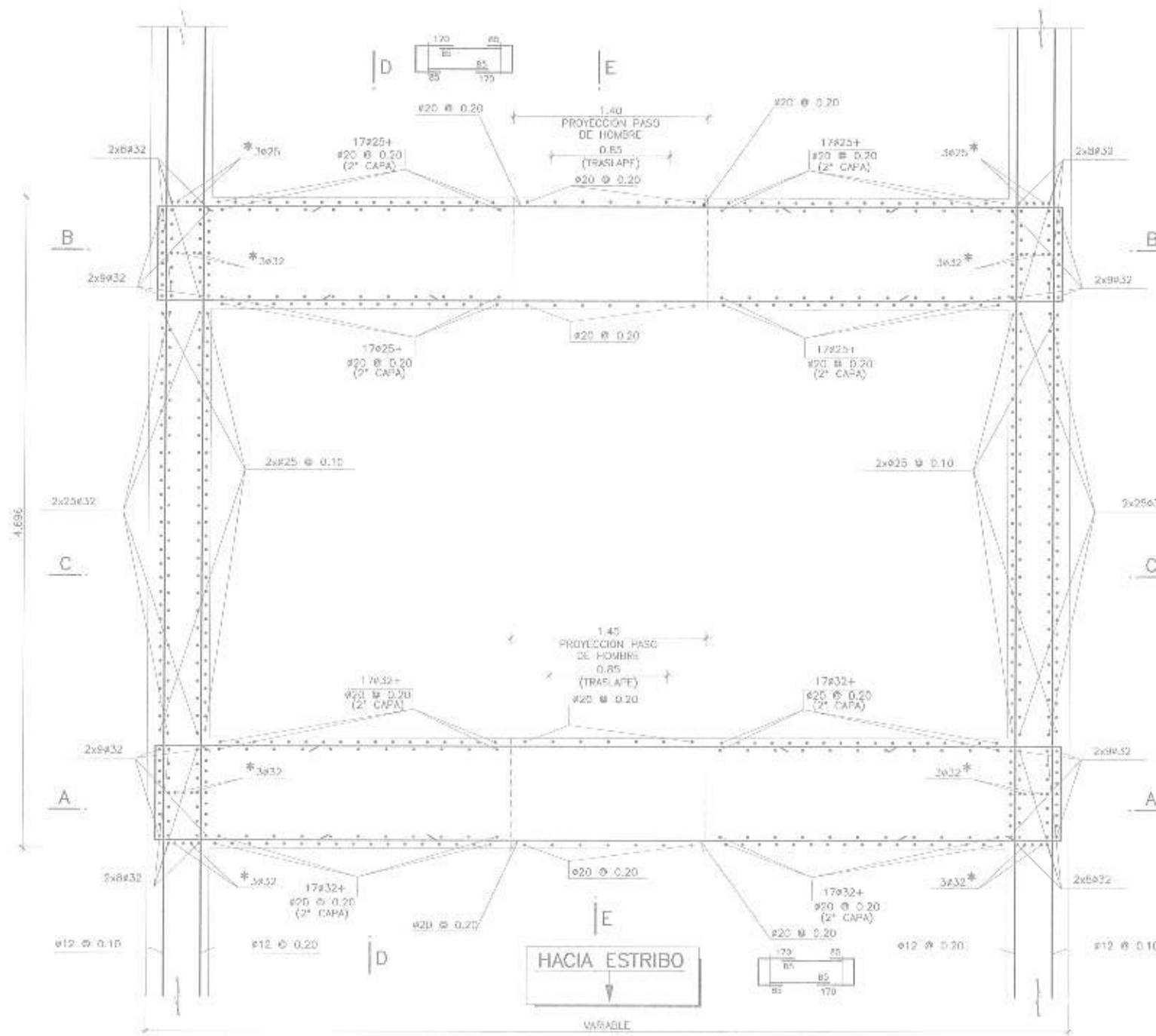
Tabla 1: Longitud de desarrollo básica en tensión (tracción) [mm]

f _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	l (mm)										
2	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	800	1150	1520	1850
240	300	300	350	400	450	550	650	850	1050	1420	1750
280	300	300	350	400	450	500	600	800	1000	1300	1650
350	300	300	350	400	450	500	550	700	900	1150	1450
420	300	300	350	400	450	500	550	650	800	1050	1350
600	300	300	350	400	450	500	550	650	750	950	1200

Tabla 2: Solapamiento de refuerzo en tensión (tracción) [mm]

f _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	l (mm)										
2	10	12	14	16	18	20	22	25	28	32	36
210	510	510	580	680	850	1020	1180	1530	1930	2520	3140
240	510	510	580	680	760	930	1100	1440	1780	2380	2970
280	510	510	580	680	760	850	1020	1300	1700	2210	2800
350	510	510	580	680	760	850	930	1180	1530	1930	2490
420	510	510	580	680	760	850	930	1100	1360	1780	2290
600	510	510	580	680	760	850	930	1100	1270	1610	2040

UNIDAD DE MEDICION Y PAGO DE CADA UNO DE LOS HITOS SEGUN ESPECIFICACIONES TECNICAS



SECCION F'-F' (PILA 3)
ESCALA 1:20

* VER SECCION A-A PLANO 14/21 CAP. B

- Factores de modificación que incrementar id:
 - Factor de ubicación del refuerzo 1,40
 - Refuerzo horizontal ubicado de manera que 30 cm de concreto encima al final por debajo del refuerzo, Top bar 1,00
 - Otro refuerzo, Bottom bar 1,00

TABLA Longitud de desarrollo básica en tensión (tracción) [mm]

$f_y = 4200 \text{ kg/cm}^2$

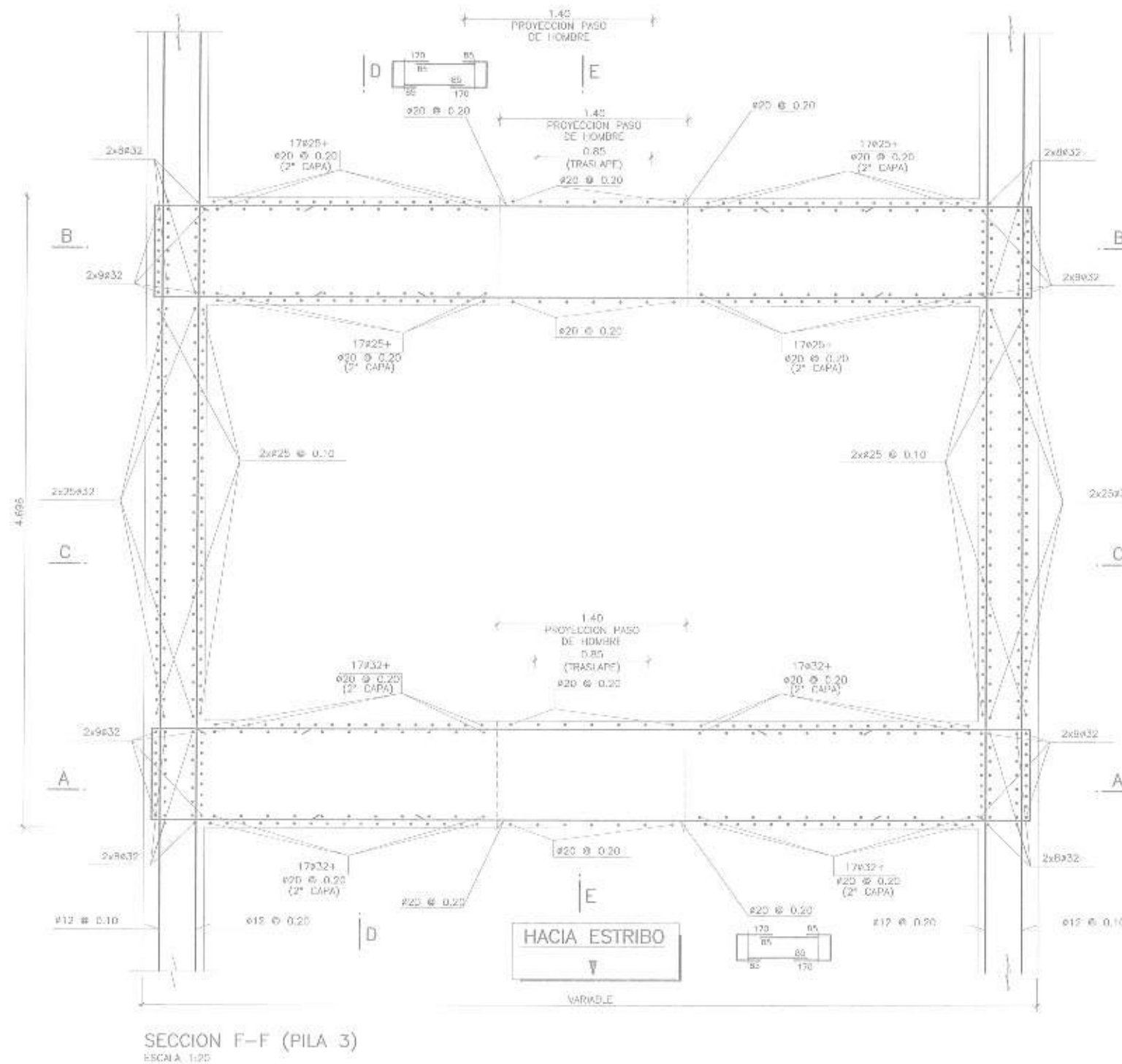
f_c (kg/cm ²)	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	320	350	350	400	500	600	700	800	1150	1400	1850
240	320	350	350	400	450	550	650	800	1050	1400	1750
280	320	350	350	400	450	500	600	800	1000	1300	1650
350	320	350	350	400	450	500	550	700	900	1150	1450
420	320	350	350	400	450	500	550	650	800	1050	1350
500	320	350	350	400	450	500	550	600	750	950	1200

TABLA Traspases de refuerzo en tensión (tracción) [mm]

$f_y = 4200 \text{ kg/cm}^2$

f_c (kg/cm ²)	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	595	680	850	1020	1160	1550	1950	2550	3145
240	510	510	595	680	765	935	1105	1445	1785	2380	2975
280	510	510	595	680	765	850	1020	1360	1700	2210	2805
350	510	510	595	680	765	850	935	1190	1530	1955	2455
420	510	510	595	680	765	850	935	1105	1360	1785	2295
500	510	510	595	680	765	850	935	1110	1275	1615	2040

NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA Nº2 DEL CAPITULO 1.



SECCION F-F (PILA 3)
ESCALA 1:25

- Factores de modificación que incrementar id:
 - * Factor de ubicación del refuerzo 1,40
 - * Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funda por debajo del refuerzo, Top bar 1,20
 - * Otro refuerzo, Bottom bar 1,20

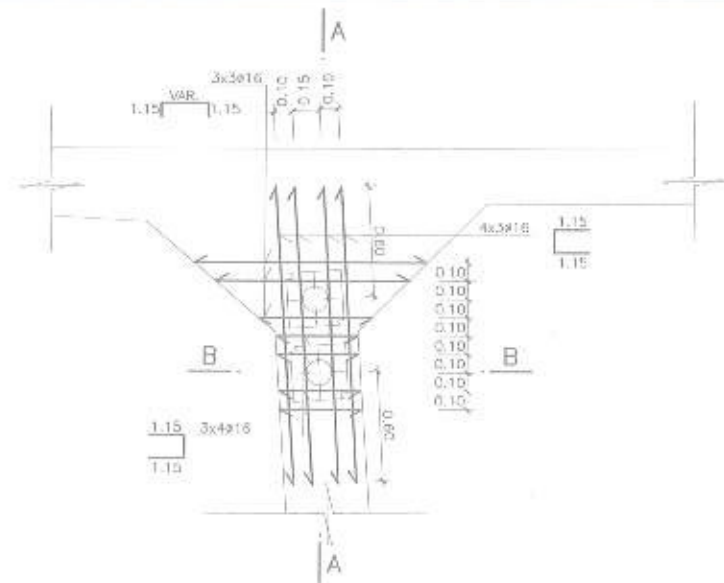
TABLA 1. Longitud de desarrollo básica en tensión (tracción) [mm].
fy = 4200 kg/cm²

fc (kg/cm ²)	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	320	300	280	260	240	220	200	180	160	140	120
240	330	310	290	270	250	230	210	190	170	150	130
280	340	320	300	280	260	240	220	200	180	160	140
350	350	330	310	290	270	250	230	210	190	170	150
420	360	340	320	300	280	260	240	220	200	180	160
500	370	350	330	310	290	270	250	230	210	190	170

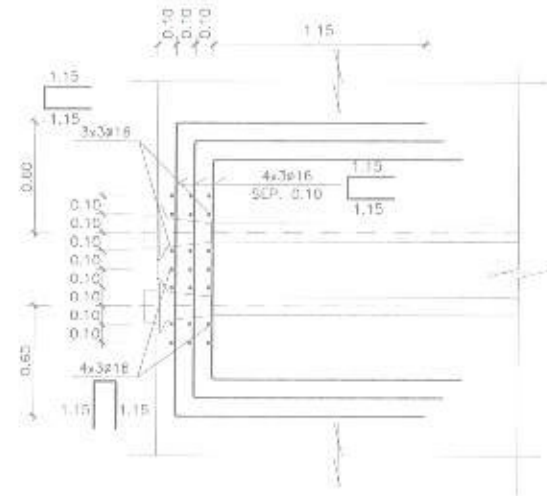
TABLA 2. Traspases de refuerzo en tensión (tracción) [mm].
fy = 4200 kg/cm²

fc (kg/cm ²)	l (mm)										
	10	12	14	16	18	20	22	25	28	32	36
210	510	510	550	590	630	670	710	750	790	830	870
240	510	510	550	590	630	670	710	750	790	830	870
280	510	510	550	590	630	670	710	750	790	830	870
350	510	510	550	590	630	670	710	750	790	830	870
420	510	510	550	590	630	670	710	750	790	830	870
500	510	510	550	590	630	670	710	750	790	830	870

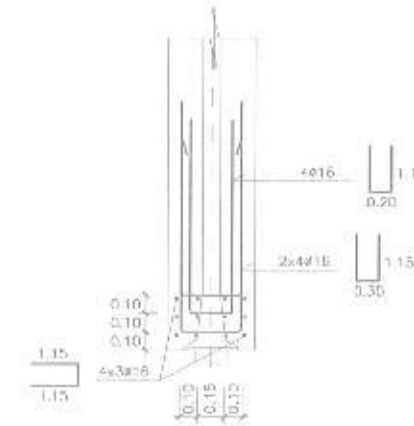
NOTA:
- VER ESPECIFICACIONES TÉCNICAS DE MATERIALES EN H.O.M. N°2 DEL CAPÍTULO 1.



ARMADURA DE ANCLAJES DE TENDONES EN FRENTE DE DOVELAS 2 A 4 PRETENSADO TIPO "A"
ESCALA 1:20



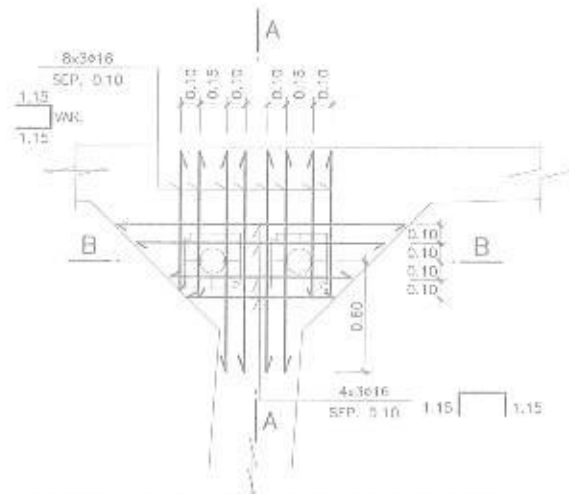
SECCION A-A
ESCALA 1:20



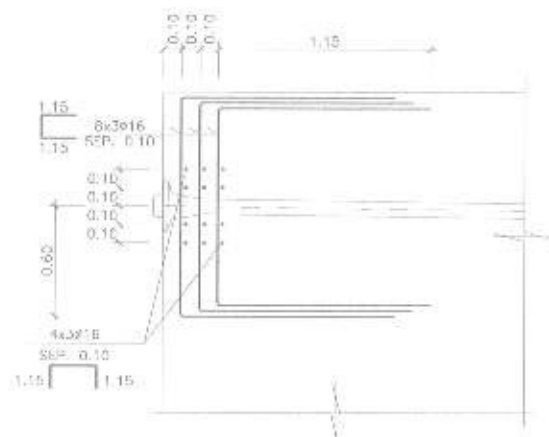
SECCION B-B
ESCALA 1:20

NOTA GENERAL DE ARMADURA EN ANCLAJES DE PRETENSADO:

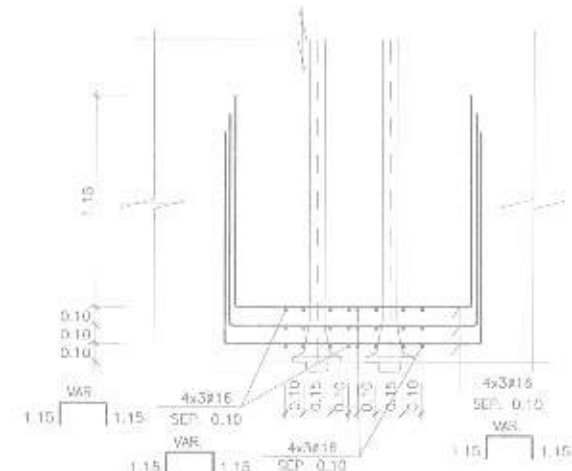
EN FUNCIÓN DEL TAMAÑO REAL DE LAS PLACAS DE ANCLAJE DEL SUMINISTRADOR DEL PRETENSADO, PUEDE SER NECESARIO ADICIONAR A LA ARMADURA DEBIDA UNA ESPECIFICA DE PUNCHADO DE HORMIGÓN EN LA ZONA INMEDIATAMENTE POSTERIOR A LAS PLACAS. ESTA ARMADURA SERÁ DEFINIDA POR EL SUMINISTRADOR DEL PRETENSADO.



ARMADURA DE ANCLAJES DE TENDONES EN FRENTE DE DOVELAS 5 A 7 PRETENSADO TIPO "A"
ESCALA 1:20



SECCION A-A
ESCALA 1:20



SECCION B-B
ESCALA 1:20

- Factores de modificación que incrementan Id:
- * Factor de ubicación del refuerzo: 1.40
- * Refuerzo horizontal mínimo de manera que 30 cm de concreto fresco se funde por debajo del refuerzo, Top bar: 1.20
- * Otro refuerzo, Bottom bar: 1.20

TABLA Longitud de desarrollo básica en tensión (tracción) [mm], fy = 4200 kg/cm²

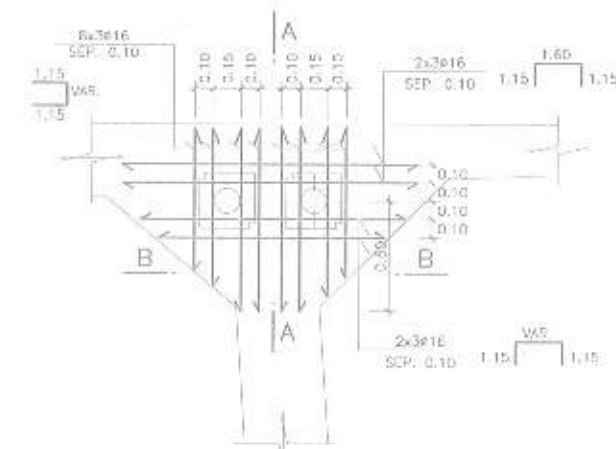
Fc	f [mm]										
2	f [mm]										
(kg/cm ²)	10	12	14	16	18	20	22	25	28	32	36
210	300	300	350	400	500	600	700	800	1150	1500	1850
240	300	300	350	400	450	550	650	850	1050	1400	1750
280	300	300	350	400	450	500	600	800	1000	1300	1650
360	300	300	350	400	450	500	550	700	900	1150	1450
420	300	300	350	400	450	500	550	650	800	1050	1350
500	300	300	350	400	450	500	550	650	750	950	1250

TABLA Traspases de refuerzo en tensión (tracción) [mm], fy = 4200 kg/cm²

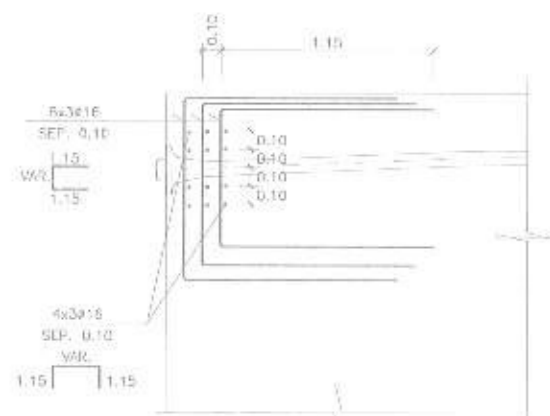
Fc	f [mm]										
2	f [mm]										
(kg/cm ²)	10	12	14	16	18	20	22	25	28	32	36
Traspase clase C											
210	510	510	585	680	800	1020	1190	1530	1850	2550	3145
240	510	510	645	680	765	935	1105	1445	1765	2300	2875
280	510	510	655	680	765	850	1020	1300	1700	2210	2805
360	510	510	685	680	765	850	935	1100	1390	1805	2465
420	510	510	695	680	765	850	935	1105	1390	1785	2295
500	510	510	695	680	765	850	935	1105	1275	1515	2040

UNIDAD DE MEDICIÓN Y PAGO DE CADA UNO DE LOS HILOS SEGÚN ESPECIFICACIONES TÉCNICAS.

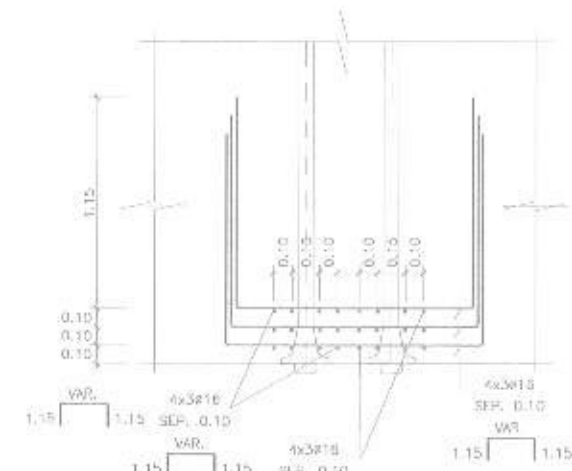
NOTA:
- VER ESPECIFICACIONES TÉCNICAS DE MATERIALES EN HOJA N°2 DEL CAPÍTULO 1.



ARMADURA DE ANCLAJES DE TENDONES EN FRENTE DE DOVELAS 8 Y 9 PRETENSADO TIPO "A"
ESCALA 1:20



SECCION A-A
ESCALA 1:20



SECCION B-B
ESCALA 1:20



Empresa Pública Metropolitana de Movilidad y Obras Públicas



REVISOR: [Signature]
DISEÑADOR: [Signature]

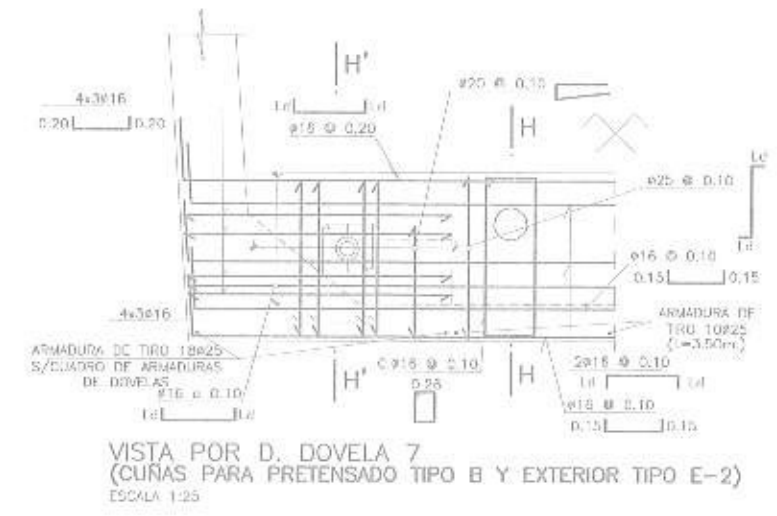
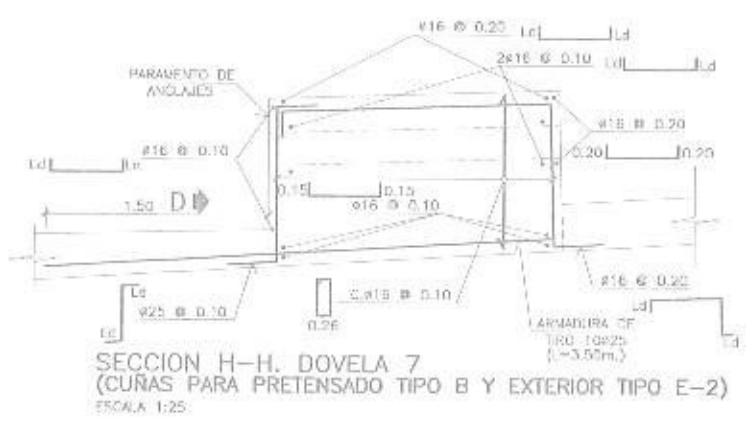
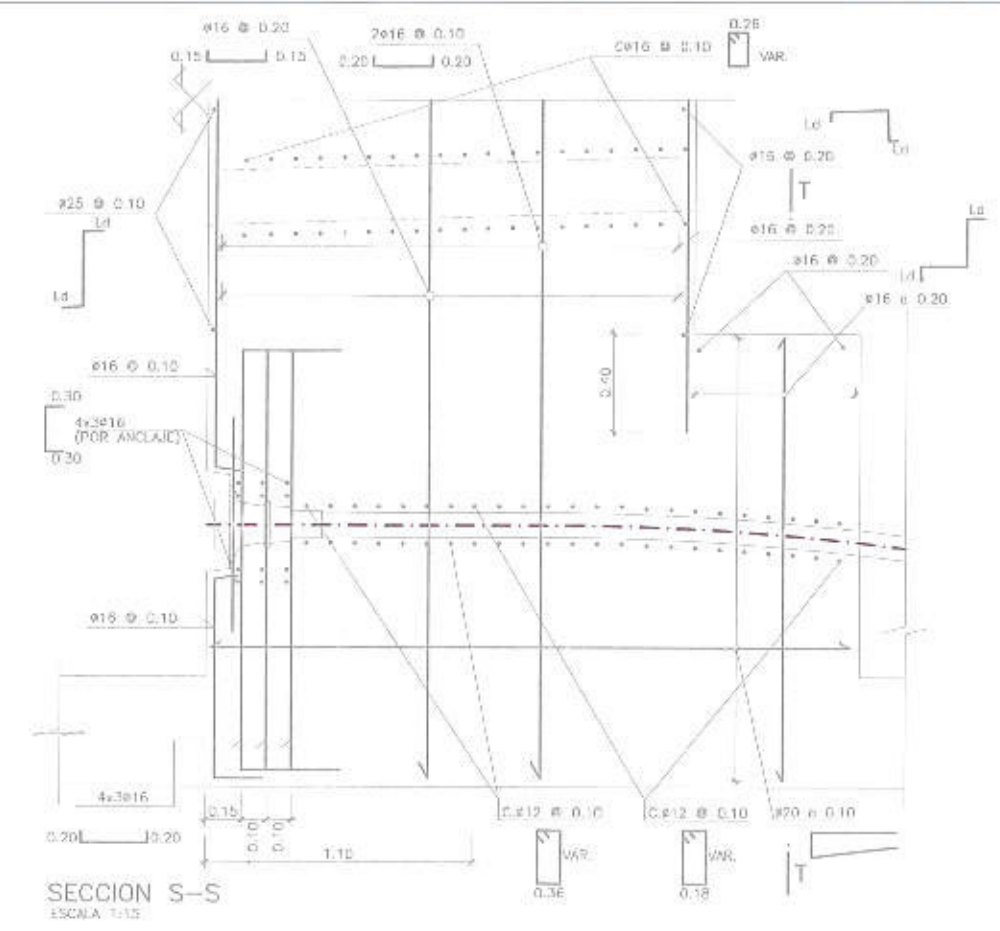
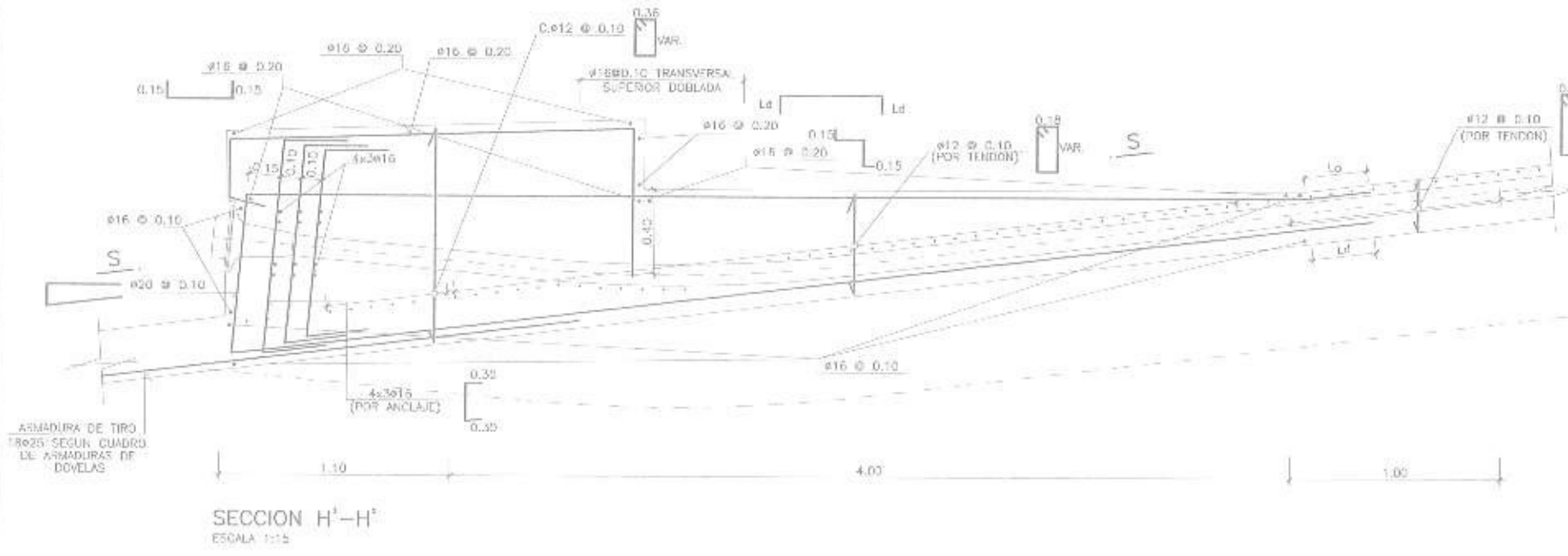
PROYECTISTA: [Signature]

ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN

SECCION: PUENTE GUAYASAMIN
CORRECTOR: TALLER DE ARMADURAS (ARMADURAS DE ANCLAJE (1))

ESCALAS: ZENICADAS
FECHA: NOVIEMBRE 2014

PROYECTO: 36.07.026-025-ARM ANCLAJE (II-III).dwg
CLIENTE: FERNANDO ADRI CONSULTORES



NOTA:
- VER ESPECIFICACIONES TECNICAS DE MATERIALES EN HOJA N°2 DEL CAPITULO 1.

- Factores de modificación que incrementan la:
 - * Factor de ubicación del refuerzo: 1,40
 - * Refuerzo horizontal ubicado de manera que 30 cm de concreto fresco se funde por debajo del refuerzo, Top bar: 1,00
 - * Otro refuerzo, Bottom bar: 1,00

TABLA Longitud de desarrollo básica en tensión (tracción) (mm).

F _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	f (mm)										
2	10	12	14	16	18	20	22	25	28	32	36
210	350	370	390	400	420	430	450	470	490	510	530
240	350	370	390	400	420	430	450	470	490	510	530
280	350	370	390	400	420	430	450	470	490	510	530
350	350	370	390	400	420	430	450	470	490	510	530
420	350	370	390	400	420	430	450	470	490	510	530
500	350	370	390	400	420	430	450	470	490	510	530

TABLA Traspases de refuerzo en tensión (tracción) (mm)


f _c (kg/cm ²)	f _y = 4200 kg/cm ²										
	f (mm)										
2	10	12	14	16	18	20	22	25	28	32	36
Traspase clase C											
210	510	510	595	660	755	835	1105	1445	1785	2380	2975
240	510	510	595	660	755	835	1105	1445	1785	2380	2975
280	510	510	595	660	755	835	1105	1445	1785	2380	2975
350	510	510	595	660	755	835	1105	1445	1785	2380	2975
420	510	510	595	660	755	835	1105	1445	1785	2380	2975
500	510	510	595	660	755	835	1105	1445	1785	2380	2975

- UNIDADES DE MEDICION Y PAGO DE CADA UNO DE LOS HITOS SEGUN ESPECIFICACIONES TECNICAS

NOTA:
LA ARMADURA DEFINIDA PARA LAS CUÑAS DE ANCLAJE ES ADICIONAL A LA GENERAL DEL TABLERO.



中国路桥工程有限责任公司
CHINA ROAD AND BRIDGE CORPORATION



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



5.- LEVANTAMIENTO TOPOGRÁFICO



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1	9978623.191	781623.675	2750.363	AUX 3A
2	9978606.657	781601.625	2749.270	AUX 4A
3	9978623.191	781623.675	2750.363	AUX 8 TANQUE
4	9978606.657	781601.625	2749.270	TOP
5	9978598.890	781600.694	2748.310	TOP
6	9978606.659	781601.626	2749.267	TOP
7	9978732.870	781433.925	2767.175	PIE TALUD
8	9978729.429	781433.502	2766.588	BORDE 1
9	9978735.191	781422.176	2767.834	PIE TALUD
10	9978730.397	781421.373	2767.369	BORDE 1
11	9978736.689	781410.119	2770.290	PIE TALUD
12	9978731.094	781407.799	2768.083	BORDE 1
13	9978736.945	781393.301	2769.644	PIE TALUD
14	9978732.231	781389.704	2768.806	BORDE 1
15	9978617.194	781498.355	2682.548	TN
16	9978617.201	781498.323	2681.538	TN
17	9978614.088	781500.840	2680.587	TN
18	9978619.540	781497.336	2679.959	TN
19	9978621.714	781497.641	2683.020	TN
20	9978613.519	781495.167	2678.251	TN
21	9978623.575	781497.362	2681.661	TN
22	9978617.392	781493.548	2675.961	TN
23	9978626.089	781494.876	2680.837	TN
24	9978628.128	781491.816	2680.848	TN
25	9978621.460	781489.943	2675.236	TN
26	9978621.378	781489.927	2675.318	TN
27	9978632.053	781489.282	2684.045	TN
28	9978623.948	781488.008	2677.448	TN
29	9978627.293	781485.599	2679.850	TN
30	9978630.005	781485.874	2681.372	EJE
31	9978632.593	781480.647	2680.822	EJE
32	9978630.466	781482.464	2684.527	TN
33	9978630.967	781481.193	2680.545	TN
34	9978641.224	781479.544	2685.208	TN
35	9978642.908	781477.181	2686.679	TN
36	9978645.430	781475.622	2686.247	TN
37	9978638.466	781478.674	2679.179	TN
38	9978649.593	781475.246	2686.331	TN
39	9978649.593	781475.246	2686.334	TN
40	9978639.435	781472.191	2681.418	TN
41	9978652.744	781470.585	2687.442	TN
42	9978646.078	781469.947	2681.618	TN
43	9978650.122	781466.664	2680.341	TN
44	9978637.525	781470.832	2677.984	EJE
45	9978634.763	781469.652	2675.213	TN
46	9978629.755	781477.062	2673.758	TN
47	9978635.047	781479.549	2676.014	TN
48	9978633.546	781474.571	2672.881	TN
49	9978621.318	781481.882	2675.129	TN
50	9978631.346	781466.974	2673.648	TN
51	9978630.403	781471.982	2669.061	TN
52	9978618.754	781485.161	2673.065	TN
53	9978623.339	781474.828	2671.161	TN
54	9978617.975	781487.588	2670.828	TN
55	9978618.198	781478.000	2672.308	TN
56	9978615.312	781488.588	2670.360	TN
57	9978613.068	781481.193	2670.001	TN
58	9978613.677	781490.147	2671.788	TN
59	9978611.128	781486.357	2665.581	TN
60	9978612.256	781482.105	2670.718	TN
61	9978607.758	781489.013	2661.316	TN
62	9978608.736	781494.340	2670.912	TN
63	9978608.301	781484.819	2667.114	TN
64	9978608.294	781494.781	2667.151	FQ
65	9978605.743	781493.544	2663.611	FQ
66	9978605.984	781490.443	2663.947	TN
67	9978601.715	781488.215	2662.159	TN
68	9978603.853	781486.832	2662.030	TN
69	9978597.556	781485.905	2659.354	TN
70	9978606.486	781485.182	2661.605	TN
71	9978608.810	781481.349	2663.409	TN
72	9978599.384	781483.274	2655.828	FQ
73	9978609.840	781477.837	2665.464	TN
74	9978601.602	781476.332	2659.526	TN
75	9978612.776	781474.845	2668.036	TN
76	9978604.542	781470.102	2659.768	TN
77	9978612.214	781471.879	2665.152	TN
78	9978608.159	781467.886	2656.040	TN
79	9978606.203	781473.962	2662.579	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
80	9978607.072	781471.230	2661.653	TN
81	9978598.099	781481.225	2654.434	FQ
82	9978603.751	781466.694	2656.020	TN
83	9978603.747	781466.786	2655.935	TN
84	9978593.462	781483.185	2655.637	TN
85	9978600.021	781466.751	2654.409	TN
86	9978588.438	781480.751	2651.595	TN
87	9978599.558	781463.673	2651.600	TN
88	9978594.989	781466.624	2654.356	TN
89	9978593.003	781477.324	2649.178	FQ
90	9978591.529	781467.183	2652.161	TN
91	9978592.159	781471.765	2652.396	TN
92	9978591.217	781476.170	2648.384	FQ
93	9978590.899	781478.772	2648.051	FQ
94	9978589.413	781471.393	2648.198	FQ
95	9978589.113	781488.712	2650.275	TN
96	9978585.517	781475.070	2642.619	FQ
97	9978589.458	781467.430	2649.317	TN
98	9978585.580	781466.772	2646.211	TN
99	9978584.186	781470.889	2646.227	TN
100	9978617.194	781498.355	2682.548	TN
101	9978617.201	781498.323	2681.538	TN
102	9978614.088	781500.840	2680.587	TN
103	9978619.540	781497.336	2679.959	TN
104	9978621.714	781497.641	2683.020	TN
105	9978613.519	781495.167	2678.251	TN
106	9978623.575	781497.362	2681.661	TN
107	9978617.392	781493.548	2675.961	TN
108	9978626.089	781494.876	2680.837	TN
109	9978628.128	781491.816	2680.848	TN
110	9978621.460	781489.943	2675.236	TN
111	9978621.378	781489.927	2675.318	TN
112	9978632.053	781489.282	2684.045	TN
113	9978623.948	781488.008	2677.448	TN
114	9978627.293	781485.599	2679.850	TN
115	9978630.005	781485.874	2681.372	EJE
116	9978632.593	781480.647	2680.822	EJE
117	9978630.466	781482.464	2684.527	TN
118	9978630.967	781481.193	2680.545	TN
119	9978641.224	781479.544	2685.208	TN
120	9978642.908	781477.181	2686.679	TN
121	9978645.430	781475.622	2686.247	TN
122	9978638.466	781478.674	2679.179	TN
123	9978649.593	781475.246	2686.331	TN
124	9978649.593	781475.246	2686.334	TN
125	9978639.435	781472.191	2681.418	TN
126	9978652.744	781470.585	2687.442	TN
127	9978646.078	781469.947	2681.618	TN
128	9978650.122	781466.664	2680.341	TN
129	9978637.525	781470.832	2677.984	EJE
130	9978634.763	781469.652	2675.213	TN
131	9978629.755	781477.062	2673.758	TN
132	9978635.047	781479.549	2676.014	TN
133	9978633.546	781474.571	2672.881	TN
134	9978621.318	781481.882	2675.129	TN
135	9978631.346	781466.974	2673.648	TN
136	9978630.403	781471.982	2669.061	TN
137	9978618.754	781485.161	2673.065	TN
138	9978623.339	781474.828	2671.161	TN
139	9978617.975	781487.588	2670.828	TN
140	9978618.198	781478.000	2672.308	TN
141	9978615.312	781488.588	2670.360	TN
142	9978613.068	781481.193	2670.001	TN
143	9978613.677	781490.147	2671.788	TN
144	9978611.128	781486.357	2665.581	TN
145	9978612.256	781482.105	2670.718	TN
146	9978607.758	781489.013	2661.316	TN
147	9978608.736	781494.340	2670.912	TN
148	9978608.301	781484.819	2667.114	TN
149	9978608.294	781494.781	2667.151	FQ
150	9978605.743	781493.544	2663.611	FQ
151	9978605.984	781490.443	2663.947	TN
152	9978601.715	781488.215	2662.159	TN
153	9978603.853	781486.832	2662.030	TN
154	9978597.556	781485.905	2659.354	TN
155	9978606.486	781485.182	2661.605	TN
156	9978608.810	781481.349	2663.409	TN
157	9978599.384	781483.274	2655.828	FQ
158	9978609.840	781477.837	2665.464	TN



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
159	9978609.840	781477.897	2655.466	TN
160	9978601.602	781476.332	2659.526	TN
161	9978612.776	781474.845	2659.036	TN
162	9978604.542	781470.102	2659.768	TN
163	9978612.214	781471.879	2665.152	TN
164	9978598.159	781467.895	2656.040	TN
165	9978606.203	781473.962	2662.579	TN
166	9978607.072	781471.230	2661.653	TN
167	9978598.699	781481.225	2654.434	FQ
168	9978603.751	781466.694	2656.010	TN
169	9978603.747	781466.786	2655.935	TN
170	9978593.462	781483.185	2655.637	TN
171	9978600.071	781466.751	2654.409	TN
172	9978588.428	781480.731	2651.595	TN
173	9978599.558	781463.673	2651.600	TN
174	9978594.989	781466.624	2654.356	TN
175	9978593.003	781477.324	2649.178	FQ
176	9978591.529	781467.183	2652.161	TN
177	9978592.156	781471.765	2652.596	TN
178	9978591.217	781476.370	2648.384	FQ
179	9978590.899	781478.772	2648.051	FQ
180	9978589.413	781471.395	2648.198	FQ
181	9978589.119	781468.712	2650.275	TN
182	9978585.517	781475.070	2642.619	FQ
183	9978589.458	781467.430	2649.317	TN
184	9978585.580	781466.772	2646.211	TN
185	9978584.186	781470.889	2646.227	TN
186	9978580.325	781474.864	2641.063	FQ
187	9978580.397	781470.146	2643.491	TN
188	9978581.847	781465.316	2644.495	TN
189	9978578.175	781463.235	2643.070	TN
190	9978577.710	781467.022	2641.799	TN
191	9978576.429	781475.392	2638.502	FQ
192	9978576.853	781470.949	2638.832	TN
193	9978576.217	781480.857	2649.138	TN
194	9978583.440	781480.577	2649.805	TN
195	9978588.679	781481.853	2652.457	TN
196	9978595.660	781484.965	2659.067	TN
197	9978602.433	781495.303	2657.635	TN
198	9978594.795	781487.422	2664.954	TN
199	9978601.471	781496.234	2673.349	TN
200	9978592.232	781492.548	2670.741	TN
201	9978617.175	781506.091	2689.967	TN
202	9978618.064	781508.250	2692.367	E/E
203	9978618.175	781510.374	2694.412	TN
204	9978621.511	781502.712	2689.709	E/E
205	9978620.934	781507.473	2692.731	TN
206	9978626.459	781499.206	2688.895	TN
207	9978624.228	781504.879	2691.554	TN
208	9978631.499	781496.029	2687.187	TN
209	9978628.098	781502.535	2689.951	TN
210	9978634.531	781494.405	2686.477	TN
211	9978632.481	781499.027	2689.660	TN
212	9978637.783	781497.369	2691.826	TN
213	9978636.388	781490.595	2688.173	TN
214	9978639.527	781491.303	2693.653	TN
215	9978638.601	781486.975	2687.825	TN
216	9978642.288	781490.183	2693.860	TN
217	9978642.786	781484.649	2688.678	TN
218	9978645.034	781487.521	2692.507	TN
219	9978644.889	781480.076	2688.278	TN
220	9978647.421	781484.568	2691.592	TN
221	9978647.987	781483.866	2690.585	TN
222	9978650.120	781479.069	2689.690	TN
223	9978653.417	781474.139	2690.053	TN
224	9978650.896	781481.263	2693.415	TN
225	9978656.055	781470.231	2691.080	TN
226	9978654.312	781478.245	2695.197	TN
227	9978659.903	781472.666	2696.984	TN
228	9978664.272	781480.511	2705.395	TN
229	9978660.049	781481.366	2700.048	TN
230	9978650.997	781470.140	2649.491	TN
231	9978661.783	781491.521	2705.019	TN
232	9978658.739	781495.192	2706.005	TN
233	9978656.249	781488.413	2699.566	TN
234	9978654.705	781497.626	2705.827	TN
235	9978651.350	781491.971	2698.917	TN
236	9978650.838	781499.309	2705.315	TN
237	9978648.611	781494.597	2706.976	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
238	9978648.123	781504.324	2705.043	TN
239	9978644.232	781498.934	2701.326	TN
240	9978642.533	781503.675	2699.940	TN
241	9978633.815	781516.492	2703.464	TN
242	9978638.029	781507.320	2699.867	TN
243	9978633.491	781511.727	2700.268	TN
244	9978643.732	781516.473	2707.891	TN
245	9978645.752	781521.652	2711.801	TN
246	9978637.216	781499.827	2708.669	TN
247	9978665.135	781490.483	2710.064	TN
248	9978651.119	781514.854	2710.761	TN
249	9978653.986	781512.041	2712.041	TN
250	9978666.527	781479.056	2710.811	TN
251	9978668.247	781472.739	2711.062	TN
252	9978657.805	781505.863	2712.926	TN
253	9978668.700	781461.608	2713.592	TN
254	9978668.059	781455.247	2712.941	TN
255	9978668.403	781500.299	2715.339	TN
256	9978669.988	781449.396	2713.827	TN
257	9978672.380	781443.917	2714.214	TN
258	9978673.325	781439.801	2714.886	TN
259	9978670.520	781490.390	2716.781	TN
260	9978676.730	781466.347	2721.045	TN
261	9978679.575	781455.567	2721.605	TN
262	9978677.752	781437.628	2718.120	TN
263	9978681.182	781448.227	2722.657	TN
264	9978678.091	781431.007	2718.032	TN
265	9978682.990	781443.639	2723.188	TN
266	9978682.852	781427.411	2722.990	TN
267	9978686.427	781430.445	2727.304	TN
268	9978689.781	781425.988	2730.419	TN
269	9978679.240	781444.176	2720.747	TN
270	9978677.145	781449.707	2718.562	TN
271	9978674.369	781454.461	2718.309	TN
272	9978673.188	781460.740	2717.212	TN
273	9978672.128	781465.999	2717.101	TN
274	9978690.176	781443.702	2729.657	TN
275	9978671.411	781471.436	2715.491	TN
276	9978670.805	781477.606	2714.930	TN
277	9978688.346	781447.878	2729.168	TN
278	9978670.323	781483.770	2715.162	TN
279	9978684.652	781457.323	2727.315	TN
280	9978682.430	781465.127	2725.814	TN
281	9978673.831	781486.637	2721.195	TN
282	9978674.700	781484.106	2721.901	TN
283	9978682.468	781470.640	2726.938	TN
284	9978673.607	781488.231	2721.855	TN
285	9978682.372	781475.521	2726.705	TN
286	9978680.683	781479.679	2727.628	TN
287	9978677.947	781444.185	2727.736	TN
288	9978679.135	781493.189	2719.651	TN
289	9978672.318	781499.903	2718.585	TN
290	9978669.802	781504.898	2717.535	TN
291	9978665.306	781508.168	2718.296	TN
292	9978662.721	781512.214	2718.740	TN
293	9978659.288	781516.808	2718.526	TN
294	9978676.443	781501.572	2727.051	TN
295	9978656.596	781519.617	2717.279	TN
296	9978652.043	781523.351	2717.774	TN
297	9978672.403	781509.350	2715.378	TN
298	9978648.872	781528.410	2717.661	TN
299	9978667.204	781517.755	2724.052	TN
300	9978665.521	781521.796	2724.525	TN
301	9978663.071	781524.648	2724.050	TN
302	9978661.679	781527.931	2726.128	TN
303	9978661.679	781527.931	2727.805	TN
304	9978651.513	781532.715	2718.086	TN
305	9978651.513	781540.748	2718.168	TN
306	9978651.513	781528.815	2718.271	TN
307	9978651.513	781532.651	2718.152	TN
308	9978651.513	781543.595	2718.438	TN
309	9978651.513	781535.315	2718.325	TN
310	9978672.437	781540.000	2734.461	TN
311	9978674.003	781536.936	2736.737	TN
312	9978670.520	781546.711	2740.307	TN
313	9978676.857	781538.718	2739.694	TN
314	9978679.830	781540.288	2741.897	TN
315	9978672.293	781548.988	2743.740	TN
316	9978681.852	781541.978	2745.224	TN



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
317	9978675.386	781550.346	2746.287	TN
318	9978683.331	781544.814	2748.192	TN
319	9978676.133	781553.080	2748.952	TN
320	9978683.321	781544.832	2748.216	TN
321	9978685.409	781547.093	2751.064	TN
322	9978677.557	781553.861	2750.144	TN
323	9978688.387	781547.688	2754.242	TN
324	9978682.321	781555.979	2754.525	TN
325	9978581.847	781465.316	2644.495	TN
326	9978578.175	781463.235	2643.070	TN
327	9978577.710	781467.022	2641.799	TN
328	9978576.428	781475.392	2638.502	FO
329	9978576.853	781470.949	2639.832	TN
330	9978576.217	781480.857	2649.118	TN
331	9978583.440	781480.577	2649.805	TN
332	9978588.679	781481.653	2652.457	TN
333	9978595.660	781484.965	2659.067	TN
334	9978602.433	781485.303	2667.635	TN
335	9978594.765	781487.422	2664.956	TN
336	9978601.471	781495.234	2673.949	TN
337	9978592.232	781492.548	2670.741	TN
338	9978617.175	781506.031	2689.967	TN
339	9978618.064	781508.250	2692.367	E.E
340	9978618.175	781510.374	2694.412	TN
341	9978621.311	781502.712	2689.709	L.E
342	9978620.934	781507.473	2692.733	TN
343	9978626.459	781499.206	2686.895	TN
344	9978634.223	781504.879	2691.554	TN
345	9978631.499	781496.023	2687.187	TN
346	9978628.098	781502.535	2689.991	TN
347	9978634.531	781494.405	2688.477	TN
348	9978632.481	781499.027	2689.669	TN
349	9978637.783	781497.369	2691.826	TN
350	9978636.388	781490.595	2688.173	TN
351	9978639.527	781493.303	2693.633	TN
352	9978638.601	781486.975	2687.825	TN
353	9978642.288	781490.183	2693.860	TN
354	9978642.786	781484.649	2688.678	TN
355	9978645.034	781487.321	2692.507	TN
356	9978644.889	781480.076	2688.279	TN
357	9978647.421	781484.568	2691.592	TN
358	9978647.987	781483.886	2690.585	TN
359	9978650.120	781479.069	2689.600	TN
360	9978653.417	781474.139	2690.053	TN
361	9978650.996	781481.263	2693.415	TN
362	9978656.055	781470.231	2691.080	TN
363	9978654.312	781478.245	2695.197	TN
364	9978659.803	781472.666	2696.984	TN
365	9978664.272	781480.511	2705.395	TN
366	9978660.049	781481.860	2700.048	TN
367	9978661.783	781491.521	2705.019	TN
368	9978658.739	781495.192	2706.005	TN
369	9978656.249	781483.413	2699.566	TN
370	9978654.705	781497.626	2705.827	TN
371	9978651.350	781491.971	2698.917	TN
372	9978650.838	781499.309	2705.315	TN
373	9978648.611	781494.597	2700.976	TN
374	9978648.123	781504.324	2705.043	TN
375	9978644.232	781498.994	2701.226	TN
376	9978642.933	781503.675	2699.940	TN
377	9978631.815	781516.492	2703.464	TN
378	9978638.029	781507.320	2699.867	TN
379	9978632.491	781511.727	2700.268	TN
380	9978643.731	781516.473	2707.891	TN
381	9978645.752	781521.652	2711.801	TN
382	9978657.216	781499.827	2708.869	TN
383	9978665.135	781490.483	2710.064	TN
384	9978662.119	781514.854	2710.761	TN
385	9978653.986	781512.041	2712.041	TN
386	9978666.527	781479.056	2710.811	TN
387	9978668.247	781472.739	2711.062	TN
388	9978657.805	781505.863	2712.926	TN
389	9978668.700	781461.606	2713.929	TN
390	9978668.059	781455.247	2712.941	TN
391	9978668.404	781500.269	2715.399	TN
392	9978669.988	781449.386	2718.827	TN
393	9978672.380	781443.917	2714.214	TN
394	9978673.523	781439.801	2714.886	TN
395	9978670.320	781490.390	2716.781	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
396	9978676.730	781466.347	2721.045	TN
397	9978679.575	781455.567	2722.605	TN
398	9978677.752	781437.628	2718.120	TN
399	9978681.182	781448.227	2722.657	TN
400	9978678.091	781431.007	2718.032	TN
401	9978682.990	781443.839	2723.188	TN
402	9978682.852	781427.411	2721.990	TN
403	9978686.427	781430.445	2727.304	TN
404	9978689.781	781425.988	2730.419	TN
405	9978679.249	781444.176	2720.747	TN
406	9978677.145	781449.707	2718.562	TN
407	9978674.969	781454.461	2718.309	TN
408	9978673.188	781460.740	2717.212	TN
409	9978672.128	781465.999	2717.101	TN
410	9978690.176	781443.702	2729.657	TN
411	9978671.411	781471.436	2715.491	TN
412	9978670.805	781477.606	2714.930	TN
413	9978688.346	781447.878	2720.168	TN
414	9978670.323	781483.770	2715.162	TN
415	9978684.652	781457.323	2727.315	TN
416	9978682.430	781465.127	2725.814	TN
417	9978673.831	781486.637	2721.195	TN
418	9978674.700	781484.106	2721.901	TN
419	9978682.468	781470.640	2726.938	TN
420	9978675.607	781488.231	2721.855	TN
421	9978682.372	781475.521	2726.705	TN
422	9978680.683	781479.679	2727.628	TN
423	9978677.947	781484.185	2727.736	TN
424	9978673.335	781493.189	2719.651	TN
425	9978672.318	781499.903	2718.585	TN
426	9978669.802	781504.898	2717.535	TN
427	9978665.308	781508.168	2718.296	TN
428	9978662.721	781512.214	2718.749	TN
429	9978659.288	781516.808	2718.516	TN
430	9978676.443	781501.572	2727.051	TN
431	9978656.596	781519.617	2717.279	TN
432	9978652.043	781523.351	2717.774	TN
433	9978672.803	781509.350	2725.378	TN
434	9978648.872	781528.410	2717.661	TN
435	9978667.204	781517.755	2724.052	TN
436	9978665.521	781521.796	2724.525	TN
437	9978663.071	781524.648	2724.050	TN
438	9978661.678	781520.832	2726.126	TN
439	9978658.021	781537.940	2727.605	TN
440	9978662.513	781532.715	2728.086	TN
441	9978661.761	781540.748	2731.196	TN
442	9978665.843	781532.816	2730.271	TN
443	9978669.708	781532.652	2732.152	TN
444	9978665.085	781543.588	2734.928	TN
445	9978670.783	781532.194	2732.325	TN
446	9978672.437	781534.078	2734.461	TN
447	9978674.003	781536.936	2736.737	TN
448	9978670.254	781546.711	2740.307	TN
449	9978676.857	781538.718	2739.694	TN
450	9978679.830	781540.288	2741.897	TN
451	9978672.293	781548.988	2743.740	TN
452	9978681.852	781541.878	2745.224	TN
453	9978675.186	781550.346	2746.287	TN
454	9978683.331	781544.814	2748.192	TN
455	9978676.133	781553.080	2748.952	TN
456	9978683.321	781544.832	2748.216	TN
457	9978685.409	781547.093	2751.064	TN
458	9978677.557	781553.861	2750.144	TN
459	9978688.387	781547.688	2754.242	TN
460	9978682.321	781555.979	2754.525	TN
461	9978581.847	781465.316	2644.495	ASFILATO
462	9978578.175	781463.235	2643.070	VEREDA
463	9978577.710	781467.022	2641.799	PARTERR
464	9978576.428	781475.392	2638.502	ASFILATO
465	9978576.853	781470.949	2639.832	TERR NATUR
466	9978576.217	781480.857	2649.118	ASFILATO
467	9978583.440	781480.577	2649.805	VEREDA
468	9978588.679	781481.653	2652.457	PARTERR
469	9978595.660	781484.965	2659.067	ASFILATO
470	9978602.433	781485.303	2667.635	TERR NATUR
471	9978594.765	781487.422	2664.956	ASFILATO
472	9978601.471	781495.234	2673.949	PARTERR
473	9978592.232	781492.548	2670.741	ASFILATO
474	9978617.175	781506.031	2689.967	TERR NATUR
475	9978618.064	781508.250	2692.367	ASFILATO
476	9978618.175	781510.374	2694.412	VEREDA
477	9978621.311	781502.712	2689.709	ASFILATO
478	9978620.934	781507.473	2692.733	PARTERR
479	9978626.459	781499.206	2686.895	ASFILATO
480	9978634.223	781504.879	2691.554	TERR NATUR
481	9978631.499	781496.023	2687.187	ASFILATO
482	9978628.098	781502.535	2689.991	VEREDA
483	9978634.531	781494.405	2688.477	PARTERR
484	9978632.481	781499.027	2689.669	ASFILATO
485	9978637.783	781497.369	2691.826	TERR NATUR
486	9978636.388	781490.595	2688.173	ASFILATO
487	9978639.527	781493.303	2693.633	VEREDA
488	9978638.601	781486.975	2687.825	PARTERR
489	9978642.288	781490.183	2693.860	ASFILATO
490	9978642.786	781484.649	2688.678	TERR NATUR
491	9978645.034	781487.321	2692.507	ASFILATO
492	9978644.889	781480.076	2688.279	VEREDA
493	9978647.421	781484.568	2691.592	PARTERR
494	9978647.987	781483.886	2690.585	ASFILATO
495	9978650.120	781479.069	2689.600	TERR NATUR
496	9978653.417	781474.139	2690.053	ASFILATO
497	9978650.996	781481.263	2693.415	VEREDA
498	9978656.055	781470.231	2691.080	PARTERR
499	9978654.312	781478.245	2695.197	ASFILATO
500	9978659.803	781472.666	2696.984	TERR NATUR
501	9978664.272	781480.511	2705.395	ASFILATO
502	9978660.049	781481.860	2700.048	VEREDA
503	9978661.783	781491.521	2705.019	



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
475	9979067.152	783529.188	2629.580	ASFILATO
476	9979064.061	783530.081	2625.766	VEREDA
477	9979081.441	783497.089	2629.495	PARTERR
478	9978978.596	783471.014	2632.089	ASFILATO
479	9978980.477	783471.538	2632.298	VEREDA
480	9979063.764	783516.297	2626.777	ASFILATO
481	9979061.258	783514.786	2626.946	VEREDA
482	9978985.566	783465.443	2632.632	ASFILATO
483	9978986.741	783466.008	2632.801	VEREDA
484	9979058.709	783504.899	2627.870	ASFILATO
485	9979055.850	783506.829	2627.751	VEREDA
486	9979072.294	783478.496	2630.904	PARTERR
487	9978993.486	783454.765	2633.374	ASFILATO
488	9978995.111	783455.620	2633.590	TERR NATUR
489	9978996.700	783444.784	2633.806	ASFILATO
490	9979050.298	783492.265	2629.273	ASFILATO
491	9979049.108	783492.754	2629.341	VEREDA
492	9979067.055	783470.360	2631.407	PARTERR
493	9979042.285	783483.004	2630.496	ASFILATO
494	9979041.155	783483.575	2630.556	TERR NATUR
495	9979059.786	783459.981	2632.045	ASFILATO
496	9978700.144	781522.071	2756.103	AUX-2A
497	9978700.135	781522.077	2756.122	AUX-2A
498	9978731.758	781520.480	2761.991	PCDM
499	9978997.874	783433.409	2634.348	TERR NATUR
500	9979033.550	783473.189	2631.601	ASFILATO
501	9978731.763	781520.498	2761.992	AUX-1A
502	9978700.136	781522.070	2756.130	AUX-2A
503	9979010.022	783448.642	2633.645	TERR NATUR
504	9978534.742	781648.480	2746.188	AUX-4A
505	9978567.960	781627.243	2747.761	ESQ-C
506	9978587.732	781619.566	2748.443	ESQ-C
507	9979016.767	783456.267	2633.143	TERR NATUR
508	9979058.317	783455.778	2632.266	ASFILATO
509	9979065.487	783457.770	2632.223	ASFILATO
510	9979065.502	783459.958	2632.329	TERR NATUR
511	9979075.487	783461.434	2632.242	TERR NATUR
512	9979075.710	783459.034	2632.256	ASFILATO
513	9979084.921	783457.772	2632.272	ASFILATO
514	9979085.427	783460.161	2632.485	TERR NATUR
515	9979095.087	783457.059	2631.550	TERR NATUR
516	9979094.023	783454.529	2632.476	ASFILATO
517	9979003.319	783397.637	2634.942	ASFILATO
518	9979004.217	783396.810	2634.934	TERR NATUR
519	9979090.690	783448.235	2632.480	ASFILATO
520	9979089.535	783445.844	2632.619	TERR NATUR
521	9979013.089	783406.405	2634.758	TERR NATUR
522	9979012.024	783407.003	2634.674	ASFILATO
523	9979080.054	783448.478	2632.535	TERR NATUR
524	9979080.514	783451.576	2632.414	ASFILATO
525	9979022.122	783417.488	2634.200	ASFILATO
526	9979022.863	783416.432	2634.318	TERR NATUR
527	9979071.428	783451.719	2632.431	ASFILATO
528	9979071.656	783449.630	2632.493	TERR NATUR
529	9979032.532	783427.819	2633.691	ASFILATO
530	9979033.579	783426.981	2633.805	TERR NATUR
531	9979062.432	783446.788	2632.630	TERR NATUR
532	9979061.446	783449.281	2632.607	ASFILATO
533	9979042.836	783437.320	2633.154	ASFILATO
534	9979043.901	783436.085	2633.344	TERR NATUR
535	9979052.654	783445.005	2632.807	ASFILATO
536	9979053.930	783443.222	2632.931	TERR NATUR
537	9978943.920	783717.498	2606.469	AUX 2B
538	9978957.069	783714.018	2606.754	PARTERR
539	9978944.780	783717.085	2606.380	ASFILATO
540	9978944.172	783718.351	2606.622	VEREDA
541	9978967.567	783716.455	2607.488	PARTERR
542	9978954.585	783720.776	2607.140	ASFILATO
543	9978954.559	783722.107	2607.511	VEREDA
544	9978965.272	783723.142	2607.861	ASFILATO
545	9978960.318	783717.195	2608.430	PARTERR
546	9978965.289	783724.192	2608.009	VEREDA
547	9978976.913	783724.109	2608.615	ASFILATO
548	9978976.533	781725.454	2608.738	VEREDA
549	9979000.465	783693.454	2609.168	ASFILATO
550	9979000.181	783692.248	2609.554	TERR NATUR
551	9978994.203	783715.808	2609.428	PARTERR
552	9978986.969	783723.878	2609.212	ASFILATO
553	9978986.932	783725.135	2609.534	PARTERR

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
554	9978993.507	783710.433	2609.743	PARTERR
555	9979009.920	783690.201	2610.060	ASFILATO
556	9979008.996	783688.243	2610.346	TERR NATUR
557	9979005.707	783707.626	2610.664	PARTERR
558	9978996.752	783722.419	2609.860	ASFILATO
559	9979007.160	783712.105	2610.326	PARTERR
560	9978996.945	783723.636	2610.152	VEREDA
561	9979018.942	783685.139	2610.943	ASFILATO
562	9979017.443	783683.200	2611.570	TERR NATUR
563	9979018.652	783702.352	2611.711	PARTERR
564	9979019.574	783706.860	2611.804	PARTERR
565	9979028.749	783677.476	2612.070	VEREDA
566	9979017.529	783675.820	2612.382	TERR NATUR
567	9979036.535	783668.600	2613.159	ASFILATO
568	9979034.513	783667.359	2613.236	TERR NATUR
569	9979042.796	783658.588	2614.305	ASFILATO
570	9979040.643	783657.785	2614.342	TERR NATUR
571	9979009.684	783720.384	2610.926	VEREDA
572	9979017.903	783715.512	2611.299	ASFILATO
573	9979026.159	783698.113	2612.969	PARTERR
574	9979018.964	783718.914	2611.542	VEREDA
575	9979028.840	783701.441	2612.979	PARTERR
576	9979026.510	783711.259	2612.942	ASFILATO
577	9979027.084	783712.467	2612.171	VEREDA
578	9979037.843	783689.074	2613.471	PARTERR
579	9979047.630	783647.490	2615.491	ASFILATO
580	9979045.069	783646.300	2615.532	TERR NATUR
581	9979041.006	783691.967	2613.069	PARTERR
582	9979034.969	783705.754	2612.523	ASFILATO
583	9979035.781	783706.899	2612.454	VEREDA
584	9979048.081	783677.826	2614.546	ASFILATO
585	9979043.554	783699.028	2613.174	ASFILATO
586	9979051.818	783680.219	2614.105	VEREDA
587	9979044.655	783699.919	2613.318	PARTERR
588	9979056.711	783684.135	2615.666	PARTERR
589	9979051.587	783690.087	2613.782	ASFILATO
590	9979061.038	783665.971	2615.284	PARTERR
591	9979052.678	783691.664	2613.922	VEREDA
592	9979062.556	783650.335	2616.685	PARTERR
593	9979051.763	783634.643	2616.796	ASFILATO
594	9979067.237	783651.556	2616.359	PARTERR
595	9979049.410	783633.987	2617.048	TERR NATUR
596	9979058.082	783683.354	2614.412	ASFILATO
597	9979058.962	783684.683	2614.514	VEREDA
598	9979085.952	783671.216	2615.199	ASFILATO
599	9979088.232	783672.169	2615.427	VEREDA
600	9978934.724	781028.280	2775.215	AUXA
601	9979073.219	783661.214	2618.167	VEREDA
602	9979070.652	783638.911	2617.195	PARTERR
603	9979075.443	783648.788	2616.630	ASFILATO
604	9979066.523	783637.759	2617.590	PARTERR
605	9978572.995	781595.853	2737.420	TNIZ
606	9978572.149	781585.456	2729.868	TNIZ
607	9978567.166	781614.064	2742.897	TNIZ
608	9978564.738	781600.132	2735.536	TNIZ
609	9978566.972	781587.844	2729.319	TNIZ
610	9978561.599	781617.991	2743.187	TNIZ
611	9978559.846	781620.743	2746.526	TNIZ
612	9978559.011	781605.318	2733.816	TNIZ
613	9978552.072	781595.076	2728.897	TNIZ
614	9978552.072	781595.076	2747.105	TNIZ
615	9978553.453	781622.739	2737.073	TNIZ
616	9978554.112	781595.076	2724.814	TNIZ
617	9978554.112	781595.076	2746.581	TNIZ
618	9978554.112	781595.076	2747.271	TNIZ
619	9978554.112	781595.076	2746.249	TNIZ
620	9978554.112	781595.076	2724.860	TNIZ
621	9978554.112	781595.076	2726.485	TNIZ
622	9978559.674	781617.141	2745.323	TNIZ
623	9978559.674	781617.141	2726.207	TNIZ
624	9978559.674	781620.441	2737.127	TNIZ
625	9978559.674	781634.516	2740.315	TNIZ
626	9978541.761	781603.518	2726.474	TNIZ
627	9978535.644	781608.717	2727.942	TNIZ
628	9978531.615	781629.877	2735.146	TNIZ
629	9978536.967	781625.152	2737.234	TNIZ
630	9978513.039	781611.265	2727.455	TNIZ
631	9978532.492	781611.449	2726.702	TNIZ
632	9978528.393	781626.484	2730.486	TNIZ



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
633	9978528.141	781617.729	2726.049	TNIZ
634	9978523.988	781624.937	2726.539	TNIZ
635	9978518.491	781617.384	2719.340	TNIZ
636	9978522.901	781611.679	2719.880	TNIZ
637	9978513.900	781612.152	2712.189	TNIZ
638	9978510.852	781602.799	2707.034	TNIZ
639	9978525.855	781608.100	2720.478	TNIZ
640	9978518.592	781604.227	2713.435	TNIZ
641	9978514.911	781596.872	2707.312	TNIZ
642	9978527.310	781605.192	2721.144	TNIZ
643	9978520.210	781590.379	2705.886	TNIZ
644	9978533.058	781599.095	2714.143	TNIZ
645	9978533.903	781601.064	2721.592	TNIZ
646	9978528.477	781592.529	2711.548	TNIZ
647	9978538.570	781597.366	2720.564	TNIZ
648	9978525.629	781585.063	2705.276	TNIZ
649	9978530.953	781577.958	2706.137	TNIZ
650	9978536.328	781585.574	2711.529	TNIZ
651	9978543.469	781592.928	2721.323	TNIZ
652	9978538.615	781569.743	2706.125	TNIZ
653	9978542.881	781578.443	2711.815	TNIZ
654	9978548.388	781592.402	2722.697	TNIZ
655	9978548.732	781592.421	2721.815	TNIZ
656	9978545.254	781570.478	2708.981	TNIZ
657	9978556.984	781575.167	2714.662	TNIZ
658	9978549.563	781591.972	2722.207	TNIZ
659	9978549.596	781591.809	2723.226	TNIZ
660	9978566.126	781572.550	2718.284	TNIZ
661	9978557.649	781564.031	2708.930	TNIZ
662	9978554.750	781584.744	2721.179	TNIZ
663	9978564.438	781578.193	2721.161	TNIZ
664	9978572.537	781575.510	2721.837	TNIZ
665	9978567.248	781558.637	2710.302	TNIZ
666	9978577.858	781561.734	2715.774	TNIZ
667	9978581.425	781571.732	2724.363	TNIZ
668	9978584.578	781558.707	2715.570	TNIZ
669	9978575.674	781548.718	2707.949	TNIZ
670	9978589.762	781568.227	2724.014	TNIZ
671	9978595.018	781555.292	2714.917	TNIZ
672	9978596.688	781568.336	2722.648	TNIZ
673	9978593.860	781541.287	2705.012	TNIZ
674	9978597.011	781545.170	2708.479	TNIZ
675	9978597.005	781545.171	2708.479	TNIZ
676	9978601.493	781564.573	2722.394	TNIZ
677	9978602.935	781552.651	2714.123	TNIZ
678	9978609.995	781562.921	2721.138	TNIZ
679	9978609.982	781562.923	2721.138	TNIZ
680	9978620.361	781559.905	2721.188	TNIZ
681	9978619.583	781548.050	2715.161	TNIZ
682	9978619.588	781548.051	2715.161	TNIZ
683	9978606.899	781539.517	2707.306	TNIZ
684	9978608.905	781539.516	2707.306	TNIZ
685	9978625.167	781555.852	2721.443	TNIZ
686	9978624.579	781541.797	2714.150	TNIZ
687	9978629.551	781547.811	2717.281	TNIZ
688	9978608.410	781532.388	2704.293	TNIZ
689	9978631.599	781539.201	2725.705	TNIZ
690	9978631.593	781539.204	2725.705	TNIZ
691	9978639.314	781555.584	2724.818	TNIZ
692	9978639.314	781555.584	2724.818	TNIZ
693	9978700.138	781522.073	2756.120	AUX-2A
694	9978642.845	781551.948	2722.019	FL
695	9978643.566	781551.681	2725.710	TNIZ
696	9978643.599	781551.683	2725.710	TNIZ
697	9978619.150	781546.959	2717.165	TNIZ
698	9978622.409	781530.656	2707.876	TNIZ
699	9978622.409	781530.656	2707.876	TNIZ
700	9978631.033	781545.598	2715.563	FL
701	9978631.027	781545.598	2715.563	FL
702	9978623.001	781530.611	2707.080	FL
703	9978633.045	781544.102	2716.546	TNIZ
704	9978624.013	781529.776	2707.350	TNIZ
705	9978637.604	781537.407	2717.494	TNIZ
706	9978634.488	781523.395	2707.374	TNIZ
707	9978648.582	781544.344	2726.909	TNIZ
708	9978644.493	781532.287	2717.175	TNIZ
709	9978642.303	781517.601	2708.060	TNIZ
710	9978647.192	781514.553	2707.307	TNIZ
711	9978647.192	781514.553	2707.307	TNIZ

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
712	9978652.984	781541.785	2726.370	TNIZ
713	9978650.524	781527.294	2718.063	TNIZ
714	9978657.271	781535.512	2726.261	TNIZ
715	9978655.981	781523.890	2720.026	TNIZ
716	9978655.981	781523.890	2720.026	TNIZ
717	9978653.835	781508.016	2710.374	TNIZ
718	9978653.835	781508.015	2710.368	TNIZ
719	9978662.550	781524.608	2723.893	TNIZ
720	9978658.232	781522.125	2719.465	TNIZ
721	9978656.702	781501.026	2710.329	TNIZ
722	9978660.795	781517.612	2719.551	TNIZ
723	9978661.624	781455.516	2708.197	TNIZ
724	9978659.178	781507.861	2714.263	TNIZ
725	9978651.912	781487.611	2697.295	TNIZ
726	9978644.125	781486.651	2691.015	TNIZ
727	9978647.408	781489.809	2695.797	TNIZ
728	9978640.896	781493.202	2694.769	TNIZ
729	9978642.463	781485.429	2689.072	TNIZ
730	9978639.217	781487.309	2688.640	TNIZ
731	9978637.384	781498.176	2691.508	TNIZ
732	9978638.752	781482.957	2684.436	TNIZ
733	9978640.178	781481.746	2683.304	TNIZ
734	9978632.269	781499.188	2689.776	TNIZ
735	9978640.973	781480.394	2685.212	TNIZ
736	9978643.361	781475.767	2686.744	TNIZ
737	9978654.298	781474.282	2693.678	TNIZ
738	9978656.705	781479.548	2699.605	TNIZ
739	9978661.859	781467.349	2702.089	TNIZ
740	9978472.138	781520.903	2694.569	TN
741	9978653.347	781469.944	2688.923	TNIZ
742	9978647.245	781474.989	2685.804	TNIZ
743	9978627.543	781501.545	2689.288	TNIZ
744	9978649.137	781473.264	2685.160	TNIZ
745	9978628.448	781505.125	2691.815	TNIZ
746	9978635.057	781484.592	2684.025	TNIZ
747	9978630.298	781485.656	2681.563	TNIZ
748	9978632.203	781480.485	2680.504	TNIZ
749	9978618.080	781509.371	2695.496	TNIZ
750	9978630.112	781477.223	2677.390	TNIZ
751	9978615.634	781510.529	2694.354	TNIZ
752	9978627.419	781475.157	2674.734	TNIZ
753	9978615.103	781511.352	2691.141	TNIZ
754	9978623.574	781476.221	2673.262	TNIZ
755	9978612.978	781511.742	2692.929	TNIZ
756	9978612.978	781511.742	2692.929	TNIZ
757	9978619.181	781474.243	2689.475	TNIZ
758	9978599.894	781516.036	2692.242	PC
759	9978613.948	781475.070	2689.278	TNIZ
760	9978613.949	781475.071	2689.277	TNIZ
761	9978613.039	781475.691	2689.390	TNIZ
762	9978601.021	781516.257	2692.562	TNIZ
763	9978611.040	781472.751	2685.992	TNIZ
764	9978609.509	781473.801	2685.500	TNIZ
765	9978604.775	781475.745	2681.285	TNIZ
766	9978592.677	781522.794	2692.151	TNIZ
767	9978604.538	781470.306	2680.099	TNIZ
768	9978585.139	781528.447	2696.032	TNIZ
769	9978600.843	781474.567	2658.643	TNIZ
770	9978597.013	781471.148	2656.092	TNIZ
771	9978575.073	781531.587	2693.216	TNIZ
772	9978569.900	781457.990	2581.445	TN
773	9978600.848	781474.263	2582.240	TN
774	9978485.433	781465.000	2583.401	BD
775	9978569.900	781467.400	2587.184	BD
776	9978569.900	781467.400	2587.184	BD
777	9978569.900	781467.400	2587.184	BD
778	9978569.900	781467.400	2587.184	BD
779	9978569.900	781467.400	2587.184	BD
780	9978569.900	781467.400	2587.184	BD
781	9978572.322	781524.920	2688.308	TNIZ
782	9978574.145	781516.685	2683.125	TNIZ
783	9978587.714	781490.022	2674.219	TNIZ
784	9978587.714	781490.022	2674.219	TNIZ
785	9978587.902	781492.002	2673.335	TNIZ
786	9978590.054	781498.451	2682.364	TNIZ
787	9978603.864	781508.975	2689.107	TNIZ
788	9978593.028	781469.143	2652.748	TNIZ
789	9978578.459	781515.732	2682.817	TNIZ
790	9978591.191	781467.472	2651.520	TNIZ

3012



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
791	9978578.975	781515.871	2682.557	TNIZ
792	9978580.491	781463.677	2649.692	TNIZ
793	9978585.021	781467.129	2645.560	TNIZ
794	9978581.025	781488.547	2644.300	TNIZ
795	9978565.864	781523.843	2683.219	TNIZ
796	9978578.840	781464.231	2642.411	TNIZ
797	9978578.046	781464.663	2642.155	TNIZ
798	9978576.807	781463.913	2641.251	TNIZ
799	9978560.279	781525.679	2683.041	TNIZ
800	9978576.906	781468.428	2641.137	TNIZ
801	9978553.234	781531.626	2684.834	TNIZ
802	9978549.657	781534.599	2684.576	TNIZ
803	9978610.501	781475.163	2645.382	TNIZ
804	9978609.276	781478.145	2644.768	TNIZ
805	9978563.330	781496.577	2659.676	TNIZ
806	9978548.657	781502.175	2661.189	TNIZ
807	9978536.297	781514.702	2659.778	TNIZ
808	9978526.909	781527.373	2667.056	TNIZ
809	9978526.909	781527.373	2667.056	TNIZ
810	9978537.292	781526.799	2667.900	TNIZ
811	9978557.572	781512.852	2674.218	TNIZ
812	9978574.230	781506.249	2678.078	TNIZ
813	9978585.353	781497.436	2675.670	TNIZ
814	9978585.357	781497.428	2675.633	TOP
815	9978553.401	781539.467	2690.424	TNIZ
816	9978553.401	781539.465	2690.418	TNIZ
817	9978615.365	781479.055	2670.302	TNIZ
818	9978554.326	781542.328	2692.993	TNIZ
819	9978543.964	781550.957	2694.665	TNIZ
820	9978613.910	781496.587	2677.934	TNIZ
821	9978536.423	781548.883	2691.491	TNIZ
822	9978552.186	781537.555	2690.358	TNIZ
823	9978531.047	781539.187	2681.199	TNIZ
824	9978531.047	781539.187	2681.199	TNIZ
825	9978548.379	781525.225	2676.870	TNIZ
826	9978538.097	781535.988	2686.790	TNIZ
827	9978565.298	781552.221	2706.699	TNIZ
828	9978533.376	781562.671	2699.476	TNIZ
829	9978618.546	781479.024	2672.771	TNIZ
830	9978530.976	781567.994	2701.436	TNIZ
831	9978625.069	781483.529	2677.974	TNIZ
832	9978627.507	781486.402	2680.303	TNIZ
833	9978521.785	781575.503	2698.544	TNIZ
834	9978517.901	781580.606	2698.303	TNIZ
835	9978517.901	781580.606	2698.303	TNIZ
836	9978629.561	781488.856	2681.213	TNIZ
837	9978632.856	781488.764	2684.076	TNIZ
838	9978514.324	781585.422	2698.079	TNIZ
839	9978505.605	781589.392	2698.479	TNIZ
840	9978504.032	781596.777	2700.304	TNIZ
841	9978500.179	781605.041	2698.870	TNIZ
842	9978616.344	781494.179	2681.045	TNIZ
843	9978496.594	781609.082	2698.282	TNIZ
844	9978493.245	781596.418	2690.670	TNIZ
845	9978623.813	781496.916	2681.071	TNIZ
846	9978496.535	781590.090	2692.395	TNIZ
847	9978621.422	781497.321	2682.034	TNIZ
848	9978616.872	781498.916	2682.712	TNIZ
849	9978499.649	781586.268	2692.036	TNIZ
850	9978615.087	781500.869	2682.058	TNIZ
851	9978502.780	781581.176	2687.820	TNIZ
852	9978614.666	781501.459	2680.793	FQ
853	9978607.093	781574.936	2686.886	FQ
854	9978511.153	781574.191	2690.280	FQ
855	9978514.407	781568.390	2690.741	TNIZ
856	9978511.764	781556.847	2689.231	TNIZ
857	9978612.391	781502.840	2681.381	FQ
858	9978611.424	781503.181	2683.316	TNIZ
859	9978530.986	781549.753	2688.196	TNIZ
860	9978611.935	781501.280	2673.628	TNIZ
861	9978535.805	781546.301	2686.888	TNIZ
862	9978607.778	781504.260	2683.136	TNIZ
863	9978542.219	781542.158	2686.088	TNIZ
864	9978600.824	781507.011	2684.992	TNIZ
865	9978544.671	781541.299	2685.155	TNIZ
866	9978595.414	781509.920	2685.126	TNIZ
867	9978546.414	781539.378	2685.547	TNIZ
868	9978535.889	781510.598	2656.341	TNIZ
869	9978530.598	781520.473	2660.947	TNIZ

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
870	9978590.432	781498.339	2675.012	TNIZ
871	9978573.412	781504.219	2678.028	TNIZ
872	9978558.004	781504.538	2674.570	TNIZ
873	9978538.179	781525.530	2665.529	TNIZ
874	9978538.196	781525.532	2665.529	TNIZ
875	9978526.094	781534.575	2673.687	TNIZ
876	9978627.955	781513.773	2698.788	TNIZ
877	9978604.450	781488.507	2661.419	FQ
878	9978591.821	781479.624	2548.211	FQ
879	9978577.077	781474.918	2540.010	FQ
880	9978608.708	781493.404	2669.797	FQ
881	9978622.838	781526.026	2703.517	FQ
882	9978734.712	781394.681	2761.878	TOP
883	9978733.378	781394.821	2761.819	BD
884	9978729.659	781389.883	2762.284	BD
885	9978735.192	781388.298	2762.039	PIE
886	9978729.633	781389.960	2762.746	BD
887	9978735.741	781382.405	2762.379	PIE
888	9978729.276	781380.657	2762.643	BD
889	9978731.152	781376.181	2762.599	TNIZ
890	9978737.303	781375.346	2763.232	PIE
891	9978737.303	781375.346	2763.232	PIE
892	9978727.028	781276.106	2761.178	BD
893	9978733.880	781275.602	2762.471	TNIZ
894	9978731.449	781271.277	2762.705	TNIZ
895	9978734.371	781269.330	2762.816	TNIZ
896	9978731.195	781266.541	2762.983	TNIZ
897	9978726.308	781269.588	2763.294	BD
898	9978738.045	781271.324	2762.967	PIE
899	9978731.628	781262.667	2763.062	TNIZ
900	9978727.112	781261.435	2763.909	BD
901	9978735.123	781263.120	2762.966	PIE
902	9978740.196	781266.885	2766.601	PIE
903	9978728.924	781254.645	2763.574	BD
904	9978736.904	781258.395	2763.031	TNIZ
905	9978740.751	781262.770	2764.164	PIE
906	9978740.751	781262.770	2765.159	PIE
907	9978740.560	781262.807	2764.151	PIE
908	9978732.200	781257.964	2763.238	TNIZ
909	9978727.537	781249.317	2763.929	BD
910	9978733.047	781253.689	2763.389	TNIZ
911	9978742.377	781256.161	2765.592	PIE
912	9978732.549	781248.458	2766.684	TNIZ
913	9978732.551	781243.457	2765.684	TNIZ
914	9978737.434	781254.657	2763.682	TNIZ
915	9978744.879	781251.001	2769.007	PIE
916	9978735.772	781252.004	2763.898	TNIZ
917	9978742.729	781248.987	2769.069	TNIZ
918	9978736.586	781254.975	2763.991	TNIZ
919	9978735.547	781248.836	2765.363	TNIZ
920	9978745.408	781244.466	2771.390	PIE
921	9978727.941	781244.339	2764.806	BD
922	9978738.495	781248.906	2766.803	TN
923	9978741.371	781245.876	2769.024	TN
924	9978737.133	781294.712	2770.628	BD
925	9978742.444	781294.875	2771.588	PIE
926	9978743.605	781242.655	2770.267	TNIZ
927	9978742.593	781289.161	2771.516	PIE
928	9978737.805	781289.310	2770.752	BD
929	9978738.305	781283.897	2771.047	BD
930	9978744.145	781283.516	2771.664	TNIZ
931	9978744.145	781283.516	2772.052	PIE
932	9978744.145	781239.497	2764.688	BD
933	9978744.145	781233.950	2763.603	PIE
934	9978744.145	781278.863	2769.966	PIE
935	9978744.145	781277.720	2769.538	BD
936	9978744.145	781236.131	2769.370	TNIZ
937	9978739.719	781272.592	2771.579	BD
938	9978742.171	781272.735	2773.081	TNIZ
939	9978726.265	781237.076	2760.596	TNIZ
940	9978745.075	781289.875	2769.375	TNIZ
941	9978744.746	781273.501	2773.601	PIE
942	9978742.124	781231.072	2770.139	TNIZ
943	9978742.124	781231.068	2769.199	TNIZ
944	9978742.124	781231.066	2769.200	TNIZ
945	9978746.015	781267.660	2773.104	PIE
946	9978745.992	781267.324	2774.104	PIE
947	9978746.080	781267.733	2774.109	PIE
948	9978717.662	781234.627	2756.859	TNIZ



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
949	9978741.412	781189.602	2772.089	BO
950	9978744.395	781127.135	2769.827	TNI2
951	9978744.616	781269.632	2773.839	BO
952	9978745.083	781267.582	2773.914	BO
953	9978743.335	781205.090	2773.817	BO
954	9978745.143	781264.402	2774.212	PIE
955	9978746.956	781228.241	2769.856	TNI2
956	9978715.997	781232.660	2753.349	TNI2
957	9978748.016	781224.249	2770.187	TNI2
958	9978746.105	781258.127	2773.311	TNI2
959	9978744.465	781257.570	2773.148	BO
960	9978747.004	781249.980	2773.219	BO
961	9978720.545	781228.480	2754.850	TNI2
962	9978748.304	781250.201	2773.968	PIE
963	9978749.659	781221.539	2771.580	TNI2
964	9978749.259	781243.639	2773.372	PIE
965	9978748.071	781243.209	2773.211	BO
966	9978746.184	781219.837	2770.216	TNI2
967	9978721.925	781228.677	2756.479	TNI2
968	9978744.260	781221.437	2769.963	TNI2
969	9978748.716	781236.838	2772.554	BO
970	9978750.397	781257.064	2772.816	PIE
971	9978751.142	781231.252	2772.563	PIE
972	9978725.757	781231.092	2760.768	TNI2
973	9978749.186	781230.790	2772.338	BO
974	9978751.877	781238.731	2771.107	TNI2
975	9978753.029	781273.870	2772.581	TNI2
976	9978755.555	781234.596	2772.726	PIE
977	9978752.566	781234.843	2771.678	TNI2
978	9978757.913	781119.458	2772.410	PIE
979	9978727.721	781233.063	2763.746	TNI2
980	9978755.490	781218.423	2772.952	TNI2
981	9978753.685	781211.907	2771.965	TNI2
982	9978755.818	781218.157	2771.810	TNI2
983	9978757.834	781212.130	2772.429	TNI2
984	9978759.261	781212.750	2773.614	TNI2
985	9978754.068	781210.004	2772.239	TNI2
986	9978760.382	781212.579	2773.671	PIE
987	9978728.900	781233.634	2765.171	TNI2
988	9978764.288	781206.172	2775.571	PIE
989	9978755.599	781209.169	2773.835	TNI2
990	9978762.760	781205.793	2775.143	TNI2
991	9978762.140	781205.128	2774.482	TNI2
992	9978762.603	781197.934	2774.060	TNI2
993	9978756.406	781206.346	2773.303	TNI2
994	9978767.501	781198.455	2774.028	PIE
995	9978770.641	781192.081	2775.019	PIE
996	9978758.127	781204.424	2774.120	TNI2
997	9978764.953	781189.766	2774.102	TNI2
998	9978758.204	781204.545	2774.055	TNI2
999	9978766.756	781182.184	2774.394	TNI2
1000	9978731.646	781235.487	2765.384	TNI2
1001	9978768.510	781182.987	2774.971	TNI2
1002	9978773.715	781184.190	2775.162	PIE
1003	9978758.732	781201.870	2774.144	TNI2
1004	9978761.446	781180.661	2771.159	TNI2
1005	9978734.247	781237.812	2767.754	TNI2
1006	9978757.535	781180.055	2768.174	TNI2
1007	9978752.616	781179.305	2765.463	TNI2
1008	9978760.254	781199.490	2774.508	TNI2
1009	9978748.198	781177.495	2764.431	TNI2
1010	9978737.957	781231.575	2768.443	TNI2
1011	9978764.529	781188.213	2774.393	TNI2
1012	9978745.737	781176.792	2761.678	TNI2
1013	9978741.348	781173.576	2757.130	TNI2
1014	9978759.799	781185.436	2771.135	TNI2
1015	9978735.645	781168.513	2752.031	TNI2
1016	9978736.085	781229.262	2766.885	TNI2
1017	9978753.751	781187.611	2768.879	TNI2
1018	9978735.556	781168.857	2752.066	TNI2
1019	9978733.843	781225.771	2765.269	TNI2
1020	9978734.064	781225.079	2765.296	PIE
1021	9978754.607	781192.399	2770.698	TNI2
1022	9978754.605	781192.395	2769.698	TNI2
1023	9978754.594	781192.407	2769.698	TNI2
1024	9978731.808	781176.483	2750.370	TNI2
1025	9978752.588	781194.644	2768.560	TNI2
1026	9978730.360	781224.659	2762.202	TNI2
1027	9978751.256	781198.490	2768.413	TNI2

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1028	9978735.557	781179.635	2754.954	TNI2
1029	9978727.769	781222.530	2758.336	TNI2
1030	9978737.924	781182.895	2758.081	TNI2
1031	9978748.435	781202.557	2767.306	TNI2
1032	9978743.863	781204.008	2765.681	TNI2
1033	9978724.332	781221.531	2755.682	TNI2
1034	9978742.803	781187.281	2765.702	TNI2
1035	9978740.173	781204.157	2764.160	TNI2
1036	9978748.208	781190.388	2765.578	TNI2
1037	9978739.047	781204.412	2764.049	TNI2
1038	9978739.050	781204.101	2764.379	TNI2
1039	9978739.171	781195.841	2763.927	TNI2
1040	9978737.527	781194.047	2761.925	TNI2
1041	9978729.589	781289.552	2759.902	TOP
1042	9978729.000	781289.075	2759.866	TOP
1043	9978728.778	781288.608	2759.852	TOP
1044	9978728.839	781288.142	2759.855	TOP
1045	9978622.151	782260.351	2697.676	ASFALTO
1046	9978621.364	782260.590	2697.943	BORDE
1047	9978627.129	782273.392	2696.784	ASFALTO
1048	9978634.370	782252.029	2699.091	PIE TALUD
1049	9978621.389	782273.522	2696.524	BORDE
1050	9978630.258	782282.353	2696.239	ASFALTO
1051	9978639.706	782268.531	2697.570	ASFALTO
1052	9978641.074	782268.117	2698.200	PIE TALUD
1053	9978627.659	782284.825	2696.344	BORDE
1054	9978633.535	782295.780	2695.233	ASFALTO
1055	9978644.872	782286.047	2696.170	ASFALTO
1056	9978645.596	782285.596	2696.481	PIE TALUD
1057	9978635.900	782310.099	2694.220	ASFALTO
1058	9978625.958	782297.136	2694.804	BORDE
1059	9978648.455	782302.913	2694.804	ASFALTO
1060	9978649.199	781302.925	2695.131	PIE TALUD
1061	9978638.238	782324.654	2693.202	ASFALTO
1062	9978632.918	782309.306	2693.792	BORDE
1063	9978650.891	782318.407	2693.644	ASFALTO
1064	9978651.586	782318.148	2693.917	PIE TALUD
1065	9978640.418	782188.274	2692.328	ASFALTO
1066	9978635.504	782319.491	2692.999	BORDE
1067	9978652.915	782332.238	2692.522	ASFALTO
1068	9978654.402	782333.318	2692.922	PIE TALUD
1069	9978638.563	782332.450	2692.307	BORDE
1070	9978725.831	781274.799	2759.705	TOP
1071	9978725.667	781274.353	2759.697	TOP
1072	9978725.410	781273.917	2759.681	TOP
1073	9978725.287	781273.473	2759.679	TOP
1074	9978725.136	781273.034	2759.669	TOP
1075	9978724.885	781271.605	2759.660	TOP
1076	9978724.672	781271.159	2759.646	TOP
1077	9978724.545	781271.714	2759.641	TOP
1078	9978724.514	781268.954	2759.660	TOP
1079	9978724.552	781268.498	2759.666	TOP
1080	9978724.765	781268.003	2759.684	TOP
1081	9978724.809	781267.518	2759.691	TOP
1082	9978724.671	781267.086	2759.683	TOP
1083	9978724.509	781265.709	2759.689	TOP
1084	9978724.949	781265.176	2759.725	TOP
1085	9978724.757	781264.739	2759.714	TOP
1086	9978724.446	781264.312	2759.699	TOP
1087	9978724.151	781263.880	2759.692	TOP
1088	9978724.297	781263.463	2759.700	TOP
1089	9978724.615	781262.407	2759.730	TOP
1090	9978725.992	781262.892	2759.749	TOP
1091	9978725.238	781262.377	2759.867	TOP
1092	9978725.181	781258.765	2759.869	TOP
1093	9978725.810	781257.225	2759.927	TOP
1094	9978728.793	781256.766	2759.938	TOP
1095	9978726.766	781256.259	2759.998	TOP
1096	9978726.730	781255.794	2759.942	TOP
1097	9978726.670	781255.319	2759.945	TOP
1098	9978726.670	781254.843	2759.951	TOP
1099	9978726.534	781254.373	2759.960	TOP
1100	9978726.534	781253.824	2759.974	TOP
1101	9978726.813	781252.837	2759.989	TOP
1102	9978725.501	781244.289	2760.054	TOP
1103	9978725.472	781243.794	2760.062	TOP
1104	9978725.266	781243.950	2760.058	TOP
1105	9978725.033	781242.931	2760.052	TOP
1106	9978724.753	781242.524	2760.043	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1107	9978724.430	781242.128	2760.022	TOP
1108	9978723.993	781241.761	2760.013	TOP
1109	9978723.765	781241.340	2760.011	TOP
1110	9978719.269	781239.756	2756.287	TOP
1111	9978719.661	781240.118	2756.296	TOP
1112	9978730.608	781240.275	2756.323	TOP
1113	9978710.788	781240.710	2756.329	TOP
1114	9978720.948	781241.155	2756.329	TOP
1115	9978721.605	781241.427	2756.349	TOP
1116	9978721.834	781241.836	2756.352	TOP
1117	9978722.062	781242.261	2756.354	TOP
1118	9978722.210	781242.710	2756.355	TOP
1119	9978722.367	781243.149	2756.355	TOP
1120	9978723.023	781244.413	2756.364	TOP
1121	9978723.475	781244.766	2756.376	TOP
1122	9978728.611	781245.213	2756.376	TOP
1123	9978723.761	781245.657	2756.377	TOP
1124	9978724.193	781246.517	2756.383	TOP
1125	9978724.316	781246.973	2756.382	TOP
1126	9978724.319	781248.917	2756.352	TOP
1127	9978724.395	781250.389	2756.350	TOP
1128	9978724.520	781250.833	2756.351	TOP
1129	9978724.405	781257.837	2756.245	TOP
1130	9978723.068	781258.367	2756.232	TOP
1131	9978723.094	781258.822	2756.230	TOP
1132	9978722.490	781260.333	2756.196	TOP
1133	9978722.578	781260.785	2756.196	TOP
1134	9978722.774	781261.214	2756.200	TOP
1135	9978722.114	781261.599	2756.210	TOP
1136	9978722.321	781262.031	2756.215	TOP
1137	9978722.435	781262.478	2756.216	TOP
1138	9978723.684	781262.907	2756.222	TOP
1139	9978723.782	781263.361	2756.223	TOP
1140	9978723.773	781263.823	2756.220	TOP
1141	9978723.857	781264.262	2756.220	TOP
1142	9978723.693	781264.776	2756.208	TOP
1143	9978723.580	781265.246	2756.204	TOP
1144	9978723.645	781265.710	2756.203	TOP
1145	9978723.841	781266.131	2756.208	TOP
1146	9978723.908	781266.585	2756.208	TOP
1147	9978724.153	781266.988	2756.219	TOP
1148	9978724.283	781267.465	2756.217	TOP
1149	9978724.261	781267.919	2756.214	TOP
1150	9978724.226	781268.391	2756.210	TOP
1151	9978723.582	781268.938	2756.184	TOP
1152	9978723.413	781269.427	2756.175	TOP
1153	9978723.459	781269.878	2756.174	TOP
1154	9978723.791	781270.290	2756.185	TOP
1155	9978724.078	781270.718	2756.193	TOP
1156	9978724.389	781271.140	2756.203	TOP
1157	9978724.278	781271.601	2756.197	TOP
1158	9978724.228	781272.068	2756.193	TOP
1159	9978724.385	781272.504	2756.197	TOP
1160	9978724.532	781272.960	2756.201	TOP
1161	9978724.788	781273.378	2756.206	TOP
1162	9978724.897	781273.823	2756.211	TOP
1163	9978725.121	781274.259	2756.218	TOP
1164	9978725.294	781274.704	2756.221	TOP
1165	9978725.448	781275.154	2756.227	TOP
1166	9978725.580	781275.593	2756.231	TOP
1167	9978725.722	781276.047	2756.235	TOP
1168	9978725.648	781276.516	2756.231	TOP
1169	9978725.589	781276.979	2756.227	TOP
1170	9978725.804	781277.429	2756.234	TOP
1171	9978726.037	781277.880	2756.242	TOP
1172	9978726.209	781278.322	2756.247	TOP
1173	9978726.187	781278.789	2756.245	TOP
1174	9978642.649	781352.116	2691.403	ASFALTO
1175	9978639.493	781342.505	2692.152	BORDE
1176	9978656.264	782352.645	2691.020	ASFALTO
1177	9978726.409	781380.621	2756.250	TOP
1178	9978726.680	781381.987	2756.258	TOP
1179	9978726.861	781382.452	2756.264	TOP
1180	9978657.248	782353.160	2691.153	PIE TALUD
1181	9978639.445	782342.453	2692.134	BORDE
1182	9978644.511	782363.898	2690.623	ASFALTO
1183	9978641.543	782356.346	2691.262	BORDE
1184	9978659.419	782373.171	2689.675	ASFALTO
1185	9978661.254	782374.306	2690.051	PIE TALUD

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1186	9978640.687	782362.967	2690.651	BORDE
1187	9978646.852	782378.950	2689.735	ASFALTO
1188	9978643.473	782376.152	2689.740	BORDE
1189	9978643.477	782376.150	2689.772	BORDE
1190	9978662.411	782392.436	2688.387	ASFALTO
1191	9978729.024	781288.007	2756.342	TOP
1192	9978728.846	781288.462	2756.335	TOP
1193	9978728.984	781288.925	2756.341	TOP
1194	9978729.164	781289.409	2756.348	TOP
1195	9978729.582	781289.889	2756.364	TOP
1196	9978661.149	782392.421	2688.617	PIE TALUD
1197	9978646.502	782385.424	2689.723	BORDE
1198	9978730.768	781291.843	2756.409	TOP
1199	9978665.778	782407.736	2687.221	ASFALTO
1200	9978666.567	782407.682	2687.482	PIE TALUD
1201	9978670.141	782422.601	2686.030	ASFALTO
1202	9978671.029	782422.668	2686.341	PIE TALUD
1203	9978730.249	781299.883	2756.409	TOP
1204	9978730.083	781300.354	2756.404	TOP
1205	9978730.006	781300.825	2756.403	TOP
1206	9978730.209	781301.307	2756.413	TOP
1207	9978730.334	781301.796	2756.419	TOP
1208	9978730.563	781302.298	2756.430	TOP
1209	9978730.766	781302.762	2756.439	TOP
1210	9978730.839	781303.254	2756.444	TOP
1211	9978730.888	781303.776	2756.448	TOP
1212	9978730.821	781304.241	2756.447	TOP
1213	9978730.757	781304.721	2756.447	TOP
1214	9978730.713	781305.196	2756.448	TOP
1215	9978730.562	781305.665	2756.444	TOP
1216	9978730.518	781306.147	2756.445	TOP
1217	9978730.444	781306.615	2756.445	TOP
1218	9978730.331	781307.077	2756.443	TOP
1219	9978730.260	781307.544	2756.445	TOP
1220	9978730.014	781308.007	2756.436	TOP
1221	9978729.904	781308.476	2756.435	TOP
1222	9978729.880	781308.913	2756.429	TOP
1223	9978729.535	781311.776	2756.433	TOP
1224	9978729.265	781312.240	2756.434	TOP
1225	9978729.203	781312.723	2756.435	TOP
1226	9978729.166	781313.203	2756.437	TOP
1227	9978729.087	781313.679	2756.437	TOP
1228	9978728.975	781314.607	2756.439	TOP
1229	9978728.882	781315.085	2756.440	TOP
1230	9978728.775	781315.535	2756.439	TOP
1231	9978728.694	781316.012	2756.440	TOP
1232	9978728.588	781316.480	2756.438	TOP
1233	9978728.505	781316.945	2756.440	TOP
1234	9978728.400	781317.403	2756.440	TOP
1235	9978728.351	781317.883	2756.442	TOP
1236	9978728.251	781318.356	2756.442	TOP
1237	9978728.191	781318.828	2756.443	TOP
1238	9978728.092	781319.301	2756.444	TOP
1239	9978728.044	781319.782	2756.447	TOP
1240	9978728.049	781320.271	2756.450	TOP
1241	9978727.962	781320.760	2756.451	TOP
1242	9978727.845	781321.218	2756.451	TOP
1243	9978727.721	781321.683	2756.451	TOP
1244	9978727.596	781322.137	2756.450	TOP
1245	9978727.473	781322.600	2756.450	TOP
1246	9978727.323	781323.057	2756.459	TOP
1247	9978727.230	781323.511	2756.460	TOP
1248	9978727.110	781323.984	2756.460	TOP
1249	9978726.993	781324.463	2756.460	TOP
1250	9978726.894	781324.923	2756.461	TOP
1251	9978726.804	781325.409	2756.463	TOP
1252	9978726.699	781325.874	2756.464	TOP
1253	9978726.581	781326.326	2756.468	TOP
1254	9978727.044	781327.690	2756.488	TOP
1255	9978727.507	781329.047	2756.494	TOP
1256	9978727.970	781330.412	2684.880	ASFALTO
1257	9978727.510	781329.571	2756.516	TOP
1258	9978727.047	781329.978	2756.510	TOP
1259	9978726.586	781330.393	2756.504	TOP
1260	9978726.616	781330.854	2756.504	TOP
1261	9978726.568	781331.334	2756.508	TOP
1262	9978726.510	781331.837	2756.512	TOP
1263	9978726.491	781332.335	2756.517	TOP
1264	9978726.468	781332.826	2756.522	TOP

2015



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1265	9978726.536	781333.355	2756.530	TOP
1266	9978726.459	781333.866	2756.534	TOP
1267	9978726.338	781334.322	2756.535	TOP
1268	9978726.338	781334.849	2756.541	TOP
1269	9978726.249	781335.326	2756.544	TOP
1270	9978726.273	781335.860	2756.551	TOP
1271	9978726.228	781336.357	2756.556	TOP
1272	9978726.039	781336.817	2756.555	TOP
1273	9978725.841	781337.355	2756.554	TOP
1274	9978726.086	781338.922	2756.584	TOP
1275	9978725.941	781339.388	2756.585	TOP
1276	9978725.760	781339.856	2756.585	TOP
1277	9978725.583	781340.296	2756.585	TOP
1278	9978725.314	781340.734	2756.581	TOP
1279	9978725.114	781341.182	2756.581	TOP
1280	9978724.889	781341.630	2756.579	TOP
1281	9978724.672	781342.070	2756.578	TOP
1282	9978724.401	781342.472	2756.574	TOP
1283	9978724.023	781342.852	2756.566	TOP
1284	9978723.736	781343.265	2756.562	TOP
1285	9978723.560	781343.628	2756.555	TOP
1286	9978723.080	781344.042	2756.551	TOP
1287	9978722.783	781344.448	2756.546	TOP
1288	9978722.548	781344.868	2756.544	TOP
1289	9978722.359	781345.308	2756.544	TOP
1290	9978722.248	781345.793	2756.548	TOP
1291	9978722.050	781346.244	2756.548	TOP
1292	9978721.985	781346.748	2756.553	TOP
1293	9978722.273	781347.410	2756.573	TOP
1294	9978725.159	781349.240	2756.700	TOP
1295	9978725.109	781349.795	2756.707	TOP
1296	9978725.171	781350.350	2756.718	TOP
1297	9978725.213	781350.942	2756.728	TOP
1298	9978725.427	781351.594	2756.746	TOP
1299	9978726.036	781352.452	2756.780	TOP
1300	9978726.148	781353.058	2756.794	TOP
1301	9978726.470	781353.790	2756.816	TOP
1302	9978677.090	782436.915	2685.650	PIE TALLO
1303	9978699.141	782498.345	2681.688	AUX 21-A
1304	9978350.413	781558.407	2558.841	SO
1305	9978649.142	782391.511	2689.078	ASFALTO
1306	9978647.875	782391.736	2689.193	BORDE
1307	9978650.735	782401.516	2688.351	ASFALTO
1308	9978650.004	782403.888	2688.843	BORDE
1309	9978727.660	781359.591	2756.953	TOP
1310	9978727.475	781360.093	2756.956	TOP
1311	9978727.297	781360.594	2756.958	TOP
1312	9978727.087	781361.082	2756.961	TOP
1313	9978726.863	781361.551	2756.961	TOP
1314	9978331.563	781562.488	2561.019	TV
1315	9978655.338	781484.039	2688.514	Ptos_scan
1316	9978657.458	781457.481	2688.304	Ptos_scan
1317	9978659.235	781450.824	2688.380	Ptos_scan
1318	9978662.480	781444.540	2688.439	Ptos_scan
1319	9978683.684	781428.631	2724.853	Ptos_scan
1320	9978685.731	781419.312	2725.180	Ptos_scan
1321	9978690.688	781412.132	2726.282	Ptos_scan
1322	9978696.997	781404.712	2727.796	Ptos_scan
1323	9978713.857	781371.632	2727.857	Ptos_scan
1324	9978706.770	781360.503	2725.991	Ptos_scan
1325	9978702.674	781388.819	2724.931	Ptos_scan
1326	9978696.952	781396.827	2723.540	Ptos_scan
1327	9978691.755	781404.470	2722.338	Ptos_scan
1328	9978685.205	781411.690	2720.867	Ptos_scan
1329	9978680.848	781418.764	2719.981	Ptos_scan
1330	9978680.287	781426.133	2720.072	Ptos_scan
1331	9978679.222	781433.463	2720.101	Ptos_scan
1332	9978678.979	781440.979	2720.391	Ptos_scan
1333	9978720.004	781374.587	2756.992	TOP
1334	9978719.871	781375.121	2756.999	TOP
1335	9978673.441	781439.795	2715.208	Ptos_scan
1336	9978675.339	781432.767	2715.321	Ptos_scan
1337	9978675.570	781425.680	2715.105	Ptos_scan
1338	9978676.401	781418.292	2715.130	Ptos_scan
1339	9978682.498	781411.501	2716.344	Ptos_scan
1340	9978688.006	781404.303	2717.482	Ptos_scan
1341	9978694.334	781396.798	2718.794	Ptos_scan
1342	9978699.239	781388.897	2719.901	Ptos_scan
1343	9978703.984	781380.671	2721.039	Ptos_scan

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1344	9978710.398	781371.936	2722.605	Ptos_scan
1345	9978717.490	781362.662	2724.587	Ptos_scan
1346	9978720.446	781353.459	2725.341	Ptos_scan
1347	9978719.118	781353.668	2720.481	Ptos_scan
1348	9978712.701	781363.232	2718.898	Ptos_scan
1349	9978708.030	781372.142	2717.746	Ptos_scan
1350	9978700.108	781380.876	2715.587	Ptos_scan
1351	9978696.966	781388.942	2715.274	Ptos_scan
1352	9978693.257	781396.776	2714.300	Ptos_scan
1353	9978685.177	781404.175	2713.883	Ptos_scan
1354	9978680.343	781411.313	2713.977	Ptos_scan
1355	9978674.918	781418.100	2710.995	Ptos_scan
1356	9978672.609	781425.031	2710.704	Ptos_scan
1357	9978673.994	781432.520	2711.233	Ptos_scan
1358	9978671.169	781439.309	2710.931	Ptos_scan
1359	9978668.502	781446.034	2710.708	Ptos_scan
1360	9978666.278	781452.818	2710.626	Ptos_scan
1361	9978713.292	781393.492	2753.105	TOP
1362	9978713.341	781392.914	2753.102	TOP
1363	9978713.579	781392.381	2753.100	TOP
1364	9978664.704	781459.802	2707.023	Ptos_scan
1365	9978665.430	781452.587	2706.760	Ptos_scan
1366	9978665.477	781445.186	2706.413	Ptos_scan
1367	9978670.373	781438.139	2707.052	Ptos_scan
1368	9978671.011	781431.991	2706.910	Ptos_scan
1369	9978671.144	781424.823	2706.713	Ptos_scan
1370	9978673.886	781417.990	2707.063	Ptos_scan
1371	9978677.081	781411.066	2707.535	Ptos_scan
1372	9978682.737	781404.083	2708.521	Ptos_scan
1373	9978690.826	781396.761	2710.010	Ptos_scan
1374	9978695.000	781388.998	2710.807	Ptos_scan
1375	9978698.632	781380.964	2711.551	Ptos_scan
1376	9978703.909	781372.516	2712.661	Ptos_scan
1377	9978709.691	781363.615	2713.924	Ptos_scan
1378	9978714.191	781354.648	2715.005	Ptos_scan
1379	9978709.675	781355.158	2709.814	Ptos_scan
1380	9978705.977	781364.060	2708.873	Ptos_scan
1381	9978700.997	781372.783	2707.963	Ptos_scan
1382	9978696.251	781381.098	2707.049	Ptos_scan
1383	9978693.496	781389.021	2708.525	Ptos_scan
1384	9978687.136	781396.721	2705.424	Ptos_scan
1385	9978679.036	781403.910	2704.074	Ptos_scan
1386	9978674.772	781410.887	2703.416	Ptos_scan
1387	9978672.268	781417.810	2703.099	Ptos_scan
1388	9978669.933	781424.642	2702.851	Ptos_scan
1389	9978669.738	781431.758	2703.013	Ptos_scan
1390	9978669.479	781438.953	2703.207	Ptos_scan
1391	9978665.064	781445.183	2702.710	Ptos_scan
1392	9978664.580	781451.334	2702.946	Ptos_scan
1393	9978663.635	781459.453	2703.145	Ptos_scan
1394	9978662.161	781466.473	2703.298	Ptos_scan
1395	9978719.307	781374.606	2753.025	TOP
1396	9978719.405	781374.047	2753.022	TOP
1397	9978660.980	781466.050	2699.434	Ptos_scan
1398	9978662.520	781459.101	2699.514	Ptos_scan
1399	9978663.372	781452.007	2699.122	Ptos_scan
1400	9978664.903	781445.138	2699.077	Ptos_scan
1401	9978666.710	781438.360	2699.108	Ptos_scan
1402	9978667.341	781431.642	2699.260	Ptos_scan
1403	9978669.211	781424.543	2699.112	Ptos_scan
1404	9978671.543	781417.735	2699.335	Ptos_scan
1405	9978673.481	781410.480	2699.689	Ptos_scan
1406	9978675.339	781403.211	2700.281	Ptos_scan
1407	9978685.899	781396.811	2701.040	Ptos_scan
1408	9978691.541	781389.995	2702.089	Ptos_scan
1409	9978696.289	781384.541	2702.586	Ptos_scan
1410	9978697.129	781377.129	2703.227	Ptos_scan
1411	9978701.845	781364.575	2704.381	Ptos_scan
1412	9978706.865	781355.725	2704.927	Ptos_scan
1413	9978707.759	781346.985	2705.143	Ptos_scan
1414	9978703.629	781336.096	2700.868	Ptos_scan
1415	9978699.894	781364.809	2699.693	Ptos_scan
1416	9978694.472	781379.161	2698.828	Ptos_scan
1417	9978690.578	781381.410	2698.214	Ptos_scan
1418	9978685.467	781389.208	2697.469	Ptos_scan
1419	9978683.065	781396.677	2697.133	Ptos_scan
1420	9978678.205	781403.878	2696.492	Ptos_scan
1421	9978675.157	781410.922	2696.132	Ptos_scan
1422	9978672.190	781417.797	2695.815	Ptos_scan



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1423	9978669.534	781424.585	2695.571	Ptos_scan
1424	9978668.243	781431.495	2695.548	Ptos_scan
1425	9978666.288	781438.261	2695.461	Ptos_scan
1426	9978665.679	781444.833	2695.323	Ptos_scan
1427	9978662.269	781451.677	2695.378	Ptos_scan
1428	9978661.330	781458.713	2695.535	Ptos_scan
1429	9978659.155	781465.390	2695.547	Ptos_scan
1430	9978657.209	782425.592	2687.279	ASFALTO
1431	9978653.249	782427.872	2687.128	BORDE
1432	9978657.124	781464.669	2691.716	Ptos_scan
1433	9978659.368	781458.089	2691.718	Ptos_scan
1434	9978661.225	781451.390	2691.608	Ptos_scan
1435	9978662.898	781444.639	2691.678	Ptos_scan
1436	9978665.834	781438.072	2691.786	Ptos_scan
1437	9978667.600	781431.380	2691.896	Ptos_scan
1438	9978669.900	781424.638	2692.042	Ptos_scan
1439	9978671.550	781417.730	2692.139	Ptos_scan
1440	9978674.614	781410.885	2692.418	Ptos_scan
1441	9978678.901	781403.920	2692.883	Ptos_scan
1442	9978683.638	781396.689	2693.430	Ptos_scan
1443	9978685.331	781389.211	2693.639	Ptos_scan
1444	9978686.058	781381.666	2693.767	Ptos_scan
1445	9978691.224	781373.663	2694.454	Ptos_scan
1446	9978698.312	781365.016	2695.407	Ptos_scan
1447	9978701.193	781356.491	2695.894	Ptos_scan
1448	9978704.718	781347.547	2696.497	Ptos_scan
1449	9978702.999	781347.991	2692.062	Ptos_scan
1450	9978697.110	781357.120	2691.359	Ptos_scan
1451	9978693.455	781305.614	2690.862	Ptos_scan
1452	9978689.376	781373.822	2690.352	Ptos_scan
1453	9978685.541	781381.697	2689.866	Ptos_scan
1454	9978685.458	781389.213	2689.857	Ptos_scan
1455	9978683.663	781396.684	2689.666	Ptos_scan
1456	9978678.793	781403.904	2689.182	Ptos_scan
1457	9978674.410	781410.859	2688.772	Ptos_scan
1458	9978671.628	781417.744	2688.552	Ptos_scan
1459	9978669.115	781424.524	2688.383	Ptos_scan
1460	9978666.534	781431.189	2688.230	Ptos_scan
1461	9978665.186	781438.040	2688.250	Ptos_scan
1462	9978662.395	781444.508	2688.099	Ptos_scan
1463	9978659.082	781450.775	2687.939	Ptos_scan
1464	9978657.203	781457.394	2687.952	Ptos_scan
1465	9978655.126	781463.953	2687.982	Ptos_scan
1467	9978650.502	781469.527	2684.290	Ptos_scan
1468	9978653.470	781463.365	2684.342	Ptos_scan
1469	9978655.687	781456.912	2684.344	Ptos_scan
1470	9978658.515	781450.614	2684.421	Ptos_scan
1471	9978662.503	781444.551	2684.620	Ptos_scan
1472	9978664.071	781457.796	2684.620	Ptos_scan
1473	9978666.351	781451.151	2684.703	Ptos_scan
1474	9978669.101	781424.522	2684.817	Ptos_scan
1475	9978671.477	781417.728	2684.977	Ptos_scan
1476	9978674.039	781410.880	2685.137	Ptos_scan
1477	9978677.681	781403.860	2685.416	Ptos_scan
1478	9978682.477	781396.671	2685.815	Ptos_scan
1479	9978684.715	781389.230	2686.013	Ptos_scan
1480	9978685.675	781381.700	2686.122	Ptos_scan
1481	9978687.681	781373.979	2686.344	Ptos_scan
1482	9978690.680	781365.954	2686.677	Ptos_scan
1483	9978694.909	781357.478	2687.143	Ptos_scan
1484	9978698.767	781348.692	2687.604	Ptos_scan
1485	9978698.785	781348.689	2687.542	Ptos_scan
1486	9978693.086	781357.758	2683.039	Ptos_scan
1487	9978689.808	781366.077	2682.717	Ptos_scan
1488	9978687.242	781374.013	2681.493	Ptos_scan
1489	9978684.012	781381.777	2682.223	Ptos_scan
1490	9978683.916	781389.242	2682.197	Ptos_scan
1491	9978681.880	781396.670	2682.050	Ptos_scan
1492	9978677.552	781403.849	2681.766	Ptos_scan
1493	9978674.045	781410.825	2681.550	Ptos_scan
1494	9978670.823	781417.645	2681.370	Ptos_scan
1495	9978667.883	781424.345	2681.225	Ptos_scan
1496	9978661.891	781430.362	2680.878	Ptos_scan
1497	9978660.601	781437.054	2680.880	Ptos_scan
1498	9978661.671	781444.333	2681.068	Ptos_scan
1499	9978658.333	781450.562	2680.960	Ptos_scan
1500	9978654.266	781456.456	2680.806	Ptos_scan
1502	9978646.192	781467.819	2680.542	Ptos_scan
1503	9978642.763	781466.460	2677.008	Ptos_scan

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1504	9978649.507	781461.946	2677.360	Ptos_scan
1505	9978650.762	781455.331	2677.205	Ptos_scan
1506	9978656.879	781450.148	2677.438	Ptos_scan
1507	9978659.957	781443.917	2677.511	Ptos_scan
1508	9978659.640	781436.849	2677.409	Ptos_scan
1509	9978663.410	781430.634	2677.542	Ptos_scan
1510	9978667.043	781424.228	2677.679	Ptos_scan
1511	9978670.333	781417.595	2677.808	Ptos_scan
1512	9978673.572	781410.804	2677.941	Ptos_scan
1513	9978677.780	781403.885	2678.143	Ptos_scan
1514	9978681.648	781396.673	2678.338	Ptos_scan
1515	9978684.417	781389.260	2678.435	Ptos_scan
1516	9978688.140	781381.837	2678.436	Ptos_scan
1517	9978684.492	781374.265	2678.537	Ptos_scan
1518	9978688.588	781366.090	2678.853	Ptos_scan
1519	9978690.347	781358.195	2678.952	Ptos_scan
1520	9978697.667	781348.903	2679.422	Ptos_scan
1521	9978692.446	781340.902	2679.211	Ptos_scan
1522	9978690.641	781358.143	2679.094	Ptos_scan
1523	9978689.670	781346.080	2679.018	Ptos_scan
1524	9978682.569	781374.437	2674.726	Ptos_scan
1525	9978681.934	781381.894	2674.683	Ptos_scan
1526	9978682.629	781389.277	2674.698	Ptos_scan
1527	9978680.734	781396.647	2674.627	Ptos_scan
1528	9978678.626	781403.897	2674.557	Ptos_scan
1529	9978673.348	781410.781	2674.379	Ptos_scan
1530	9978668.733	781417.417	2674.233	Ptos_scan
1531	9978665.754	781424.046	2674.156	Ptos_scan
1532	9978660.803	781430.167	2674.012	Ptos_scan
1533	9978658.704	781436.648	2673.983	Ptos_scan
1534	9978658.257	781443.478	2674.022	Ptos_scan
1535	9978654.518	781449.476	2673.947	Ptos_scan
1536	9978650.224	781455.158	2673.862	Ptos_scan
1537	9978648.882	781461.722	2673.892	Ptos_scan
1538	9978641.889	781466.119	2673.709	Ptos_scan
1539	9978639.410	781465.136	2670.397	Ptos_scan
1540	9978648.566	781461.609	2670.543	Ptos_scan
1541	9978650.161	781455.138	2670.532	Ptos_scan
1542	9978653.683	781449.233	2670.565	Ptos_scan
1543	9978656.888	781443.153	2670.595	Ptos_scan
1544	9978658.525	781436.610	2670.593	Ptos_scan
1545	9978659.703	781429.964	2670.590	Ptos_scan
1546	9978664.475	781423.856	2670.665	Ptos_scan
1547	9978666.456	781417.169	2670.687	Ptos_scan
1548	9978677.945	781410.750	2670.804	Ptos_scan
1549	9978679.134	781403.919	2670.919	Ptos_scan
1550	9978680.273	781396.653	2670.944	Ptos_scan
1551	9978682.349	781389.278	2670.986	Ptos_scan
1552	9978681.416	781381.939	2670.973	Ptos_scan
1553	9978682.315	781374.454	2671.002	Ptos_scan
1554	9978688.503	781366.224	2671.142	Ptos_scan
1555	9978691.213	781358.058	2671.219	Ptos_scan
1556	9978692.409	781349.915	2671.265	Ptos_scan
1557	9978692.729	781349.854	2667.346	Ptos_scan
1558	9978691.862	781357.956	2667.339	Ptos_scan
1559	9978687.460	781366.352	2667.320	Ptos_scan
1560	9978681.652	781374.519	2667.298	Ptos_scan
1561	9978680.585	781381.980	2667.292	Ptos_scan
1562	9978682.767	781389.274	2667.299	Ptos_scan
1563	9978684.356	781396.659	2667.294	Ptos_scan
1564	9978686.327	781403.918	2667.287	Ptos_scan
1565	9978673.576	781410.805	2667.270	Ptos_scan
1566	9978664.516	781417.071	2667.245	Ptos_scan
1567	9978668.766	781423.751	2667.242	Ptos_scan
1568	9978669.307	781429.893	2667.230	Ptos_scan
1569	9978670.577	781436.488	2667.230	Ptos_scan
1570	9978673.577	781442.866	2667.228	Ptos_scan
1571	9978652.989	781448.994	2667.223	Ptos_scan
1572	9978648.841	781454.715	2667.221	Ptos_scan
1573	9978647.225	781461.123	2667.218	Ptos_scan
1574	9978644.627	781466.203	2663.949	Ptos_scan
1575	9978647.566	781454.300	2663.937	Ptos_scan
1576	9978651.841	781448.719	2663.904	Ptos_scan
1577	9978655.236	781441.741	2663.881	Ptos_scan
1578	9978657.070	781436.289	2663.876	Ptos_scan
1579	9978658.528	781429.759	2663.874	Ptos_scan
1580	9978662.595	781423.636	2663.823	Ptos_scan
1581	9978665.783	781417.090	2663.798	Ptos_scan
1582	9978673.432	781410.793	2663.704	Ptos_scan





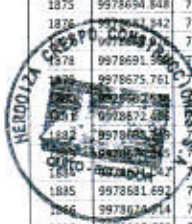
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO-NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1585	9978578.948	781403.910	2663.636	Prot_scan
1586	9978581.068	781396.661	2663.611	Prot_scan
1587	9978680.899	781389.306	2663.607	Prot_scan
1588	9978679.059	781382.070	2663.633	Prot_scan
1589	9978681.410	781374.546	2663.589	Prot_scan
1590	9978686.965	781366.413	2663.509	Prot_scan
1591	9978691.645	781357.990	2663.432	Prot_scan
1592	9978692.631	781349.873	2663.400	Prot_scan
1593	9978691.870	781350.018	2659.488	Prot_scan
1594	9978687.843	781358.582	2659.645	Prot_scan
1595	9978683.841	781366.787	2659.804	Prot_scan
1596	9978678.885	781374.761	2659.977	Prot_scan
1597	9978679.244	781382.049	2659.982	Prot_scan
1598	9978676.758	781389.410	2660.065	Prot_scan
1599	9978677.595	781396.624	2660.042	Prot_scan
1600	9978677.482	781403.846	2660.038	Prot_scan
1601	9978671.253	781410.619	2660.213	Prot_scan
1602	9978664.826	781416.978	2660.387	Prot_scan
1603	9978661.532	781423.434	2660.466	Prot_scan
1604	9978658.113	781429.680	2660.537	Prot_scan
1605	9978654.228	781435.691	2660.611	Prot_scan
1606	9978652.281	781442.001	2660.630	Prot_scan
1607	9978650.491	781448.925	2660.643	Prot_scan
1608	9978645.584	781453.669	2660.728	Prot_scan
1609	9978641.815	781459.190	2660.782	Prot_scan
1612	9978638.295	781457.929	2657.746	Prot_scan
1613	9978643.469	781452.990	2657.592	Prot_scan
1614	9978646.914	781447.816	2657.514	Prot_scan
1615	9978649.835	781441.401	2657.449	Prot_scan
1616	9978651.301	781435.284	2657.401	Prot_scan
1617	9978655.215	781429.160	2657.323	Prot_scan
1618	9978660.370	781423.260	2657.130	Prot_scan
1619	9978662.684	781416.750	2657.061	Prot_scan
1620	9978660.243	781409.765	2657.205	Prot_scan
1621	9978670.712	781403.553	2656.735	Prot_scan
1622	9978675.848	781396.610	2656.504	Prot_scan
1623	9978677.663	781389.395	2656.412	Prot_scan
1624	9978678.033	781382.123	2656.382	Prot_scan
1625	9978677.913	781374.838	2656.362	Prot_scan
1626	9978678.713	781367.429	2656.294	Prot_scan
1627	9978685.751	781358.912	2655.908	Prot_scan
1628	9978691.432	781350.096	2655.582	Prot_scan
1629	9978685.399	781358.961	2652.124	Prot_scan
1630	9978679.374	781367.341	2652.576	Prot_scan
1631	9978677.840	781374.854	2652.728	Prot_scan
1632	9978675.322	781382.274	2652.916	Prot_scan
1633	9978675.568	781389.431	2652.918	Prot_scan
1634	9978675.486	781396.596	2652.926	Prot_scan
1635	9978675.116	781403.742	2652.937	Prot_scan
1636	9978661.164	781409.837	2653.802	Prot_scan
1637	9978660.804	781416.531	2653.785	Prot_scan
1638	9978658.350	781422.967	2653.887	Prot_scan
1639	9978653.626	781428.877	2654.124	Prot_scan
1640	9978650.630	781434.917	2654.236	Prot_scan
1641	9978647.325	781440.767	2654.356	Prot_scan
1642	9978645.505	781446.915	2654.367	Prot_scan
1643	9978641.087	781452.225	2654.538	Prot_scan
1649	9978649.457	781445.332	2651.320	Prot_scan
1650	9978645.282	781440.263	2651.299	Prot_scan
1651	9978648.255	781434.419	2651.179	Prot_scan
1654	9978658.354	781416.209	2650.606	Prot_scan
1655	9978665.337	781410.160	2650.095	Prot_scan
1656	9978673.042	781403.656	2649.510	Prot_scan
1657	9978674.068	781396.586	2649.443	Prot_scan
1658	9978674.485	781389.461	2649.408	Prot_scan
1659	9978679.579	781382.377	2649.457	Prot_scan
1660	9978675.233	781375.093	2649.282	Prot_scan
1661	9978677.655	781367.540	2649.025	Prot_scan
1662	9978682.306	781359.458	2648.566	Prot_scan
1663	9978679.824	781368.037	2645.729	Prot_scan
1664	9978673.355	781375.256	2645.848	Prot_scan
1665	9978671.889	781382.472	2646.041	Prot_scan
1666	9978673.224	781389.487	2645.928	Prot_scan
1667	9978674.067	781396.596	2645.860	Prot_scan
1668	9978670.327	781403.536	2646.204	Prot_scan
1669	9978669.910	781409.739	2647.176	Prot_scan
1690	9978669.107	781403.482	2642.819	Prot_scan
1691	9978672.144	781396.560	2642.495	Prot_scan
1692	9978671.348	781389.527	2642.581	Prot_scan

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1693	9978669.708	781382.588	2642.736	Prot_scan
1694	9978671.533	781375.418	2642.470	Prot_scan
1695	9978669.638	781375.588	2639.140	Prot_scan
1696	9978667.958	781382.686	2639.421	Prot_scan
1697	9978670.181	781389.558	2639.171	Prot_scan
1698	9978670.108	781396.533	2639.186	Prot_scan
1699	9978667.158	781403.396	2639.546	Prot_scan
1722	9978665.265	781403.318	2636.306	Prot_scan
1723	9978667.644	781396.517	2635.985	Prot_scan
1724	9978668.009	781389.617	2635.925	Prot_scan
1725	9978666.266	781382.786	2636.141	Prot_scan
1726	9978664.249	781389.687	2633.003	Prot_scan
1727	9978665.261	781396.491	2632.843	Prot_scan
1728	9978663.537	781403.236	2632.102	Prot_scan
1751	9978661.914	781403.170	2629.908	Prot_scan
1752	9978662.020	781396.456	2629.922	Prot_scan
1753	9978657.924	781396.407	2627.257	Prot_scan
1754	9978658.425	781403.011	2627.121	Prot_scan
1777	9978652.972	781402.770	2624.863	Prot_scan
1837	9978708.995	781427.631	2758.788	TM2
1848	9978696.896	781431.529	2742.745	TM2
1849	9978691.281	781421.957	2731.291	TM2
1840	9978699.828	781437.568	2742.426	TM2
1841	9978706.702	781433.503	2758.958	TM2
1842	9978704.364	781442.748	2743.571	TM2
1843	9978686.107	781421.099	2725.508	TM2
1844	9978706.780	781433.393	2758.980	TM2
1845	9978684.656	781427.799	2725.448	TM2
1846	9978704.231	781452.675	2742.960	TM2
1847	9978710.300	781443.446	2758.266	TM2
1848	9978688.853	781431.754	2730.543	TM2
1849	9978710.566	781447.556	2758.499	TOP
1850	9978690.751	781436.508	2729.909	TM2
1851	9978704.395	781460.679	2745.083	TM2
1852	9978690.672	781436.453	2729.915	TM2
1853	9978709.281	781455.366	2757.977	TM2
1854	9978700.525	781467.381	2745.678	TM2
1855	9978684.227	781435.995	2724.512	TM2
1856	9978708.018	781463.421	2757.881	TM2
1857	9978684.094	781436.004	2724.495	TM2
1858	9978697.043	781464.345	2740.724	TM2
1859	9978707.408	781470.499	2758.151	TM2
1860	9978683.362	781441.459	2724.315	TM2
1861	9978692.309	781460.980	2735.531	TM2
1862	9978683.586	781447.722	2722.802	TM2
1863	9978704.721	781476.576	2758.425	TM2
1864	9978695.381	781453.928	2734.830	TM2
1865	9978690.703	781444.057	2729.944	TM2
1866	9978702.585	781472.240	2753.062	TM2
1867	9978695.852	781446.869	2735.085	TM2
1868	9978689.910	781444.777	2728.830	TM2
1869	9978689.887	781444.772	2727.824	TM2
1870	9978695.246	781439.512	2736.214	TM2
1871	9978689.194	781446.726	2728.184	TM2
1872	9978698.600	781471.466	2747.252	TM2
1873	9978687.696	781447.537	2728.841	TM2
1874	9978682.589	781445.488	2723.939	TM2
1875	9978694.848	781466.055	2738.589	TM2
1876	9978681.842	781454.773	2729.455	TM2
1878	9978691.968	781436.931	2718.838	TM2
1879	9978675.761	781441.257	2716.565	TM2
1880	9978672.686	781453.707	2723.457	TM2
1881	9978672.686	781446.547	2715.027	TM2
1882	9978675.249	781463.416	2729.149	TM2
1883	9978675.249	781454.594	2718.692	TM2
1884	9978674.427	781448.288	2718.796	TM2
1885	9978681.692	781463.939	2725.199	TM2
1886	9978674.974	781462.242	2718.733	TM2
1887	9978669.763	781449.997	2713.709	TM2
1888	9978667.325	781456.363	2712.276	TM2
1889	9978679.297	781471.410	2724.484	TM2
1890	9978673.214	781468.996	2717.528	TM2
1891	9978668.459	781464.402	2713.438	TM2
1892	9978668.198	781468.851	2711.636	TM2
1893	9978671.993	781473.072	2716.257	TM2
1894	9978676.858	781477.048	2721.665	TM2
1895	9978672.182	781478.081	2715.837	TOP
1896	9978673.473	781481.309	2717.440	TM2





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1897	9978667.531	781479.700	2711.617	TNIZ
1898	9978666.954	781488.679	2712.427	TNIZ
1899	9978671.634	781489.042	2718.595	TNIZ
1900	9978666.838	781489.660	2711.628	TNIZ
1901	9978663.302	781499.268	2710.192	TNIZ
1902	9978666.838	781494.293	2711.827	TNIZ
1903	9978659.947	781496.655	2707.757	TNIZ
1904	9978674.175	781485.671	2721.412	TNIZ
1905	9978671.355	781493.909	2716.632	TNIZ
1906	9978663.835	781502.504	2713.846	TNIZ
1907	9978676.663	781491.187	2725.548	TNIZ
1908	9978667.662	781504.684	2725.876	TNIZ
1909	9978681.992	781491.171	2729.745	TNIZ
1910	9978666.178	781508.880	2720.025	TNIZ
1911	9978686.067	781493.964	2735.212	TNIZ
1912	9978675.835	781501.891	2726.195	TNIZ
1913	9978671.276	781511.665	2725.591	TNIZ
1914	9978677.522	781499.623	2725.405	TNIZ
1915	9978689.573	781495.740	2739.882	TNIZ
1916	9978674.661	781516.004	2730.811	TNIZ
1917	9978678.387	781510.138	2729.915	TNIZ
1918	9978678.005	781516.668	2734.732	TNIZ
1919	9978677.805	781511.217	2730.851	TNIZ
1920	9978691.340	781498.692	2744.082	TNIZ
1921	9978682.295	781506.663	2739.562	TNIZ
1922	9978681.817	781513.301	2734.661	TNIZ
1923	9978692.438	781496.345	2747.058	TNIZ
1924	9978682.640	781503.951	2735.981	TNIZ
1925	9978684.148	781516.624	2738.097	TNIZ
1926	9978687.928	781503.760	2739.411	TNIZ
1927	9978688.662	781515.885	2741.188	TNIZ
1928	9978687.480	781507.375	2739.969	TNIZ
1929	9978687.442	781507.570	2738.583	TNIZ
1930	9978696.321	781498.669	2754.004	TNIZ
1931	9978690.420	781499.156	2742.205	TNIZ
1932	9978691.298	781514.870	2744.386	TNIZ
1933	9978693.569	781501.081	2746.112	TNIZ
1934	9978695.654	781504.373	2747.709	TNIZ
1935	9978693.576	781518.487	2747.245	TNIZ
1936	9978693.225	781508.920	2744.266	TNIZ
1937	9978701.778	781497.774	2758.068	TNIZ
1938	9978695.576	781512.167	2748.912	TNIZ
1939	9978702.828	781486.026	2758.096	TNIZ
1940	9978695.402	781522.163	2750.721	TNIZ
1941	9978700.107	781481.126	2753.627	TNIZ
1942	9978699.283	781517.135	2752.814	MURO-HA
1943	9978698.754	781521.485	2753.982	MURO-HA
1944	9978700.194	781512.694	2754.921	MURO-HA
1945	9978697.855	781527.268	2753.980	MURO-HA
1946	9978695.178	781480.118	2748.340	TNIZ
1947	9978696.647	781532.488	2753.626	TNIZ
1948	9978696.646	781532.488	2753.626	MURO-HA
1949	9978700.387	781512.616	2756.254	MURO-HA-S
1950	9978694.919	781537.018	2754.960	MURO-HA
1951	9978695.028	781537.286	2755.996	MURO-HA-S
1952	9978699.560	781518.416	2756.089	MURO-HA-S
1953	9978697.637	781529.885	2755.345	MURO-HA-S
1954	9978699.541	781518.538	2756.073	MURO-HA-S
1955	9978698.733	781522.969	2755.518	MURO-HA-S
1956	9978692.507	781478.453	2745.659	TNIZ
1957	9978695.270	781475.372	2748.601	TNIZ
1958	9978697.978	781476.571	2750.804	TNIZ
1959	9978701.563	781477.245	2754.944	TNIZ
1960	9978676.429	781409.726	2704.027	Ptos_scan
1961	9978678.411	781405.839	2704.532	Ptos_scan
1962	9978680.419	781402.078	2704.959	Ptos_scan
1963	9978683.515	781399.377	2704.804	Ptos_scan
1964	9978686.290	781396.372	2704.769	Ptos_scan
1965	9978685.043	781395.304	2702.483	Ptos_scan
1966	9978682.888	781388.811	2702.221	Ptos_scan
1967	9978679.656	781401.351	2702.462	Ptos_scan
1968	9978678.597	781406.026	2701.517	Ptos_scan
1969	9978675.843	781409.098	2701.408	Ptos_scan
1970	9978673.604	781412.870	2700.910	Ptos_scan
1971	9978671.788	781417.064	2700.187	Ptos_scan
1972	9978669.741	781421.239	2699.465	Ptos_scan
1973	9978669.242	781427.625	2697.688	Ptos_scan
1974	9978667.674	781432.961	2696.424	Ptos_scan
1975	9978665.954	781438.397	2695.118	Ptos_scan

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
1976	9978663.929	781443.706	2693.870	Ptos_scan
1977	9978661.569	781448.793	2692.714	Ptos_scan
1978	9978659.078	781454.014	2691.493	Ptos_scan
1979	9978657.074	781460.315	2689.709	Ptos_scan
1980	9978654.638	781466.711	2688.058	Ptos_scan
1981	9978651.273	781471.488	2686.990	Ptos_scan
1982	9978646.926	781474.294	2686.664	Ptos_scan
1983	9978645.916	781472.068	2683.964	Ptos_scan
1984	9978650.392	781469.610	2684.124	Ptos_scan
1985	9978653.593	781464.627	2685.348	Ptos_scan
1986	9978656.153	781458.786	2686.936	Ptos_scan
1987	9978658.559	781453.090	2688.450	Ptos_scan
1988	9978661.338	781448.419	2689.488	Ptos_scan
1989	9978663.489	781443.019	2690.851	Ptos_scan
1990	9978665.571	781437.843	2692.111	Ptos_scan
1991	9978667.406	781432.580	2693.396	Ptos_scan
1992	9978669.024	781427.338	2694.683	Ptos_scan
1993	9978670.347	781422.987	2695.028	Ptos_scan
1994	9978672.164	781417.508	2696.341	Ptos_scan
1995	9978673.628	781412.807	2697.663	Ptos_scan
1996	9978676.156	781409.428	2698.270	Ptos_scan
1997	9978678.319	781405.742	2698.722	Ptos_scan
1998	9978679.874	781401.554	2699.440	Ptos_scan
1999	9978682.341	781398.321	2699.595	Ptos_scan
2000	9978684.481	781394.824	2699.872	Ptos_scan
2001	9978684.274	781394.642	2697.059	Ptos_scan
2002	9978682.123	781398.115	2696.774	Ptos_scan
2003	9978679.986	781401.661	2696.423	Ptos_scan
2004	9978677.845	781405.255	2696.015	Ptos_scan
2005	9978676.140	781409.414	2695.269	Ptos_scan
2006	9978673.823	781413.020	2694.813	Ptos_scan
2007	9978672.020	781417.338	2693.953	Ptos_scan
2008	9978670.439	781422.102	2692.846	Ptos_scan
2009	9978668.568	781426.738	2691.809	Ptos_scan
2010	9978667.272	781432.387	2690.244	Ptos_scan
2011	9978664.879	781436.806	2689.310	Ptos_scan
2012	9978662.945	781442.170	2687.895	Ptos_scan
2013	9978660.787	781447.498	2686.491	Ptos_scan
2014	9978658.077	781452.241	2685.361	Ptos_scan
2015	9978655.478	781457.519	2683.963	Ptos_scan
2016	9978652.685	781462.798	2682.544	Ptos_scan
2017	9978648.935	781466.464	2681.851	Ptos_scan
2018	9978644.976	781469.902	2681.224	Ptos_scan
2019	9978639.579	781470.009	2678.379	Ptos_scan
2020	9978643.734	781467.233	2678.795	Ptos_scan
2021	9978648.250	781465.005	2678.872	Ptos_scan
2022	9978651.631	781460.696	2679.920	Ptos_scan
2023	9978654.645	781455.947	2681.153	Ptos_scan
2024	9978657.635	781451.471	2682.250	Ptos_scan
2025	9978660.481	781447.339	2683.110	Ptos_scan
2026	9978662.773	781441.886	2684.642	Ptos_scan
2027	9978664.406	781436.101	2686.349	Ptos_scan
2028	9978666.609	781431.541	2687.412	Ptos_scan
2029	9978668.318	781426.402	2688.780	Ptos_scan
2030	9978670.157	781431.757	2689.878	Ptos_scan
2031	9978671.712	781436.974	2691.051	Ptos_scan
2032	9978673.856	781443.062	2691.726	Ptos_scan
2033	9978675.463	781448.680	2692.652	Ptos_scan
2034	9978677.813	781452.227	2693.022	Ptos_scan
2035	9978679.993	781457.667	2693.426	Ptos_scan
2036	9978681.113	781463.325	2693.915	Ptos_scan
2037	9978682.444	781469.759	2694.790	Ptos_scan
2038	9978687.1	781477.050	2696.860	Ptos_scan
2039	9978670.475	781422.142	2686.458	Ptos_scan
2040	9978672.225	781426.226	2685.633	Ptos_scan
2041	9978674.295	781431.017	2684.395	Ptos_scan
2042	9978676.841	781433.949	2683.170	Ptos_scan
2043	9978679.444	781441.371	2681.440	Ptos_scan
2044	9978682.250	781446.599	2679.989	Ptos_scan
2045	9978685.072	781450.990	2678.928	Ptos_scan
2046	9978687.290	781455.412	2678.858	Ptos_scan
2047	9978685.071	781457.542	2677.861	Ptos_scan
2048	9978648.454	781465.422	2674.952	Ptos_scan
2049	9978643.273	781465.957	2675.696	Ptos_scan
2050	9978638.878	781468.245	2675.508	Ptos_scan
2051	9978638.134	781466.399	2672.706	Ptos_scan
2052	9978642.691	781464.629	2672.646	Ptos_scan
2053	9978647.928	781464.303	2671.768	Ptos_scan
2054	9978649.863	781457.145	2674.427	Ptos_scan





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2055	9978652.780	781452.428	2675.782	Ptos_scan
2056	9978656.313	781449.134	2676.943	Ptos_scan
2057	9978659.226	781444.901	2677.383	Ptos_scan
2058	9978660.712	781438.660	2679.526	Ptos_scan
2059	9978662.095	781432.685	2681.530	Ptos_scan
2060	9978665.676	781430.166	2681.538	Ptos_scan
2061	9978667.952	781425.894	2682.593	Ptos_scan
2062	9978670.126	781421.705	2683.459	Ptos_scan
2063	9978671.845	781417.114	2684.620	Ptos_scan
2064	9978667.260	781425.002	2679.747	Ptos_scan
2065	9978665.536	781429.963	2678.278	Ptos_scan
2066	9978661.319	781431.553	2678.828	Ptos_scan
2067	9978659.632	781436.981	2677.045	Ptos_scan
2068	9978658.596	781448.866	2674.421	Ptos_scan
2069	9978655.387	781447.484	2673.678	Ptos_scan
2070	9978652.406	781451.753	2672.538	Ptos_scan
2071	9978649.744	781456.897	2670.879	Ptos_scan
2072	9978647.215	781462.774	2668.803	Ptos_scan
2073	9978642.675	781464.580	2668.905	Ptos_scan
2074	9978637.461	781464.739	2669.834	Ptos_scan
2076	9978654.898	781446.649	2670.555	Ptos_scan
2077	9978657.358	781441.814	2672.062	Ptos_scan
2078	9978658.977	781435.965	2674.189	Ptos_scan
2079	9978660.741	781430.709	2675.951	Ptos_scan
2080	9978659.859	781529.374	2746.421	TNIZ
2081	9978663.848	781525.606	2740.775	TNIZ
2082	9978662.891	781539.787	2754.609	TNIZ
2083	9978668.190	781547.891	2754.113	TNIZ
2084	9978680.425	781530.990	2719.234	TNIZ
2085	9978682.241	781535.991	2754.553	TNIZ
2086	9978687.191	781535.885	2746.858	TNIZ
2087	9978678.230	781563.022	2754.557	TNIZ
2088	9978676.865	781534.444	2737.130	TNIZ
2089	9978673.681	781567.066	2751.174	TNIZ
2090	9978683.146	781539.500	2743.985	TNIZ
2091	9978672.007	781562.249	2752.342	TNIZ
2092	9978671.011	781540.404	2738.181	TNIZ
2093	9978681.475	781542.716	2744.734	TNIZ
2094	9978676.844	781547.757	2745.396	TNIZ
2095	9978676.061	781559.353	2752.638	TNIZ
2096	9978664.404	781545.210	2735.855	TNIZ
2097	9978671.109	781552.439	2745.540	TNIZ
2098	9978660.617	781549.279	2737.059	TNIZ
2099	9978664.146	781556.945	2744.039	TNIZ
2100	9978668.936	781572.992	2753.133	TNIZ
2101	9978668.052	781573.565	2749.852	SAL-AUC
2102	9978656.214	781557.079	2731.909	TNIZ
2103	9978656.463	781556.966	2736.911	TNIZ
2104	9978656.520	781557.136	2736.897	TNIZ
2105	9978668.253	781559.507	2748.251	TNIZ
2106	9978656.563	781557.876	2729.789	FQ
2107	9978668.444	781559.764	2748.534	TNIZ
2108	9978657.278	781560.542	2736.061	FQ
2109	9978657.278	781560.542	2736.061	FQ
2110	9978666.750	781563.494	2748.181	TNIZ
2111	9978664.054	781569.521	2743.357	FQ
2112	9978725.311	781288.555	2745.918	TOP
2113	9978656.967	781559.389	2737.469	TNIZ
2114	9978656.967	781559.389	2738.469	TNIZ
2115	9978661.905	781570.464	2746.333	TNIZ
2116	9978662.172	781577.621	2752.596	TNIZ
2117	9978655.773	781582.132	2752.017	TNIZ
2118	9978656.625	781571.655	2744.462	TNIZ
2119	9978648.517	781586.236	2751.397	TNIZ
2120	9978646.309	781583.893	2748.855	TNIZ
2121	9978651.204	781574.813	2743.953	TNIZ
2122	9978641.079	781589.531	2750.614	TNIZ
2123	9978640.563	781585.786	2747.419	TNIZ
2124	9978645.886	781577.672	2743.520	TNIZ
2125	9978636.493	781587.894	2746.596	TNIZ
2126	9978639.238	781581.213	2743.219	TNIZ
2127	9978637.865	781592.007	2750.485	TNIZ
2128	9978652.765	781561.222	2736.390	TNIZ
2129	9978653.475	781560.058	2729.676	TNIZ
2130	9978632.447	781594.703	2749.681	TNIZ
2131	9978630.171	781585.518	2741.652	TNIZ
2132	9978654.961	781561.549	2738.620	TNIZ
2133	9978656.069	781561.595	2738.116	FQ
2134	9978624.222	781588.423	2741.349	TNIZ

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2135	9978647.603	781563.835	2735.049	TNIZ
2136	9978624.007	781588.486	2741.355	TNIZ
2137	9978647.634	781563.845	2735.027	TNIZ
2138	9978620.714	781597.661	2749.046	TNIZ
2139	9978620.736	781597.658	2749.045	TNIZ
2140	9978617.090	781589.754	2740.542	TNIZ
2141	9978617.836	781566.954	2733.215	TNIZ
2142	9978613.021	781598.759	2748.842	TNIZ
2143	9978607.608	781588.939	2741.121	TNIZ
2144	9978629.143	781568.950	2731.658	TNIZ
2145	9978605.553	781598.541	2748.272	TNIZ
2146	9978619.798	781572.923	2729.264	TNIZ
2147	9978599.430	781596.316	2748.225	TNIZ
2148	9978596.950	781586.997	2749.461	TNIZ
2149	9978613.412	781571.550	2728.236	TNIZ
2150	9978591.021	781599.752	2747.304	TNIZ
2151	9978589.606	781585.816	2737.696	TNIZ
2152	9978602.968	781572.857	2729.022	TNIZ
2153	9978585.438	781588.135	2737.765	TNIZ
2154	9978582.621	781606.750	2748.108	TNIZ
2155	9978592.597	781573.690	2728.794	TNIZ
2156	9978574.137	781607.511	2743.849	TNIZ
2157	9978579.185	781592.744	2737.567	TNIZ
2158	9978580.620	781579.404	2729.421	TNIZ
2159	9978616.982	781606.574	2749.590	PL
2160	9978657.555	781583.111	2752.359	PL
2161	9978656.625	781582.099	2752.259	PL
2162	9978692.624	781543.102	2754.828	PL
2163	9978704.938	781484.813	2757.784	PL
2164	9978735.173	781380.073	2769.696	PL
2165	9978739.599	781293.782	2771.157	PL
2166	9978746.606	781245.161	2772.337	PL
2167	9978768.728	781180.526	2774.089	PL
2168	9978731.228	781437.869	2766.821	CFB
2169	9978770.602	781180.934	2775.874	CFB
2170	9978734.227	781422.944	2767.750	CFB
2171	9978774.761	781171.546	2773.590	CFB
2172	9978733.796	781409.587	2768.519	CFB
2173	9978779.207	781160.681	2772.728	CFB
2174	9978733.052	781402.134	2768.817	CFB
2175	9978782.298	781151.203	2771.864	CFB
2176	9978735.187	781394.613	2768.960	CFB
2177	9978785.981	781147.076	2771.054	CFB
2178	9978736.498	781381.635	2768.508	CFB
2179	9978780.414	781137.235	2770.120	CFB
2180	9978737.828	781368.642	2772.346	CFB
2181	9978794.458	781127.461	2768.604	CFB
2182	9978738.876	781360.622	2773.025	CFB
2183	9978796.934	781122.270	2770.351	CFB
2184	9978738.580	781349.194	2772.858	CFB
2185	9978799.545	781116.916	2769.160	CFB
2186	9978738.794	781342.226	2771.075	CFB
2187	9978804.432	781107.551	2770.245	CFB
2188	9978757.638	781329.239	2770.825	CFB
2189	9978806.604	781099.060	2771.928	CFB
2190	9978737.682	781318.970	2770.934	CFB
2191	9978809.568	781090.195	2774.269	CFB
2192	9978740.273	781312.130	2771.039	CFB
2193	9978813.037	781084.406	2775.864	CFB
2194	9978813.037	781301.985	2771.453	CFB
2195	9978813.037	781078.901	2776.830	CFB
2196	9978740.492	781292.878	2771.133	CFB
2197	9978813.037	781072.240	2778.268	CFB
2198	9978813.037	781283.025	2771.952	CFB
2199	9978813.037	781066.606	2779.134	CFB
2200	9978813.037	781277.210	2772.421	CFB
2201	9978813.037	781063.498	2779.235	CFB
2202	9978747.891	781271.958	2773.352	CFB
2203	9978813.037	781058.919	2778.829	CFB
2204	9978745.735	781268.230	2773.973	CFB
2205	9978833.128	781049.737	2778.005	CFB
2206	9978744.740	781263.481	2773.990	CFB
2207	9978838.040	781038.195	2776.579	CFB
2208	9978747.513	781250.597	2773.250	CFB
2209	9978841.910	781028.689	2775.574	CFB
2210	9978748.087	781241.785	2773.248	CFB
2211	9978844.241	781021.527	2775.477	CFB
2212	9978749.980	781237.078	2772.876	CFB
2213	9978846.974	781012.506	2774.759	CFB



3020



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2214	9978753.713	781224.033	2772.599	CFB
2215	9978849.264	781006.649	2774.249	CFB
2216	9978759.942	781212.451	2773.571	CFB
2217	9978854.301	780994.312	2773.272	CFB
2218	9978763.421	781105.720	2774.263	CFB
2219	9978856.297	780986.861	2772.999	CFB
2220	9978767.130	781192.209	2773.937	CFB
2221	9978769.290	781185.181	2773.922	CFB
2222	9978859.796	780978.051	2772.603	CFB
2223	9978862.381	780969.286	2772.102	CFB
2224	9978867.181	780957.757	2771.845	CFB
2225	9978866.714	780912.741	2772.584	AUX-B
2226	9978858.332	780911.736	2772.462	AUX-C
2227	9978870.124	780959.090	2771.908	PIE
2228	9978868.798	780948.812	2771.229	PIE
2229	9978860.014	780957.198	2771.629	TN
2230	9978852.249	780966.982	2772.229	TN
2231	9978854.499	780965.490	2771.259	TN
2232	9978852.624	780955.236	2771.369	TN
2233	9978847.797	780952.971	2765.988	TN
2234	9978853.717	780965.757	2769.202	TN
2235	9978840.253	780953.543	2758.299	TN
2236	9978848.419	780966.492	2765.186	TN
2237	9978843.596	780964.338	2760.287	TN
2238	9978841.290	780958.142	2759.343	TN
2239	9978835.949	780949.270	2758.290	TN
2240	9978840.505	780961.184	2755.613	TN
2241	9978839.373	780972.596	2763.335	TN
2242	9978842.781	780974.925	2766.731	TN
2243	9978826.846	780975.019	2754.594	TN
2244	9978845.488	780975.845	2769.454	TN
2245	9978847.688	780976.822	2771.474	TN
2246	9978832.655	780979.038	2761.616	TN
2247	9978849.577	780977.591	2772.539	TN
2248	9978840.607	780983.231	2769.651	TN
2249	9978845.728	780984.623	2772.328	TN
2250	9978856.345	780980.387	2772.654	TN
2251	9978851.583	780989.088	2773.123	TN
2252	9978860.504	780992.211	2773.082	PIE
2253	9978864.236	780983.829	2773.325	PIE
2254	9978860.757	781001.530	2774.281	PIE
2255	9978852.534	781015.226	2775.616	PIE
2256	9978851.723	780988.451	2773.862	TN
2257	9978845.647	781012.969	2774.790	TN
2258	9978844.158	780996.742	2773.151	TN
2259	9978841.172	781008.835	2773.910	TN
2260	9978840.194	780995.960	2770.952	TN
2261	9978838.132	780995.981	2768.906	TN
2262	9978833.644	780993.313	2763.218	TN
2263	9978835.153	781008.279	2768.643	TN
2264	9978837.231	780989.621	2752.947	TN
2265	9978832.665	780986.920	2753.449	TN
2266	9978831.389	781007.067	2764.583	TN
2267	9978817.702	780888.202	2747.126	TN
2268	9978826.964	781006.984	2759.392	TN
2269	9978814.949	780988.681	2744.206	TN
2270	9978819.697	780998.515	2751.075	TN
2271	9978818.969	781006.309	2752.306	TN
2272	9978813.960	781005.781	2748.555	TN
2273	9978845.288	781035.545	2777.482	PIE
2274	9978847.312	781023.810	2775.349	PIE
2275	9978842.429	781034.680	2776.159	TN
2276	9978845.053	781023.654	2775.463	TN
2277	9978835.177	781031.553	2775.721	TN
2278	9978833.207	781031.263	2775.308	TN
2279	9978838.704	781019.924	2775.124	TN
2280	9978829.900	781029.152	2772.209	TN
2281	9978825.143	781027.264	2765.910	TN
2282	9978818.671	781024.341	2759.589	TN
2283	9978826.351	781015.245	2762.755	TN
2284	9978814.565	781020.781	2753.781	TN
2285	9978832.882	781012.522	2758.288	TN
2286	9978814.093	781009.756	2748.654	TN
2287	9978814.096	781009.756	2748.658	TN
2288	9978809.567	781008.997	2743.255	TN
2289	9978804.721	781018.836	2744.529	TN
2290	9978808.061	781009.139	2741.058	TN
2291	9978806.280	781030.742	2752.058	TN
2292	9978811.883	781036.284	2759.473	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2293	9978803.755	781049.056	2761.442	TN
2294	9978816.187	781037.846	2764.251	TN
2295	9978815.946	781039.079	2764.508	TN
2296	9978797.279	781047.522	2755.210	TN
2297	9978800.905	781051.864	2760.277	TN
2298	9978820.516	781040.458	2769.568	TN
2299	9978806.888	781055.130	2766.210	TN
2300	9978811.435	781058.188	2771.876	TN
2301	9978825.436	781042.416	2773.625	TN
2302	9978820.545	781062.060	2777.661	TN
2303	9978829.859	781043.955	2777.704	TN
2304	9978823.935	781064.281	2777.951	TN
2305	9978835.339	781047.185	2777.530	TN
2306	9978827.654	781064.550	2779.345	TN
2307	9978828.694	781049.932	2777.610	PIE
2308	9978832.229	781066.299	2779.975	PIE
2309	9978821.242	781074.407	2777.902	PIE
2310	9978815.406	781084.377	2775.938	PIE
2311	9978810.051	781081.641	2776.412	TN
2312	9978815.419	781071.133	2777.869	TN
2313	9978805.367	781079.705	2772.558	TN
2314	9978799.534	781075.597	2768.447	TN
2315	9978812.951	781068.607	2775.392	TN
2316	9978807.303	781066.515	2770.872	TN
2317	9978795.192	781073.255	2764.073	TN
2318	9978800.884	781062.898	2765.596	TN
2319	9978789.991	781069.827	2759.458	TN
2320	9978786.981	781068.431	2755.724	TN
2321	9978796.113	781060.031	2760.667	TN
2322	9978783.783	781067.952	2752.082	TN
2323	9978780.674	781067.069	2749.531	TN
2324	9978777.703	781066.461	2747.231	TN
2325	9978789.405	781057.422	2754.413	TN
2326	9978776.910	781070.866	2746.673	BSQ
2327	9978781.829	781075.257	2753.687	BSQ
2328	9978781.735	781075.745	2753.124	HQ
2329	9978779.117	781076.483	2747.968	FQ
2330	9978774.133	781075.304	2744.172	FO
2331	9978772.279	781074.816	2740.278	FO
2332	9978768.154	781073.757	2729.928	FQ
2333	9978767.298	781073.611	2727.533	HQ
2334	9978781.682	781076.682	2754.599	FQ
2335	9978784.130	781075.136	2755.070	BSQ
2336	9978786.900	781079.754	2758.507	BSQ
2337	9978788.892	781077.121	2760.344	BSQ
2338	9978794.817	781078.833	2764.902	BSQ
2339	9978801.175	781081.627	2769.441	BSQ
2340	9978806.102	781084.990	2772.905	TN
2341	9978808.183	781085.824	2775.251	TN
2342	9978813.984	781087.447	2774.772	PIE
2343	9978723.579	781283.928	2742.589	TOP
2344	9978723.679	781284.373	2742.583	TOP
2345	9978723.735	781284.822	2742.580	TOP
2346	9978723.751	781285.281	2742.579	TOP
2347	9978723.907	781285.720	2742.570	TOP
2348	9978723.894	781286.165	2742.571	TOP
2349	9978723.906	781286.628	2742.570	TOP
2350	9978724.386	781287.977	2742.540	TOP
2351	9978724.418	781288.426	2742.538	TOP
2352	9978724.532	781288.873	2742.530	TOP
2353	9978724.573	781289.137	2742.528	TOP
2354	9978724.585	781289.799	2742.521	TOP
2355	9978724.605	781290.256	2742.501	TOP
2356	9978725.143	781290.714	2742.490	TOP
2357	9978725.199	781291.171	2742.486	TOP
2358	9978725.233	781291.628	2742.485	TOP
2359	9978725.259	781292.101	2742.483	TOP
2360	9978725.289	781292.574	2742.482	TOP
2361	9978725.320	781293.024	2742.446	TOP
2362	9978725.350	781293.492	2742.445	TOP
2363	9978725.380	781293.944	2742.442	TOP
2364	9978725.410	781294.412	2742.434	TOP
2365	9978725.440	781294.876	2742.434	TOP
2366	9978725.470	781295.318	2742.440	TOP
2367	9978725.500	781295.747	2742.437	TOP
2368	9978725.530	781296.165	2742.430	TOP
2369	9978725.560	781296.573	2742.423	TOP
2370	9978725.590	781296.960	2742.418	TOP
2371	9978725.620	781297.329	2742.408	TOP
2372	9978725.650	781297.680	2742.401	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2372	9978726.040	781299.051	2742.404	TOP
2373	9978727.239	781302.875	2742.806	TOP
2374	9978727.185	781303.343	2742.306	TOP
2375	9978727.508	781303.850	2742.282	TOP
2376	9978727.550	781304.322	2742.276	TOP
2377	9978727.639	781304.806	2742.267	TOP
2378	9978727.778	781305.774	2742.250	TOP
2379	9978727.942	781306.272	2742.236	TOP
2380	9978728.171	781306.773	2742.217	TOP
2381	9978728.280	781307.277	2742.206	TOP
2382	9978728.683	781307.807	2742.176	TOP
2383	9978728.657	781308.285	2742.173	TOP
2384	9978728.657	781308.765	2742.169	TOP
2385	9978728.639	781309.245	2742.166	TOP
2386	9978728.543	781309.696	2742.167	TOP
2387	9978728.556	781310.194	2742.161	TOP
2388	9978728.610	781310.679	2742.153	TOP
2389	9978728.567	781311.158	2742.150	TOP
2390	9978728.475	781311.102	2742.146	TOP
2391	9978728.353	781311.053	2742.143	TOP
2392	9978728.243	781311.510	2742.144	TOP
2393	9978728.052	781313.359	2742.151	TOP
2394	9978727.865	781314.390	2742.157	TOP
2395	9978727.766	781314.859	2742.157	TOP
2396	9978727.751	781315.339	2742.152	TOP
2397	9978727.724	781315.819	2742.148	TOP
2398	9978727.909	781316.334	2742.130	TOP
2399	9978727.854	781316.807	2742.127	TOP
2400	9978727.903	781317.303	2742.118	TOP
2401	9978727.944	781317.790	2742.109	TOP
2402	9978728.194	781318.348	2742.086	TOP
2403	9978728.406	781318.877	2742.066	TOP
2404	9978728.385	781319.365	2742.060	TOP
2405	9978724.217	782605.348	2673.345	ASFALTO
2406	9978715.652	782615.892	2672.603	BORDE
2407	9978728.194	781320.808	2742.051	TOP
2408	9978728.019	781321.269	2742.055	TOP
2409	9978727.871	781321.721	2742.057	TOP
2410	9978727.399	781322.087	2742.081	TOP
2411	9978727.147	781322.522	2742.089	TOP
2412	9978727.614	781323.640	2742.043	TOP
2413	9978727.567	781324.138	2742.038	TOP
2414	9978727.481	781324.588	2742.036	TOP
2415	9978727.403	781325.081	2742.033	TOP
2416	9978727.340	781325.558	2742.029	TOP
2417	9978727.362	781326.073	2742.019	TOP
2418	9978727.199	781326.529	2742.021	TOP
2419	9978727.107	781326.997	2742.018	TOP
2420	9978726.977	781327.449	2742.015	TOP
2421	9978726.715	781327.883	2742.026	TOP
2422	9978726.589	781328.344	2742.026	TOP
2423	9978726.655	781328.859	2742.017	TOP
2424	9978726.901	781329.444	2741.987	TOP
2425	9978726.792	781329.900	2741.985	TOP
2426	9978726.564	781330.344	2741.991	TOP
2427	9978726.287	781330.754	2741.999	TOP
2428	9978726.154	781331.213	2741.999	TOP
2429	9978726.011	781331.676	2741.998	TOP
2430	9978725.917	781332.146	2741.995	TOP
2431	9978725.889	781332.516	2742.013	TOP
2432	9978725.156	781332.915	2741.025	TOP
2433	9978724.915	781333.340	2742.031	TOP
2434	9978724.704	781333.782	2742.034	TOP
2435	9978724.514	781334.215	2742.037	TOP
2436	9978724.327	781334.668	2742.038	TOP
2437	9978724.173	781335.119	2742.038	TOP
2438	9978723.968	781335.576	2742.041	TOP
2439	9978723.793	781336.007	2742.042	TOP
2440	9978723.582	781336.451	2742.045	TOP
2441	9978723.421	781336.883	2742.045	TOP
2442	9978723.244	781337.353	2742.045	TOP
2443	9978723.062	781337.785	2742.046	TOP
2444	9978722.876	781338.241	2742.047	TOP
2445	9978722.793	781338.714	2742.042	TOP
2446	9978722.638	781339.175	2742.040	TOP
2447	9978722.506	781339.648	2742.037	TOP
2448	9978722.321	781340.095	2742.038	TOP
2449	9978722.184	781340.558	2742.035	TOP
2450	9978722.014	781341.031	2742.034	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2451	9978721.843	781341.447	2742.034	TOP
2452	9978721.669	781341.894	2742.034	TOP
2453	9978721.454	781342.319	2742.036	TOP
2454	9978721.287	781342.773	2742.035	TOP
2455	9978721.091	781343.206	2742.035	TOP
2456	9978720.577	781344.024	2742.045	TOP
2457	9978720.380	781344.480	2742.045	TOP
2458	9978720.166	781344.889	2742.047	TOP
2459	9978719.933	781345.308	2742.050	TOP
2460	9978719.618	781345.704	2742.058	TOP
2461	9978719.418	781346.130	2742.058	TOP
2462	9978720.146	781346.981	2742.045	TOP
2463	9978725.676	781357.417	2741.989	TOP
2464	9978726.119	781358.222	2741.951	TOP
2465	9978725.950	781359.297	2741.929	TOP
2466	9978725.319	781360.145	2741.899	TOP
2467	9978724.718	781360.403	2741.965	TOP
2468	9978723.922	781361.719	2741.969	TOP
2469	9978723.713	781362.200	2741.966	TOP
2470	9978722.873	781363.544	2741.965	TOP
2471	9978722.675	781363.967	2741.969	TOP
2472	9978719.960	781368.367	2741.974	TOP
2473	9978719.258	781369.773	2741.965	TOP
2474	9978718.929	781370.174	2741.969	TOP
2475	9978718.488	781370.507	2741.981	TOP
2476	9978716.387	781374.066	2741.968	TOP
2477	9978716.143	781374.517	2741.965	TOP
2478	9978715.738	781375.475	2741.952	TOP
2479	9978715.162	781377.610	2741.904	TOP
2480	9978714.842	781378.077	2741.999	TOP
2481	9978714.716	781378.565	2741.992	TOP
2482	9978714.508	781379.060	2741.984	TOP
2483	9978713.964	781380.609	2741.954	TOP
2484	9978713.692	781381.727	2741.926	TOP
2485	9978713.408	781382.162	2741.924	TOP
2486	9978713.516	781382.911	2741.990	TOP
2487	9978713.082	781383.895	2741.974	TOP
2488	9978712.681	781384.913	2741.955	TOP
2489	9978712.364	781385.354	2741.953	TOP
2490	9978712.073	781386.459	2741.924	TOP
2491	9978711.522	781387.395	2741.914	TOP
2492	9978711.045	781389.062	2741.071	TOP
2493	9978703.425	781413.741	2740.346	TOP
2494	9978698.744	781421.550	2740.168	TOP
2495	9978698.523	781422.192	2740.146	TOP
2496	9978701.788	781411.516	2736.280	TOP
2498	9978702.076	781410.991	2736.297	TOP
2499	9978702.421	781410.529	2736.306	TOP
2500	9978702.741	781410.060	2736.317	TOP
2501	9978703.011	781407.113	2736.489	TOP
2502	9978703.474	781406.787	2736.482	TOP
2503	9978703.837	781406.368	2736.486	TOP
2504	9978705.670	781400.466	2736.738	TOP
2505	9978710.080	781391.346	2736.991	TOP
2506	9978710.338	781390.874	2737.000	TOP
2507	9978710.562	781390.376	2737.013	TOP
2508	9978710.822	781389.845	2737.023	TOP
2509	9978710.822	781389.198	2737.062	TOP
2510	9978711.080	781388.728	2737.071	TOP
2511	9978711.339	781388.256	2737.080	TOP
2512	9978711.475	781387.679	2737.102	TOP
2513	9978711.669	781387.146	2737.118	TOP
2514	9978711.822	781386.639	2737.133	TOP
2515	9978712.040	781386.107	2737.150	TOP
2516	9978712.213	781385.538	2737.171	TOP
2517	9978712.448	781385.073	2737.179	TOP
2518	9978712.676	781384.575	2737.190	TOP
2519	9978712.854	781384.036	2737.207	TOP
2520	9978713.082	781383.222	2737.264	TOP
2521	9978712.245	781382.730	2737.275	TOP
2522	9978713.039	781382.209	2737.291	TOP
2523	9978713.084	781381.587	2737.332	TOP
2524	9978713.260	781381.045	2737.338	TOP
2525	9978713.213	781380.376	2737.377	TOP
2526	9978713.378	781379.835	2737.393	TOP
2527	9978713.361	781379.194	2737.428	TOP
2528	9978713.561	781378.692	2737.440	TOP
2529	9978713.813	781377.584	2737.479	TOP
2530	9978714.016	781377.102	2737.489	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2531	9978714.235	781376.618	2737.498	TOP
2532	9978714.389	781376.088	2737.514	TOP
2533	9978714.606	781375.620	2737.522	TOP
2534	9978714.831	781375.152	2737.529	TOP
2535	9978715.052	781374.659	2737.540	TOP
2536	9978715.402	781373.491	2737.561	TOP
2537	9978715.698	781372.450	2737.591	TOP
2538	9978715.899	781372.140	2737.605	TOP
2539	9978716.762	781370.306	2737.626	TOP
2540	9978717.118	781369.917	2737.618	TOP
2541	9978717.475	781369.537	2737.610	TOP
2542	9978717.765	781369.126	2737.607	TOP
2543	9978718.008	781368.665	2737.611	TOP
2544	9978718.390	781368.266	2737.606	TOP
2545	9978718.634	781367.854	2737.602	TOP
2546	9978718.996	781367.465	2737.593	TOP
2547	9978719.284	781367.044	2737.591	TOP
2548	9978719.636	781366.666	2737.581	TOP
2549	9978719.824	781366.188	2737.589	TOP
2550	9978719.855	781365.595	2737.614	TOP
2551	9978720.140	781365.155	2737.612	TOP
2552	9978720.418	781364.737	2737.609	TOP
2553	9978720.695	781364.309	2737.607	TOP
2554	9978720.978	781363.875	2737.605	TOP
2555	9978721.208	781363.477	2737.598	TOP
2556	9978721.492	781363.091	2737.604	TOP
2557	9978721.724	781362.590	2737.607	TOP
2558	9978722.372	781361.746	2737.591	TOP
2559	9978722.655	781361.307	2737.588	TOP
2560	9978722.867	781360.833	2737.591	TOP
2561	9978723.146	781360.413	2737.587	TOP
2562	9978723.349	781359.951	2737.591	TOP
2563	9978723.572	781359.501	2737.593	TOP
2564	9978723.863	781359.074	2737.588	TOP
2565	9978724.188	781358.646	2737.581	TOP
2566	9978724.577	781358.283	2737.565	TOP
2567	9978724.859	781357.841	2737.560	TOP
2568	9978725.023	781357.368	2737.567	TOP
2569	9978725.312	781356.930	2737.562	TOP
2570	9978724.031	781355.128	2737.733	TOP
2571	9978723.890	781354.502	2737.709	TOP
2572	9978723.539	781353.789	2737.825	TOP
2573	9978723.501	781353.184	2737.851	TOP
2574	9978723.251	781352.508	2737.896	TOP
2575	9978722.321	781351.505	2738.008	TOP
2576	9978722.012	781350.799	2738.059	TOP
2577	9978720.658	781349.619	2738.211	TOP
2578	9978720.324	781348.938	2738.263	TOP
2579	9978720.115	781348.298	2738.304	TOP
2580	9978718.809	781347.195	2738.450	TOP
2581	9978718.718	781346.589	2738.478	TOP
2582	9978718.727	781346.062	2738.496	TOP
2583	9978718.888	781345.622	2738.499	TOP
2584	9978719.247	781345.261	2738.483	TOP
2585	9978719.371	781344.798	2738.490	TOP
2586	9978719.499	781344.325	2738.497	TOP
2587	9978719.725	781343.903	2738.493	TOP
2588	9978719.891	781343.460	2738.495	TOP
2589	9978720.159	781343.069	2738.486	TOP
2590	9978720.371	781342.635	2738.484	TOP
2591	9978720.443	781342.148	2738.490	TOP
2592	9978720.601	781341.703	2738.497	TOP
2593	9978720.779	781341.252	2738.498	TOP
2594	9978720.952	781340.822	2738.498	TOP
2595	9978721.175	781340.396	2738.493	TOP
2596	9978721.400	781339.973	2738.489	TOP
2597	9978721.510	781339.498	2738.495	TOP
2598	9978721.671	781339.051	2738.496	TOP
2599	9978722.585	781337.342	2738.475	TOP
2600	9978712.457	781336.935	2738.465	TOP
2601	9978723.134	781336.528	2738.454	TOP
2602	9978723.389	781336.117	2738.448	TOP
2603	9978723.456	781335.626	2738.455	TOP
2604	9978723.857	781335.247	2738.433	TOP
2605	9978724.063	781334.824	2738.428	TOP
2606	9978724.177	781334.339	2738.433	TOP
2607	9978724.280	781333.869	2738.438	TOP
2608	9978724.463	781333.430	2738.435	TOP
2609	9978724.573	781332.956	2738.499	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2610	9978724.700	781332.501	2738.441	TOP
2611	9978724.772	781332.011	2738.449	TOP
2612	9978724.861	781331.549	2738.454	TOP
2613	9978725.011	781331.096	2738.453	TOP
2614	9978725.270	781330.677	2738.443	TOP
2615	9978725.431	781330.224	2738.441	TOP
2616	9978725.468	781329.735	2738.451	TOP
2617	9978725.584	781329.268	2738.454	TOP
2618	9978725.689	781328.801	2738.457	TOP
2619	9978725.826	781328.348	2738.457	TOP
2620	9978725.834	781327.863	2738.468	TOP
2621	9978725.928	781327.379	2738.472	TOP
2622	9978726.064	781326.930	2738.472	TOP
2623	9978726.126	781326.448	2738.478	TOP
2624	9978726.358	781325.991	2738.478	TOP
2625	9978726.363	781325.526	2738.480	TOP
2626	9978726.379	781325.029	2738.490	TOP
2627	9978726.360	781324.527	2738.504	TOP
2628	9978726.430	781324.050	2738.509	TOP
2629	9978726.563	781323.604	2738.507	TOP
2630	9978726.733	781323.154	2738.503	TOP
2631	9978727.130	781322.798	2738.520	TOP
2632	9978727.227	781322.322	2738.521	TOP
2633	9978727.403	781321.869	2738.515	TOP
2634	9978727.481	781321.396	2738.518	TOP
2635	9978727.605	781321.957	2738.508	TOP
2636	9978727.778	781321.482	2738.510	TOP
2637	9978534.757	7813648.485	2746.174	AUX-3A
2638	9978700.022	781321.987	2736.121	AUX-2A
2639	9978700.117	781322.065	2736.134	AUX-2A
2640	9978727.955	781315.570	2738.531	TOP
2641	9978727.697	781316.047	2738.563	TOP
2642	9978727.563	781315.540	2738.583	TOP
2643	9978727.331	781315.005	2738.612	TOP
2644	9978727.376	781314.533	2738.617	TOP
2645	9978727.507	781314.078	2738.613	TOP
2646	9978727.571	781313.608	2738.615	TOP
2647	9978727.676	781313.158	2738.613	TOP
2648	9978727.822	781312.703	2738.608	TOP
2649	9978727.811	781312.221	2738.617	TOP
2650	9978727.852	781311.740	2738.620	TOP
2651	9978727.958	781311.288	2738.618	TOP
2652	9978728.127	781310.831	2738.610	TOP
2653	9978728.114	781310.358	2738.618	TOP
2654	9978727.967	781309.840	2738.636	TOP
2655	9978727.562	781308.825	2738.687	TOP
2656	9978727.451	781308.331	2738.704	TOP
2657	9978727.441	781307.853	2738.711	TOP
2658	9978727.286	781307.358	2738.731	TOP
2659	9978727.166	781306.858	2738.747	TOP
2660	9978726.783	781306.339	2738.787	TOP
2661	9978726.523	781305.834	2738.816	TOP
2662	9978725.903	781305.282	2738.876	TOP
2663	9978725.757	781304.794	2738.894	TOP
2664	9978725.539	781304.305	2738.914	TOP
2665	9978725.160	781303.780	2738.957	TOP
2666	9978725.060	781303.314	2738.971	TOP
2667	9978724.971	781302.850	2738.983	TOP
2668	9978724.937	781302.378	2738.991	TOP
2669	9978724.596	781301.879	2738.026	TOP
2670	9978724.596	781301.408	2738.041	TOP
2671	9978724.267	781300.921	2738.068	TOP
2672	9978724.057	781300.455	2738.086	TOP
2673	9978723.847	781300.004	2738.092	TOP
2674	9978723.847	781299.532	2738.112	TOP
2675	9978723.847	781299.076	2738.112	TOP
2676	9978723.847	781298.649	2738.080	TOP
2677	9978723.847	781298.225	2738.057	TOP
2678	9978724.789	781297.787	2738.044	TOP
2679	9978724.637	781297.331	2738.054	TOP
2680	9978724.672	781296.864	2738.058	TOP
2681	9978724.439	781296.390	2738.062	TOP
2682	9978724.361	781295.920	2738.091	TOP
2683	9978724.509	781295.479	2738.061	TOP
2684	9978724.551	781295.024	2738.079	TOP
2685	9978694.900	781406.086	2726.745	Ptos_scan
2686	9978695.161	781405.726	2726.778	Ptos_scan
2687	9978695.391	781405.334	2726.794	Ptos_scan
2688	9978695.291	781405.247	2726.536	Ptos_scan



0023



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2689	9978694.971	781405.572	2726.546	Pto_scan
2690	9978694.221	781405.941	2726.535	Pto_scan
2691	9978694.546	781406.371	2726.505	Pto_scan
2692	9978694.439	781406.863	2726.456	Pto_scan
2693	9978694.325	781407.360	2726.404	Pto_scan
2694	9978693.410	781408.325	2726.313	Pto_scan
2695	9978693.591	781407.897	2726.343	Pto_scan
2696	9978687.176	781414.655	2724.097	Pto_scan
2697	9978689.527	781410.763	2724.339	Pto_scan
2698	9978692.235	781407.269	2724.429	Pto_scan
2699	9978693.326	781402.410	2722.097	Pto_scan
2700	9978690.760	781405.926	2722.006	Pto_scan
2701	9978688.089	781409.392	2721.914	Pto_scan
2702	9978685.449	781412.919	2721.781	Pto_scan
2703	9978683.079	781416.781	2721.532	Pto_scan
2704	9978681.016	781421.076	2721.114	Pto_scan
2705	9978680.399	781427.169	2720.159	Pto_scan
2706	9978674.003	781441.772	2715.254	Pto_scan
2707	9978676.051	781436.597	2715.984	Pto_scan
2708	9978677.410	781430.802	2716.900	Pto_scan
2709	9978677.755	781424.113	2718.129	Pto_scan
2710	9978679.599	781429.491	2718.694	Pto_scan
2711	9978681.824	781435.445	2719.059	Pto_scan
2712	9978684.224	781411.688	2719.314	Pto_scan
2713	9978686.872	781408.233	2719.444	Pto_scan
2714	9978689.143	781404.482	2719.668	Pto_scan
2715	9978691.710	781401.028	2719.756	Pto_scan
2716	9978691.163	781400.558	2717.093	Pto_scan
2717	9978688.193	781403.613	2717.149	Pto_scan
2718	9978685.947	781407.384	2716.898	Pto_scan
2719	9978683.357	781410.817	2716.759	Pto_scan
2720	9978680.696	781414.256	2716.595	Pto_scan
2721	9978678.113	781417.829	2716.360	Pto_scan
2722	9978676.064	781422.123	2715.857	Pto_scan
2723	9978675.528	781428.457	2714.849	Pto_scan
2724	9978674.948	781435.139	2715.345	Pto_scan
2725	9978671.913	781438.970	2713.025	Pto_scan
2726	9978669.989	781444.351	2712.125	Pto_scan
2727	9978667.738	781449.672	2711.274	Pto_scan
2728	9978665.819	781455.016	2710.408	Pto_scan
2729	9978722.720	781274.702	2719.210	TOP
2730	9978722.771	781274.243	2719.202	TOP
2731	9978722.761	781273.812	2719.199	TOP
2732	9978722.729	781273.358	2719.198	TOP
2733	9978664.352	781463.306	2705.209	Pto_scan
2734	9978665.264	781454.942	2707.125	Pto_scan
2735	9978666.386	781447.561	2708.735	Pto_scan
2736	9978669.000	781442.894	2709.432	Pto_scan
2737	9978671.981	781438.965	2709.361	Pto_scan
2738	9978673.744	781433.560	2710.797	Pto_scan
2739	9978673.848	781426.364	2712.387	Pto_scan
2740	9978674.842	781420.681	2713.451	Pto_scan
2741	9978676.904	781416.483	2713.965	Pto_scan
2742	9978679.719	781413.219	2714.107	Pto_scan
2743	9978682.378	781409.832	2714.268	Pto_scan
2744	9978685.308	781406.742	2714.287	Pto_scan
2745	9978688.605	781401.184	2714.901	Pto_scan
2746	9978690.281	781399.801	2714.564	Pto_scan
2747	9978689.642	781399.256	2713.936	Pto_scan
2748	9978686.409	781401.997	2712.122	Pto_scan
2749	9978684.193	781405.680	2711.857	Pto_scan
2750	9978682.033	781409.475	2711.522	Pto_scan
2751	9978679.024	781412.483	2711.502	Pto_scan
2752	9978676.039	781415.504	2711.436	Pto_scan
2753	9978674.153	781419.861	2710.821	Pto_scan
2754	9978672.292	781424.342	2710.147	Pto_scan
2755	9978671.847	781431.062	2708.621	Pto_scan
2756	9978670.532	781436.948	2707.428	Pto_scan
2757	9978668.233	781441.764	2706.633	Pto_scan
2758	9978665.169	781445.899	2706.161	Pto_scan
2759	9978664.848	781454.244	2704.012	Pto_scan
2760	9978663.661	781462.098	2702.143	Pto_scan
2761	9978661.262	781468.383	2700.831	Pto_scan
2762	9978720.496	781260.035	2739.215	TOP
2763	9978720.427	781259.592	2739.211	TOP
2764	9978660.271	781466.533	2697.953	Pto_scan
2765	9978662.397	781459.869	2699.493	Pto_scan
2766	9978664.048	781452.927	2701.143	Pto_scan
2767	9978665.011	781445.404	2703.025	Pto_scan

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2768	9978667.627	781440.862	2703.778	Pto_scan
2769	9978669.843	781435.987	2704.651	Pto_scan
2770	9978670.609	781429.424	2706.194	Pto_scan
2771	9978671.531	781423.469	2707.519	Pto_scan
2772	9978674.116	781419.817	2707.890	Pto_scan
2773	9978675.177	781414.545	2708.945	Pto_scan
2774	9978678.003	781411.368	2709.076	Pto_scan
2775	9978680.928	781408.369	2709.119	Pto_scan
2776	9978683.037	781404.573	2709.486	Pto_scan
2777	9978685.421	781401.114	2709.679	Pto_scan
2778	9978688.773	781398.507	2709.425	Pto_scan
2779	9978687.884	781397.748	2709.924	Pto_scan
2780	9978684.262	781400.057	2707.328	Pto_scan
2781	9978681.611	781403.214	2707.259	Pto_scan
2782	9978679.634	781407.063	2706.827	Pto_scan
2783	9978677.037	781410.370	2706.634	Pto_scan
2784	9978674.584	781413.882	2706.320	Pto_scan
2785	9978673.131	781418.655	2705.420	Pto_scan
2786	9978671.156	781423.014	2704.707	Pto_scan
2787	9978669.999	781428.622	2703.452	Pto_scan
2788	9978669.023	781434.825	2701.960	Pto_scan
2789	9978666.976	781439.904	2700.947	Pto_scan
2790	9978664.982	781445.359	2699.777	Pto_scan
2791	9978663.270	781451.621	2698.283	Pto_scan
2792	9978661.597	781458.461	2696.571	Pto_scan
2793	9978659.383	781464.857	2695.036	Pto_scan
2794	9978717.857	781245.808	2739.124	TOP
2795	9978717.695	781245.363	2739.126	TOP
2796	9978717.506	781244.973	2739.131	TOP
2798	9978657.906	781462.086	2692.598	Pto_scan
2799	9978660.483	781456.498	2693.903	Pto_scan
2800	9978661.560	781449.458	2695.806	Pto_scan
2801	9978664.392	781444.437	2696.871	Pto_scan
2802	9978666.755	781439.585	2697.853	Pto_scan
2803	9978668.474	781434.067	2699.117	Pto_scan
2804	9978669.548	781428.035	2700.622	Pto_scan
2805	9978670.076	781421.661	2702.300	Pto_scan
2806	9978672.527	781417.694	2702.882	Pto_scan
2807	9978673.752	781412.951	2703.825	Pto_scan
2808	9978737.170	781379.728	2770.430	Pto_scan
2809	9978590.489	781873.234	2727.250	TOP
2810	9978502.141	781803.511	2736.142	TOP
2811	9978543.557	781870.271	2730.854	PC
2812	9978581.005	781867.002	2728.004	BA
2813	9978579.364	781870.495	2727.737	BA
2814	9978576.230	781874.659	2727.319	BA
2815	9978589.647	781874.607	2726.519	BA
2816	9978585.330	781878.295	2726.229	BA
2817	9978580.442	781880.898	2726.268	BA
2818	9978593.172	781879.760	2726.194	BA
2819	9978588.073	781882.381	2725.784	BA
2820	9978583.540	781887.605	2725.017	BA
2821	9978599.899	781892.634	2725.046	BA
2822	9978590.315	781893.495	2725.036	BA
2823	9978586.814	781895.370	2724.724	BA
2824	9978594.310	781904.091	2724.309	BA
2825	9978590.775	781904.521	2724.316	BA
2826	9978588.911	781904.770	2724.168	BA
2827	9978594.636	781915.759	2723.732	BA
2828	9978591.515	781916.234	2723.611	BA
2829	9978592.116	781916.073	2723.173	BA
2830	9978591.745	781922.544	2723.190	BA
2831	9978591.076	781923.953	2722.924	BA
2832	9978590.007	781924.206	2722.816	BA
2833	9978589.189	781932.768	2722.205	BA
2834	9978589.713	781933.059	2722.058	BA
2835	9978588.89	781932.510	2721.968	BA
2836	9978588.095	781936.846	2719.725	PST
2837	9978591.991	781946.306	2720.810	PST
2838	9978596.465	781947.524	2720.905	PST
2839	9978600.998	781948.803	2720.806	PST
2840	9978601.976	781949.140	2720.789	BA
2841	9978596.748	781968.251	2719.914	BA
2842	9978590.451	781991.203	2718.218	BA
2843	9978584.479	782013.717	2716.549	BA
2844	9978578.717	782035.475	2714.952	BA
2845	9978572.794	782057.246	2713.437	BA
2846	9978567.186	782079.192	2711.776	BA
2847	9978563.420	782100.802	2709.918	BA



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2848	9978562.072	782115.283	2708.735	BA
2849	9978554.751	782150.880	2707.731	PC
2850	9978555.476	782153.098	2707.528	BA
2851	9978548.881	782136.162	2708.696	BA
2852	9978548.108	782117.982	2709.913	BA
2853	9978549.764	782101.824	2710.754	BA
2854	9978551.380	782083.858	2711.722	BA
2855	9978557.808	782061.886	2712.963	BA
2856	9978571.149	782001.230	2717.200	G
2857	9978563.655	782040.395	2714.478	BA
2858	9978574.273	781993.100	2717.809	G
2859	9978569.675	782018.699	2715.968	BA
2860	9978576.900	781983.544	2718.520	G
2861	9978575.145	781998.053	2717.392	BA
2862	9978575.146	781998.054	2717.392	BA
2863	9978579.701	781973.038	2719.245	G
2864	9978580.919	781976.564	2718.920	BA
2865	9978583.071	781960.643	2719.974	G
2866	9978585.776	781950.764	2720.693	G
2867	9978584.249	781964.370	2719.798	BA
2868	9978588.941	781951.513	2720.494	BA
2869	9978591.039	781946.165	2720.816	BA
2870	9978586.359	781949.344	2720.877	BC
2871	9978589.526	781950.243	2720.670	BC
2872	9978590.605	781944.925	2721.092	BC
2873	9978586.476	781943.532	2721.204	BC
2874	9978592.155	781939.095	2721.690	BC
2875	9978588.141	781937.747	2721.724	BC
2876	9978708.899	781459.320	2758.117	BORDE
2877	9978725.437	781436.250	2759.019	ASFALTO
2878	9978726.692	781436.082	2759.359	PIE TALUD
2879	9978717.114	781450.235	2758.502	ASFALTO
2880	9978713.327	781448.538	2759.773	RELLENO
2881	9978710.581	781447.581	2758.569	BORDE
2882	9978709.104	782208.211	2702.173	ASFALTO
2883	9978727.033	781426.272	2759.149	PIE TALUD
2884	9978720.032	781435.018	2758.947	ASFALTO
2885	9978708.668	781427.247	2758.640	BORDE
2886	9978721.941	781424.478	2759.214	ASFALTO
2887	9978601.183	782225.682	2700.852	BORDE
2888	9978723.314	781413.350	2759.474	ASFALTO
2889	9978606.013	782206.401	2701.984	PIE TALUD
2890	9978728.217	781413.032	2759.886	PIE TALUD
2891	9978716.260	781411.072	2759.339	BORDE
2892	9978710.075	781409.434	2757.809	TOP
2893	9978725.943	781370.872	2760.418	TOP
2894	9978728.154	781397.928	2759.780	PIE TALUD
2895	9978729.872	781398.218	2760.433	PIE TALUD
2896	9978717.917	781394.305	2762.417	BORDE
2897	9978728.805	781385.330	2759.885	ASFALTO
2898	9978718.481	781382.570	2762.269	BORDE
2899	9978730.121	781385.756	2760.588	PIE TALUD
1900	9978724.125	781371.002	2760.371	BORDE
1901	9978626.297	782273.646	2697.054	BORDE
1902	9978639.456	782252.701	2698.722	ASFALTO
1903	9978731.929	781357.675	2762.951	PIE TALUD
1904	9978732.301	781349.069	2763.851	PIE TALUD
1905	9978725.757	781349.647	2760.835	BORDE
1906	9978726.753	781341.720	2760.880	BORDE
1907	9978731.336	781338.298	2760.899	ASFALTO
1908	9978732.028	781338.457	2761.374	PIE TALUD
1909	9978727.078	781333.102	2761.165	BORDE
1910	9978732.002	781327.252	2761.047	ASFALTO
1911	9978732.740	781327.395	2761.518	PIE TALUD
1912	9978727.795	781323.965	2761.291	BORDE
1913	9978732.679	781317.867	2761.297	ASFALTO
1914	9978739.293	781317.762	2761.751	PIE TALUD
1915	9978729.254	781315.419	2761.432	BORDE
1916	9978735.261	781306.654	2764.831	RELLENO
1917	9978732.220	781304.858	2763.534	RELLENO
1918	9978736.070	781301.452	2765.495	PIE TALUD
1919	9978734.593	781302.061	2765.060	BORDE
1920	9978733.247	781294.833	2761.841	BORDE
1921	9978734.488	781293.237	2761.907	PIE TALUD
1922	9978729.729	781289.309	2762.256	BORDE
1923	9978735.439	781285.393	2762.372	PIE TALUD
1924	9978729.436	781283.003	2762.727	BORDE
1925	9978736.858	781276.551	2763.388	PIE TALUD
1926	9978725.607	781271.463	2763.034	BORDE

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
2927	9978727.225	781258.957	2763.541	BORDE
2928	9978740.242	781262.052	2763.954	PIE TALUD
2929	9978728.370	781254.536	2763.568	BORDE
2930	9978744.336	781249.249	2769.897	PIE TALUD
2931	9978711.871	781241.034	2766.837	RELLENO
2932	9978745.806	781243.813	2771.260	PIE TALUD
2933	9978725.963	781237.123	2765.870	BORDE
2934	9978732.558	781225.867	2765.272	RELLENO
2935	9978747.943	781228.186	2769.889	RELLENO
2936	9978740.853	781226.768	2769.019	RELLENO
2937	9978754.006	781217.573	2771.372	RELLENO
2938	9978735.084	781214.899	2764.262	BORDE
2939	9978759.982	781209.390	2772.782	RELLENO
2940	9978762.507	781210.819	2773.276	PIE TALUD
2941	9978745.567	781219.005	2770.099	RELLENO
2942	9978762.541	781199.810	2773.529	RELLENO
2943	9978767.270	781203.423	2775.368	PIE TALUD
2944	9978767.245	781186.628	2773.981	RELLENO
2945	9978772.618	781188.563	2774.511	PIE TALUD
2946	9978749.514	781205.452	2768.878	RELLENO
2947	9978773.485	781171.054	2773.771	RELLENO
2948	9978739.443	781199.718	2764.669	BORDE
2949	9978777.740	781173.812	2774.152	PIE TALUD
2950	9978778.777	781159.620	2772.832	RELLENO
2951	9978782.189	781160.937	2772.806	PIE TALUD
2952	9978742.839	781188.333	2764.172	BORDE
2953	9978752.725	781197.939	2769.412	RELLENO
2954	9978756.513	781187.931	2769.584	RELLENO
2955	9978784.715	781145.273	2771.943	RELLENO
2956	9978746.808	781181.135	2764.871	BORDE
2957	9978790.130	781148.406	2772.002	PIE TALUD
2958	9978752.070	781169.126	2765.412	BORDE
2959	9978789.471	781131.132	2770.584	RELLENO
2960	9978793.736	781133.704	2770.620	PIE TALUD
2961	9978797.626	781133.023	2768.929	RELLENO
2962	9978802.399	781115.882	2769.765	PIE TALUD
2963	9978761.716	781176.490	2769.911	RELLENO
2964	9978808.094	781101.262	2771.438	PIE TALUD
2965	9978808.925	781086.134	2775.282	RELLENO
2966	9978766.909	781162.499	2770.924	RELLENO
2967	9978814.674	781086.813	2775.420	PIE TALUD
2968	9978814.219	781074.630	2777.429	RELLENO
2969	9978819.479	781076.894	2777.442	PIE TALUD
2970	9978759.916	781153.989	2765.173	BORDE
2971	9978822.679	781063.155	2778.990	RELLENO
2972	9978826.550	781066.662	2779.042	PIE TALUD
2973	9978818.528	781050.486	2778.475	RELLENO
2974	9978765.102	781142.561	2765.902	RELLENO
2975	9978835.535	781053.670	2778.178	PIE TALUD
2976	9978775.115	781147.486	2770.723	RELLENO
2977	9978836.554	781028.005	2775.517	RELLENO
2978	9978772.101	781132.696	2766.920	BORDE
2979	9978842.106	781038.595	2776.597	PIE TALUD
2980	9978780.289	781136.101	2770.133	RELLENO
2981	9978841.917	781013.171	2775.715	RELLENO
2982	9978785.821	781124.324	2768.897	RELLENO
2983	9978850.982	781016.417	2775.572	PIE TALUD
2984	9978778.404	781116.202	2767.464	BORDE
2985	9978849.919	780991.286	2773.249	RELLENO
2986	9978785.832	781109.333	2768.153	BORDE
2987	9978785.204	780991.316	2774.138	PIE TALUD
2988	9978785.832	781109.375	2770.250	BORDE
2989	9978855.971	780965.013	2771.536	RELLENO
2990	9978792.870	781100.545	2769.805	BORDE
2991	9978808.000	780967.779	2772.742	PIE TALUD
2992	9978788.850	781098.852	2768.548	BORDE
2993	9978785.789	781175.225	2769.565	BORDE
2994	9978789.847	781167.888	2769.689	RELLENO
2995	9978789.847	781154.588	2770.582	RELLENO
2996	9978787.014	781150.134	2771.143	RELLENO
2997	9978777.974	781144.284	2771.103	RELLENO
2998	9978786.317	781123.892	2770.360	RELLENO
2999	9978802.360	781087.509	2770.019	BORDE
3000	9978802.017	781076.680	2769.976	BORDE
3001	9978806.826	781078.412	2773.640	RELLENO
3002	9978887.489	780539.783	2784.721	BIT
3003	9978883.432	780554.344	2769.798	BIT
3004	9978884.193	780570.360	2770.558	BIT
3005	9978887.309	780583.221	2770.292	BIT





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3006	9978892.987	780599.358	2770.468	BIT
3007	9978898.521	780616.489	2770.273	BIT
3008	9978907.848	780643.344	2770.148	BIT
3009	9978917.514	780657.334	2769.939	BIT
3010	9978927.252	780670.144	2769.801	BIT
3011	9978935.429	780690.202	2767.163	BIT
3012	9978950.846	780720.118	2762.969	BIT
3013	9978954.417	780730.555	2763.284	BIT
3014	9978950.284	780743.191	2762.948	BIT
3015	9978945.861	780747.682	2762.780	BIT
3016	9978977.995	780718.399	2762.274	BA
3017	9978974.808	780702.524	2763.074	BA
3018	9978969.621	780687.196	2763.824	BA
3019	9978961.704	780670.621	2764.665	BA
3020	9978953.379	780653.900	2765.755	BA
3021	9978942.262	780631.397	2767.074	BA
3022	9978932.969	780612.443	2767.813	BA
3023	9978923.666	780593.715	2768.320	BA
3024	9978893.475	780535.349	2768.251	BA
3025	9978710.495	782636.901	2671.551	BORDE
3026	9978922.716	780570.395	2768.751	BA
3027	9978932.069	780589.331	2768.504	BA
3028	9978942.964	780611.253	2767.895	BA
3029	9978955.445	780636.569	2766.838	BA
3030	9978956.325	780637.250	2766.785	BA
3031	9978957.039	780637.171	2766.773	BA
3032	9978957.516	780636.630	2766.794	BA
3033	9978957.535	780635.644	2766.795	BA
3034	9978942.302	780604.869	2768.081	BA
3035	9978942.246	780604.873	2768.081	BA
3036	9978929.295	780578.363	2768.619	BA
3037	9978919.752	780559.381	2768.708	BA
3038	9978927.605	780553.713	2768.514	BA
3039	9978937.742	780574.341	2768.429	BA
3040	9978948.667	780596.297	2768.037	BA
3041	9978959.473	780618.251	2767.128	BA
3042	9978969.628	780640.764	2766.378	BA
3043	9978974.864	780655.058	2765.929	BA
3044	9978979.092	780669.294	2765.241	BA
3045	9978983.486	780688.479	2764.229	BA
3046	9978985.670	780701.274	2763.571	BA
3047	9978978.892	780656.197	2765.841	BA
3048	9978933.401	780565.593	2768.532	PC
3050	9978976.122	780657.262	2765.827	BA
3051	9978986.272	780670.757	2765.859	BA
3052	9978980.214	780670.388	2765.279	BA
3053	9978991.451	780682.743	2767.301	BA
3054	9978987.312	780684.181	2767.392	BA
3055	9978996.600	780697.376	2768.988	BA
3056	9978992.785	780698.556	2769.080	BA
3057	9979000.132	780713.519	2770.987	BA
3058	9978996.806	780714.290	2771.090	BA
3059	9979001.550	780725.903	2771.798	BA
3060	9978997.952	780726.401	2771.769	BA
3061	9978998.880	780744.385	2771.761	BA
3062	9978994.611	780745.248	2771.744	BA
3063	9978994.171	780758.510	2771.746	BA
3064	9978988.428	780754.819	2771.642	BA
3065	9978986.177	780773.944	2771.854	BA
3066	9978979.938	780763.838	2771.778	BA
3067	9978848.315	780871.419	2779.630	BORDE
3068	9978881.307	780845.490	2771.897	ASFALTO
3069	9978881.825	780845.822	2772.017	PIE TALUD
3070	9978857.505	780863.127	2773.462	ASFALTO
3071	9978854.090	780862.082	2774.241	BORDE
3072	9978888.358	780838.952	2771.862	ASFALTO
3073	9978888.611	780839.484	2771.768	PIE TALUD
3074	9978895.823	780833.990	2771.837	ASFALTO
3075	9978896.024	780834.534	2771.865	PIE TALUD
3076	9978862.847	780854.864	2773.033	ASFALTO
3077	9978854.411	780853.633	2773.510	BORDE
3078	9978906.078	780828.193	2771.856	ASFALTO
3079	9978906.562	780828.795	2771.873	PIE TALUD
3080	9978865.668	780847.894	2772.986	ASFALTO
3081	9978864.930	780845.609	2773.319	BORDE
3082	9978874.480	780838.461	2772.698	ASFALTO
3083	9978873.721	780836.665	2773.550	BORDE
3084	9978887.763	780826.546	2772.509	ASFALTO
3085	9978886.674	780824.775	2772.940	BORDE

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3086	9978917.868	780822.366	2771.899	ASFALTO
3087	9978895.052	780820.028	2772.260	BORDE
3088	9978918.081	780823.802	2772.850	PIE TALUD
3089	9978896.740	780821.510	2773.291	ASFALTO
3090	9978901.742	780816.337	2772.420	BORDE
3091	9978905.018	780817.217	2772.118	ASFALTO
3092	9978582.076	781973.176	2739.228	TOP
3093	9978543.557	781870.271	2730.854	TOP
3094	9978908.959	780812.792	2772.456	BORDE
3095	9978911.088	780814.626	2771.986	ASFALTO
3096	9978937.835	780813.005	2771.918	ASFALTO
3097	9978938.454	780814.027	2772.404	PIE TALUD
3098	9978926.765	780806.958	2771.688	BORDE
3099	9978925.736	780805.213	2772.303	ASFALTO
3100	9978947.444	780807.525	2771.886	ASFALTO
3101	9978948.043	780808.518	2772.570	BACE PUENTE
3102	9978940.532	780813.922	2772.885	BACE PUENTE
3103	9978951.231	780806.271	2772.787	BACE PUENTE
3104	9978933.886	780803.296	2771.593	BORDE
3105	9978933.902	780803.191	2771.585	ASFALTO
3106	9978932.424	780802.021	2772.241	BORDE
3107	9978959.786	780799.518	2771.870	ASFALTO
3108	9978962.402	780800.594	2772.649	PIE TALUD
3109	9978942.167	780797.847	2771.326	ASFALTO
3110	9978942.167	780796.892	2772.473	BORDE
3111	9978962.750	780790.215	2771.051	BORDE
3112	9978962.115	780788.768	2771.196	BORDE
3113	9978955.148	780788.928	2771.694	COMTENEODR
3114	9978956.229	780790.043	2771.365	COMTENEODR
3115	9978947.651	780794.589	2771.201	COMTENEODR
3116	9978956.566	780787.782	2771.881	CASA
3117	9978962.723	780793.570	2771.896	CASA
3118	9978972.255	780770.828	2772.025	CASA
3119	9978980.254	780777.490	2771.896	CASA
3120	9978977.704	780785.438	2771.908	ASFALTO
3121	9978978.778	780786.312	2771.880	PIE TALUD
3122	9978986.475	780772.973	2771.851	ASFALTO
3123	9978987.380	780778.433	2772.020	PIE TALUD
3124	9978971.794	780765.531	2771.894	BORDE
3125	9978965.790	780771.852	2771.950	BORDE
3126	9978958.273	780782.168	2771.793	BORDE
3127	9978902.479	782524.962	2637.480	ASFALTO
3128	9978936.390	780798.395	2769.271	BORDE
3129	9978931.819	780802.051	2769.930	BORDE
3130	9978921.953	780804.456	2768.520	BORDE
3131	9978903.933	780808.458	2768.430	BORDE
3132	9978897.371	780813.475	2767.707	BORDE
3133	9978887.505	780821.295	2769.915	BORDE
3134	9978876.986	780827.639	2768.843	BORDE
3135	9978867.810	780833.143	2767.328	BORDE
3136	9978862.885	780837.792	2768.030	BORDE
3137	9978852.018	780843.195	2768.263	BORDE
3138	9978843.485	780851.552	2768.675	BORDE
3139	9978893.541	780837.354	2774.309	BORDE
3140	9978970.057	780642.021	2765.578	AUX 11 A
3141	9978933.401	780565.593	2768.532	AUX 12 A
3142	9978872.867	783201.191	2636.542	ASFALTO
3143	9978983.530	780728.327	2762.007	EJE TUNEL
3144	9978974.232	780728.043	2762.235	ENTRAD TUNEL
3145	9978974.232	780728.590	2761.780	ENTRAD TUNEL
3146	9978543.557	781870.271	2730.854	AUX 17 A
3147	9978966.846	781966.846	2719.725	AUX 18 A
3148	9978905.702	783305.702	2636.651	TERR NATUR
3149	9978905.702	783305.702	2636.732	ASFALTO
3150	9978905.702	783267.280	2636.732	ASFALTO
3151	9978905.702	783265.932	2636.842	TERR NATUR
3152	9978905.702	783312.602	2636.390	ASFALTO
3153	9978895.254	783313.412	2636.543	TERR NATUR
3154	9978904.014	783278.021	2636.618	ASFALTO
3155	9978905.184	783277.036	2637.008	TERR NATUR
3156	9978904.680	783320.620	2636.272	ASFALTO
3157	9978903.707	783321.458	2636.404	TERR NATUR
3158	9978913.870	783289.494	2636.491	ASFALTO
3159	9978914.993	783288.047	2636.832	TERR NATUR
3160	9978911.909	783328.470	2636.144	ASFALTO
3161	9978911.072	783329.258	2636.314	TERR NATUR
3162	9978921.889	783298.817	2636.331	ASFALTO
3163	9978922.848	783297.699	2636.591	TERR NATUR
3164	9978919.696	783337.341	2636.074	ASFALTO
3165	9978919.738	783337.379	2636.073	ASFALTO





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3166	9978918.793	783338.185	2636.229	TERR NATUR
3167	9978927.910	783305.856	2636.278	ASFALTO
3168	9978928.235	783304.509	2636.457	TERR NATUR
3169	9978929.341	783304.172	2636.359	ASFALTO
3170	9978928.267	783303.815	2636.500	TERR NATUR
3171	9978926.715	783295.798	2636.389	ASFALTO
3172	9978927.819	783295.380	2636.667	TERR NATUR
3173	9978932.306	783286.816	2636.483	ASFALTO
3174	9978930.893	783285.946	2636.700	TERR NATUR
3175	9978936.456	783279.210	2636.439	ASFALTO
3176	9978934.773	783278.288	2636.832	TERR NATUR
3177	9978938.750	783276.269	2636.437	ASFALTO
3178	9978936.929	783275.011	2636.834	TERR NATUR
3179	9978922.280	783340.267	2636.047	ASFALTO
3180	9978921.654	783340.618	2636.135	TERR NATUR
3181	9978944.679	783280.361	2635.981	ASFALTO
3182	9978946.381	783281.314	2636.300	TERR NATUR
3183	9978939.630	783287.818	2636.047	ASFALTO
3184	9978941.174	783288.262	2636.257	TERR NATUR
3185	9978936.890	783295.942	2636.055	ASFALTO
3186	9978938.804	783296.505	2636.260	TERR NATUR
3187	9978936.565	783305.553	2636.079	ASFALTO
3188	9978938.457	783305.981	2636.294	TERR NATUR
3189	9978939.299	783316.154	2636.211	ASFALTO
3190	9978940.524	783315.962	2636.178	TERR NATUR
3191	9978944.501	783326.408	2636.016	ASFALTO
3192	9978945.850	783325.908	2636.233	TERR NATUR
3193	9978952.754	783337.910	2635.952	ASFALTO
3194	9978953.570	783336.879	2636.081	TERR NATUR
3195	9978949.182	783332.748	2636.126	AUX II
3196	9978966.657	783401.624	2749.270	AUX 4 A
3197	9978963.594	783355.081	2637.481	ASFALTO
3198	9978963.491	783247.934	2637.192	ASFALTO
3199	9978963.645	783245.579	2637.462	TERR NATUR
3200	9978963.556	783256.821	2637.698	ASFALTO
3201	9978963.547	783256.823	2637.699	TERR NATUR
3202	9978918.113	783247.589	2637.408	ASFALTO
3203	9978918.002	783245.351	2637.596	TERR NATUR
3204	9978914.443	783256.760	2637.767	TERR NATUR
3205	9978914.320	783254.868	2637.549	ASFALTO
3206	9978931.981	783246.713	2637.638	ASFALTO
3207	9978926.142	783254.077	2637.649	ASFALTO
3208	9978931.789	783243.631	2637.862	TERR NATUR
3209	9978926.114	783255.812	2637.847	TERR NATUR
3210	9978945.373	783243.230	2638.189	TERR NATUR
3211	9978937.413	783256.211	2638.026	TERR NATUR
3212	9978945.658	783245.848	2637.850	ASFALTO
3213	9978937.185	783253.888	2637.736	ASFALTO
3214	9979074.042	783658.747	2616.295	AUX 27 A
3215	9979077.076	783641.576	2617.074	ASFALTO
3216	9979078.633	783641.266	2617.532	VEREDA
3217	9979070.335	783640.163	2617.117	ASFALTO
3218	9979070.188	783640.088	2617.208	BORDILLO
3219	9979072.932	783628.195	2617.832	ASFALTO
3220	9979072.855	783628.094	2617.909	BORDILLO
3221	9979079.830	783629.746	2617.703	ASFALTO
3222	9979081.268	783630.075	2617.862	VEREDA
3223	9979084.141	783616.503	2618.642	VEREDA
3224	9979082.695	783616.442	2618.459	ASFALTO
3225	9979066.370	783637.998	2617.343	PARTERR
3226	9978972.761	783399.329	2635.080	ASFALTO
3227	9978971.784	783400.611	2635.173	TERR NATUR
3228	9979069.572	783626.222	2618.426	PARTERR
3229	9979079.060	783600.410	2619.416	PARTERR
3230	9979071.792	783615.769	2619.213	PARTERR
3231	9979085.770	783601.385	2619.326	ASFALTO
3232	9979087.897	783601.273	2619.477	VEREDA
3233	9979074.197	783605.539	2620.097	PARTERR
3234	9979090.856	783586.727	2620.250	VEREDA
3235	9979089.465	783586.097	2620.124	ASFALTO
3236	9978980.406	783409.931	2636.946	ASFALTO
3237	9978979.055	783411.122	2635.058	TERR NATUR
3238	9979076.627	783595.177	2620.943	PARTERR
3239	9979082.681	783584.085	2620.333	PARTERR
3240	9979078.769	783585.997	2621.787	PARTERR
3241	9979086.108	783588.501	2621.148	PARTERR
3242	9979081.062	783576.245	2622.813	PARTERR
3243	9979093.173	783569.348	2621.029	ASFALTO
3244	9979094.787	783569.116	2621.203	VEREDA

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3245	9979083.420	783565.883	2623.603	VEREDA
3246	9978986.879	783421.654	2634.682	ASFALTO
3247	9978985.971	783422.532	2634.690	TERR NATUR
3248	9979085.142	783556.732	2624.423	PARTERR
3249	9979086.875	783546.287	2625.392	PARTERR
3250	9978990.116	783435.056	2633.972	ASFALTO
3251	9978988.934	783435.199	2634.043	TERR NATUR
3252	9978997.210	783432.752	2634.260	ASFALTO
3253	9978998.174	783432.620	2634.234	ASFALTO
3254	9979057.609	783436.908	2632.190	ASFALTO
3255	9979032.140	783473.574	2631.678	TERR NATUR
3256	9979010.895	783447.413	2633.519	ASFALTO
3257	9979024.010	783462.599	2632.582	ASFALTO
3258	9979022.733	783462.967	2632.663	TERR NATUR
3259	9979017.867	783455.403	2633.110	ASFALTO
3260	9979071.156	783660.738	2615.977	ASFALTO
3261	9979054.689	783623.099	2617.857	ASFALTO
3262	9979052.650	783621.702	2618.212	TERR NATUR
3263	9979079.894	783649.886	2616.759	VEREDA
3264	9979057.218	783611.268	2618.999	ASFALTO
3265	9979054.886	783611.143	2619.102	TERR NATUR
3266	9979081.848	783644.134	2616.881	VEREDA
3267	9979059.315	783600.608	2619.886	ASFALTO
3268	9979057.065	783600.199	2620.089	TERR NATUR
3269	9979077.002	783641.387	2617.022	ASFALTO
3270	9979092.376	783572.337	2620.917	ASFALTO
3271	9979061.459	783589.587	2620.812	ASFALTO
3272	9979059.329	783588.332	2621.028	TERR NATUR
3273	9979095.871	783557.832	2621.742	ASFALTO
3274	9979064.214	783576.135	2621.930	ASFALTO
3275	9979061.779	783575.812	2622.018	TERR NATUR
3276	9978861.461	780936.614	2771.812	ASFALTO
3277	9978869.870	780949.549	2772.109	ASFALTO
3278	9978864.688	780948.517	2771.355	ASFALTO
3279	9978870.294	780949.393	2772.021	PIE TALUD
3280	9978864.656	780949.504	2771.785	BORDE
3281	9978869.625	780934.809	2771.353	ASFALTO
3282	9978869.939	780934.720	2771.368	PIE TALUD
3283	9978856.439	780948.074	2771.973	BORDE
3284	9978856.942	780938.203	2772.059	BORDE
3285	9978868.190	780921.335	2772.535	ASFALTO
3286	9978868.653	780921.178	2772.521	PIE TALUD
3287	9978858.327	780927.736	2771.942	ASFALTO
3288	9978866.591	780909.221	2772.621	ASFALTO
3289	9978855.986	780928.339	2772.654	BORDE
3290	9978867.348	780908.170	2772.553	PIE TALUD
3291	9978863.339	781624.200	2750.333	ASFALTO
3292	9978863.123	781608.176	2749.712	ASFALTO
3293	9978863.920	781625.934	2750.753	RELLENO
3294	9978862.111	781598.105	2749.394	BORDE
3295	9978863.182	781622.864	2751.214	TANQUE AGUA
3296	9978784.076	783449.278	2593.471	TERR NATUR
3297	9978632.352	781626.366	2752.338	TANQUE AGUA
3298	9978610.239	781631.021	2749.809	TANQUE AGUA
3299	9978635.859	781601.729	2750.595	ASFALTO
3300	9978641.722	781612.627	2751.533	ASFALTO
3301	9978642.560	781611.676	2752.105	PIE TALUD
3302	9978635.017	781593.311	2750.157	BORDE
3303	9978650.492	781605.526	2751.664	ASFALTO
3304	9978650.525	781594.968	2751.176	ASFALTO
3305	9978650.525	781606.885	2752.304	PIE TALUD
3306	9978643.794	781588.315	2751.131	BORDE
3307	9978653.269	781594.049	2752.386	ASFALTO
3308	9978653.269	781595.087	2752.266	PIE TALUD
3309	9978654.105	781585.249	2752.192	ASFALTO
3310	9978654.105	781582.000	2752.905	BORDE
3311	9978654.105	781583.676	2753.254	ASFALTO
3312	9978657.142	781584.542	2753.877	PIE TALUD
3313	9978666.787	781577.568	2752.771	BORDE
3314	9978654.501	781576.782	2752.925	BORDE
3315	9978689.716	781570.612	2754.326	ASFALTO
3316	9978691.134	781572.025	2755.030	PIE TALUD
3317	9978673.931	781570.923	2753.196	ASFALTO
3318	9978672.736	781587.566	2754.108	BORDE
3319	9978698.624	781559.002	2755.028	ASFALTO
3320	9978700.978	781560.506	2756.272	PIE TALUD
3321	9978682.746	781561.752	2753.716	ASFALTO
3322	9978681.162	781559.076	2754.073	BORDE
3323	9978705.524	781548.254	2755.692	ASFALTO



3027



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
332a	9978706.572	781550.344	2756.845	PIE TALUD
332b	9978690.111	781550.015	2754.343	ASFALTO
332c	9978687.851	781549.025	2754.519	BORDE
332d	9978710.280	781532.241	2756.222	ASFALTO
332e	9978712.234	781535.662	2757.808	PIE TALUD
332f	9978696.374	781537.437	2755.021	ASFALTO
3330	9978695.090	781536.918	2755.054	BORDE
3331	9978711.583	781517.395	2756.544	ASFALTO
3332	9978701.058	781522.199	2755.803	ASFALTO
3333	9978715.193	781518.195	2758.075	PIE TALUD
3334	9978699.079	781523.064	2755.957	BORDE
3335	9978711.373	781505.276	2756.875	ASFALTO
3336	9978702.743	781510.395	2756.294	ASFALTO
3337	9978717.085	781507.351	2758.961	PIE TALUD
3338	9978699.626	781509.919	2757.057	BORDE
3339	9978714.967	781492.993	2757.452	ASFALTO
3340	9978718.570	781494.432	2759.042	PIE TALUD
3341	9978704.420	781497.857	2756.840	ASFALTO
3342	9978701.543	781495.917	2757.726	BORDE
3343	9978716.537	781479.241	2757.772	ASFALTO
3344	9978707.168	781479.446	2757.564	ASFALTO
3345	9978719.080	781478.992	2759.105	PIE TALUD
3346	9978703.949	781478.364	2758.341	BORDE
3347	9978710.075	781469.434	2757.809	AUX 5 A
3348	9978725.975	781370.856	2760.418	AUX 6 A
3349	9978709.868	781469.870	2757.769	ASFALTO
3350	9978707.255	781469.459	2757.880	BORDE
3351	9978723.173	781454.987	2758.555	ASFALTO
3352	9978724.218	781455.082	2759.191	PIE TALUD
3353	9978712.017	781460.741	2758.121	ASFALTO
3354	9978726.279	781426.050	2759.251	ASFALTO
3355	9978713.496	781418.348	2759.100	BORDE
3356	9978727.325	781413.404	2759.498	PIE TALUD
3357	9978715.956	781405.190	2759.477	BORDE
3358	9978724.253	781398.126	2759.812	ASFALTO
3359	9978731.486	781371.038	2761.637	RELLENO
3360	9978728.495	781361.128	2761.445	BORDE
3361	9978807.097	781066.540	2770.977	BORDE
3362	9978810.599	781067.857	2773.789	RELLENO
3363	9978811.770	781057.678	2771.029	BORDE
3364	9978816.893	781049.648	2771.504	BORDE
3365	9978817.048	781064.567	2776.698	RELLENO
3366	9978826.354	781041.152	2773.864	BORDE
3367	9978830.334	781042.757	2777.538	BORDE
3368	9978832.356	781033.386	2775.264	BORDE
3369	9978834.322	781028.919	2775.211	BORDE
3370	9978718.432	781379.018	2755.433	BORDE
3371	9978890.443	781647.702	2800.136	ASFALTO
3372	9978861.307	780972.451	2772.353	AUX 7 A
3373	9978866.529	780912.787	2772.629	AUX 8 A
3374	9978853.655	780958.100	2771.618	BORDE
3375	9978854.830	780965.493	2771.506	BORDE
3376	9978850.161	780975.605	2772.028	BORDE
3377	9978847.051	780984.947	2772.909	BORDE
3378	9978843.734	780997.108	2773.205	BORDE
3379	9978912.432	783892.258	2803.589	ASFALTO
3380	9978816.888	781061.831	2775.369	BORDE
3381	9978808.423	781073.227	2773.489	BORDE
3382	9978802.549	781086.517	2769.072	BORDE
3383	9978841.617	781008.529	2774.148	BORDE
3384	9978793.551	781074.355	2764.124	BORDE
3385	9978799.944	781065.332	2766.145	BORDE
3386	9978811.310	781051.544	2768.468	BORDE
3387	9978741.740	781218.711	2767.371	RELLENO
3388	9978747.683	781198.294	2765.435	RELLENO
3389	9978751.339	781181.462	2766.063	RELLENO
3390	9978758.011	781166.221	2766.482	RELLENO
3391	9978802.618	781078.892	2770.978	RELLENO
3392	9978975.642	783711.332	2808.432	PARTARR
3393	9978886.542	783711.274	2809.217	PARTARR
3394	9978812.401	781042.380	2764.922	BORDE
3395	9978799.212	781064.217	2766.419	BORDE
3396	9978784.716	783451.996	2593.428	TOP
3397	9978787.730	781100.628	2768.153	BORDE
3398	9978776.150	781112.188	2762.229	BORDE
3399	9978767.405	781128.452	2761.985	BORDE
3400	9978759.375	781148.322	2760.461	BORDE
3401	9978752.081	781146.349	2757.891	BORDE
3402	9978743.795	781166.978	2758.247	BORDE

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3403	9978739.804	781180.185	2759.565	BORDE
3404	9978730.483	781109.060	2757.117	BORDE
3405	9978750.802	783446.142	2591.950	ASFALTO
3406	9978726.547	781280.684	2756.739	BORDE
3407	9978858.455	780918.096	2772.316	ASFALTO
3408	9978865.816	780995.392	2772.615	ASFALTO
3409	9978856.061	780917.474	2772.590	BORDE
3410	9978866.505	780895.337	2772.629	PIE TALUD
3411	9978857.560	780905.173	2772.700	ASFALTO
3412	9978853.347	780904.417	2773.198	BORDE
3413	9978865.521	780884.582	2772.482	ASFALTO
3414	9978866.303	780884.656	2772.418	PIE TALUD
3415	9978856.483	780891.549	2773.020	ASFALTO
3416	9978851.656	780892.387	2774.467	BORDE
3417	9978865.896	780873.260	2772.374	ASFALTO
3418	9978866.782	780873.052	2772.303	PIE TALUD
3419	9978855.155	780880.865	2773.231	ASFALTO
3420	9978868.286	780864.810	2772.199	ASFALTO
3421	9978848.852	780880.549	2774.780	BORDE
3422	9978888.899	780865.461	2772.156	PIE TALUD
3423	9978855.554	780869.826	2773.437	ASFALTO
3424	9978874.339	780853.752	2773.970	ASFALTO
3425	9978874.667	780853.944	2772.031	PIE TALUD
3426	9978928.166	780817.428	2771.928	ASFALTO
3427	9978929.259	780818.001	2772.269	PIE TALUD
3428	9978987.275	781629.455	2748.168	AUX 2 A
3429	9978606.647	781601.637	2748.268	AUX 2 A
3430	9978607.983	781629.619	2749.399	ASFALTO
3431	9978603.114	781615.911	2748.784	ASFALTO
3432	9978608.757	781630.948	2750.198	BORDE
3433	9978608.762	781630.949	2750.136	RELLENO
3434	9978594.046	781619.438	2748.355	ASFALTO
3435	9978595.376	781634.058	2748.520	ASFALTO
3436	9978587.735	781619.582	2748.454	CASA
3437	9978582.166	781637.845	2747.700	ASFALTO
3438	9978580.885	781624.335	2747.870	ASFALTO
3439	9978578.250	781623.132	2748.055	CASA
3440	9978571.286	781642.267	2746.995	ASFALTO
3441	9978569.723	781628.620	2747.487	ASFALTO
3442	9978565.742	781627.886	2747.657	CASA
3443	9978558.856	781646.771	2746.123	ASFALTO
3444	9978556.520	781633.771	2747.104	ASFALTO
3445	9978549.798	781651.678	2745.405	ASFALTO
3446	9978546.245	781639.256	2746.761	ASFALTO
3447	9978536.106	781647.187	2746.250	ASFALTO
3448	9978541.422	781658.504	2744.682	ASFALTO
3449	9978526.209	781657.742	2745.460	ASFALTO
3450	9978534.745	781648.489	2746.185	AUX 13 A
3451	9978518.817	781669.558	2744.565	AUX 14 A
3452	9978528.756	781662.615	2744.771	ASFALTO
3453	9978587.625	781630.109	2748.198	ASFALTO
3454	9978537.347	781652.467	2745.548	ASFALTO
3455	9978546.452	781645.440	2746.157	ASFALTO
3456	9978576.770	781633.771	2747.680	ASFALTO
3457	9978556.343	781639.948	2746.739	ASFALTO
3458	9978565.912	781637.297	2747.128	ASFALTO
3459	9978521.066	781665.298	2744.898	ASFALTO
3460	9978534.387	781664.983	2744.176	ASFALTO
3461	9978525.244	781668.008	2744.384	ASFALTO
3462	9978525.244	781674.140	2743.533	ASFALTO
3463	9978525.244	781681.409	2743.465	ASFALTO
3464	9978525.244	781686.136	2742.693	ASFALTO
3465	9978514.560	781679.764	2743.750	ASFALTO
3466	9978521.560	781696.398	2742.126	ASFALTO
3467	9978510.895	781693.686	2742.701	ASFALTO
3468	9978505.895	781703.934	2741.945	ASFALTO
3470	9978508.38	781708.402	2741.561	ASFALTO
3471	9978512.151	781706.072	2741.805	ASFALTO
3472	9978509.911	781720.752	2740.892	ASFALTO
3473	9978504.580	781718.883	2740.797	ASFALTO
3474	9978509.003	781720.031	2740.851	ASFALTO
3475	9978501.275	781732.472	2739.927	ASFALTO
3476	9978511.916	781734.717	2739.883	ASFALTO
3477	9978505.910	781733.548	2739.972	ASFALTO
3478	9978509.251	781747.884	2738.963	ASFALTO
3479	9978497.862	781746.408	2739.059	ASFALTO
3480	9978502.777	781747.734	2739.058	ASFALTO
3481	9978494.827	781759.668	2738.508	ASFALTO





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3482	9978507.206	781762.733	2737.661	ASFALTO
3483	9978500.707	781761.272	2738.188	ASFALTO
3484	9978506.906	781777.995	2736.415	ASFALTO
3485	9978493.743	781773.459	2737.995	ASFALTO
3486	9978499.925	781775.706	2737.315	ASFALTO
3487	9978502.141	781803.511	2736.142	AUX 15 A
3488	9978590.450	781873.233	2727.250	AUX 16 A
3489	9978494.970	781784.125	2737.452	ASFALTO
3490	9978507.452	781781.223	2736.163	ASFALTO
3491	9978500.947	781782.694	2736.859	ASFALTO
3492	9978511.426	781794.016	2735.214	ASFALTO
3493	9978505.246	781796.548	2735.894	ASFALTO
3494	9978516.417	781802.542	2734.491	ASFALTO
3495	9978499.658	781799.729	2736.512	ASFALTO
3496	9978511.449	781805.747	2735.035	ASFALTO
3497	9978506.032	781809.488	2735.605	ASFALTO
3498	9978519.724	781815.456	2734.147	ASFALTO
3499	9978515.487	781820.037	2734.274	ASFALTO
3500	9978524.405	781810.586	2733.649	ASFALTO
3501	9978523.779	781817.735	2733.164	ASFALTO
3502	9978534.246	781818.124	2732.844	ASFALTO
3503	9978529.775	781823.091	2733.129	ASFALTO
3504	9978543.964	781826.582	2732.043	ASFALTO
3505	9978540.605	781831.164	2732.143	ASFALTO
3506	9978551.880	781832.672	2731.307	ASFALTO
3507	9978537.703	781835.450	2732.118	ASFALTO
3508	9978550.138	781837.043	2731.334	ASFALTO
3509	9978546.840	781841.358	2731.265	ASFALTO
3510	9978563.252	781840.123	2730.469	ASFALTO
3511	9978509.455	781815.902	2734.915	CASA
3512	9978560.119	781843.769	2730.400	ASFALTO
3513	9978503.318	781808.060	2736.191	CASA
3514	9978557.286	781847.865	2730.413	ASFALTO
3515	9978497.794	781788.532	2736.972	CASA
3516	9978494.185	781788.667	2737.269	CASA
3517	9978491.733	781777.410	2738.217	CASA
3518	9978491.638	781784.427	2738.709	CASA
3519	9978495.189	781750.224	2739.073	CASA
3520	9978569.701	781846.146	2729.819	ASFALTO
3521	9978567.207	781850.072	2729.626	ASFALTO
3522	9978564.665	781855.697	2729.537	ASFALTO
3523	9978517.943	781823.815	2734.258	MURO
3524	9978527.725	781830.149	2734.359	MURO
3525	9978535.779	781835.355	2734.317	MURO
3526	9978541.507	781840.726	2734.083	MURO
3527	9978548.939	781844.561	2733.792	MURO
3528	9978546.627	781847.273	2733.709	MURO
3529	9978536.562	781841.815	2734.217	CASA B
3530	9978522.738	781830.433	2734.303	CASA B
3531	9978573.082	781858.161	2728.642	CASA
3532	9978578.476	781852.071	2729.048	CASA
3533	9978582.225	781866.194	2728.401	CASA
3534	9978532.730	781877.099	2728.500	AUX 10A
3535	9978543.561	781870.271	2730.857	AUX 10A
3536	9978644.660	781911.518	2704.983	TERRENO NATURAL
3537	9978561.635	781920.178	2703.023	TERRENO NATURAL
3538	9978559.019	781929.524	2699.495	TERRENO NATURAL
3539	9978558.134	781915.692	2698.460	TERRENO NATURAL
3540	9978555.982	781945.879	2695.775	TERRENO NATURAL
3541	9978553.668	781953.326	2694.297	TERRENO NATURAL
3542	9978549.655	781961.928	2692.579	TERRENO NATURAL
3543	9978540.903	781973.814	2688.978	TERRENO NATURAL
3544	9978562.663	781981.742	2704.532	TERRENO NATURAL
3545	9978571.614	781972.254	2709.903	TERRENO NATURAL
3546	9978564.876	781968.444	2704.237	TERRENO NATURAL
3547	9978575.052	781962.111	2711.666	TERRENO NATURAL
3548	9978568.305	781954.873	2703.369	TERRENO NATURAL
3549	9978582.076	781973.176	2719.228	AUX 19 A
3550	9978565.470	781945.368	2702.399	TERREN NATURAL
3551	9978663.616	781933.058	2702.367	TERREN NATURAL
3552	9978576.006	781952.548	2710.832	TERREN NATURAL
3553	9978564.210	781923.839	2702.997	TERREN NATURAL
3554	9978577.757	781940.449	2711.890	TERREN NATURAL
3555	9978578.235	781930.272	2713.907	TERREN NATURAL
3556	9978562.471	781903.459	2705.211	TERREN NATURAL
3557	9978580.301	781919.707	2715.803	TERREN NATURAL
3558	9978578.430	781909.650	2714.634	TERREN NATURAL
3559	9978576.022	781896.536	2718.058	TERREN NATURAL
3560	9978548.662	781892.931	2712.782	TERREN NATURAL

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3561	9978572.698	781887.373	2719.169	TERREN NATURAL
3562	9978568.633	781881.029	2719.519	TERREN NATURAL
3563	9978564.314	781887.511	2714.364	TERREN NATURAL
3564	9978566.339	781875.245	2722.806	TERREN NATURAL
3565	9978568.132	781897.658	2713.611	TERREN NATURAL
3566	9978560.774	781872.698	2729.640	TERREN NATURAL
3567	9978554.253	781873.592	2724.798	TERREN NATURAL
3568	9978548.072	781873.822	2726.318	TERREN NATURAL
3569	9978543.633	781871.068	2730.514	TERREN NATURAL
3570	9978553.812	781868.158	2730.191	TERREN NATURAL
3571	9978560.601	781865.731	2730.116	TERREN NATURAL
3572	9978581.268	784361.465	2393.992	A.3
3573	9978606.657	781601.625	2749.266	TOP
3574	9978731.230	781442.479	2767.971	PIE TALUD
3575	9978729.015	781441.813	2766.653	BORDE 1
3576	9978733.140	781380.160	2769.336	BORDE 1
3577	9978738.367	781368.755	2772.560	BORDE 1
3578	9978736.321	781367.069	2772.239	BORDE 1
3579	9978739.246	781355.918	2772.643	PIE TALUD
3580	9978737.123	781358.519	2771.966	BORDE 1
3581	9978739.296	781343.068	2771.414	PIE TALUD
3582	9978559.455	781544.172	2573.240	TN
3583	9978739.771	781331.868	2771.660	PIE TALUD
3584	9978735.734	781331.559	2770.491	BORDE 1
3585	9978741.062	781315.979	2771.547	PIE TALUD
3586	9978738.889	781314.374	2770.732	BORDE 1
3587	9978741.835	781301.730	2772.018	PIE TALUD
3588	9978737.239	781299.137	2770.661	BORDE 1
3589	9978743.209	781285.598	2773.361	PIE TALUD
3590	9978738.983	781283.272	2771.543	BORDE 1
3591	9978746.000	781269.461	2774.317	PIE TALUD
3592	9978743.876	781270.110	2773.107	BORDE 1
3593	9978746.681	781255.468	2773.542	PIE TALUD
3594	9978745.540	781254.347	2773.360	BORDE 1
3595	9978749.174	781243.465	2773.371	PIE TALUD
3596	9978747.226	781242.081	2773.502	BORDE 1
3597	9978752.862	781231.815	2772.592	BORDE 1
3598	9978752.906	781231.708	2772.863	PIE TALUD
3599	9978750.627	781227.534	2772.534	BORDE 1
3600	9978760.800	781211.798	2773.362	PIE TALUD
3601	9978759.734	781211.068	2773.418	BORDE 1
3602	9978757.608	781260.250	2808.008	BORDE 2
3603	9978757.503	781380.069	2810.777	BORDE 2
3604	9978751.053	781396.532	2805.402	BORDE 2
3605	9978744.172	781379.009	2791.580	BORDE 2
3606	9978743.765	781392.065	2792.986	BORDE 2
3607	9978742.084	781412.379	2789.115	BORDE 2
3608	9978740.751	781424.658	2787.265	BORDE 2
3609	9978728.464	781473.649	2782.683	BORDE 2
3610	9978646.955	781595.641	2414.785	A-1
3611	9978721.561	781490.282	2779.355	BORDE 2
3612	9978723.420	781505.688	2779.406	BORDE 2
3613	9978721.933	781517.843	2780.266	BORDE 2
3614	9978757.717	781553.637	2806.735	BORDE 2
3615	9978753.967	781556.407	2802.055	BORDE 2
3616	9978751.175	781352.486	2797.547	BORDE 2
3617	9978752.746	781342.430	2799.430	BORDE 2
3618	9978749.802	781338.874	2796.515	BORDE 2
3619	9978748.006	781335.094	2793.933	BORDE 2
3620	9978748.265	781327.587	2792.871	BORDE 2
3621	9978748.265	781325.044	2790.851	BORDE 2
3622	9978748.324	781320.167	2789.147	BORDE 2
3623	9978748.324	781318.046	2787.960	BORDE 2
3624	9978748.324	781305.674	2784.854	BORDE 2
3625	9978748.324	781300.509	2783.774	BORDE 2
3626	9978748.324	781292.867	2783.576	BORDE 2
3627	9978748.324	781299.312	2783.629	BORDE 2
3628	9978747.472	781281.484	2781.571	BORDE 2
3629	9978746.741	781278.205	2781.815	BORDE 2
3630	9978746.293	781274.079	2777.786	BORDE 2
3631	9978554.751	781210.880	2707.731	AUX 20A
3632	9978582.076	781973.176	2719.228	AUX 19A
3633	9978555.680	781215.461	2707.509	ASFALTO
3634	9978561.445	781264.863	2708.478	ASFALTO
3635	9978563.171	781231.945	2707.448	ASFALTO
3636	9978568.291	782247.913	2706.399	ASFALTO
3637	9978567.087	782174.719	2705.547	ASFALTO
3638	9978560.293	782165.845	2706.612	BORDE
3639	9978576.174	782162.909	2705.277	ASFALTO



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3640	9978575.612	782187.571	2704.209	ASFALTO
3641	9978576.129	782162.874	2705.276	ASFALTO
3642	9978567.492	782177.242	2705.647	BORDE
3643	9978577.532	782161.865	2705.888	PIE TALUD
3644	9978577.168	782191.352	2704.091	ASFALTO
3645	9978577.172	782191.351	2704.089	BORDE
3646	9978585.490	782177.785	2704.120	ASFALTO
3647	9978585.062	782177.383	2703.985	PIE TALUD
3648	9978586.349	782204.682	2703.085	BORDE
3649	9978595.271	782191.946	2702.825	ASFALTO
3650	9978595.399	782215.866	2701.497	ASFALTO
3651	9978594.286	782216.029	2702.034	BORDE
3652	9978595.916	782191.495	2703.159	PIE TALUD
3653	9978602.568	782225.878	2700.597	ASFALTO
3654	9978605.256	782206.887	2701.723	ASFALTO
3655	9978610.564	782237.649	2699.596	ASFALTO
3656	9978729.074	781315.275	2760.044	TOP
3657	9978729.168	781314.794	2760.044	TOP
3658	9978729.239	781314.328	2760.043	TOP
3659	9978729.372	781313.869	2760.046	TOP
3660	9978729.491	781313.412	2760.048	TOP
3661	9978729.567	781312.938	2760.047	TOP
3662	9978729.681	781312.470	2760.049	TOP
3663	9978729.765	781311.996	2760.049	TOP
3664	9978729.799	781311.514	2760.049	TOP
3665	9978729.804	781311.035	2760.041	TOP
3666	9978729.973	781310.572	2760.050	TOP
3667	9978730.095	781310.091	2760.049	TOP
3668	9978730.199	781309.624	2760.051	TOP
3669	9978730.199	781309.144	2760.046	TOP
3670	9978730.251	781308.676	2760.045	TOP
3671	9978730.388	781308.215	2760.049	TOP
3672	9978730.572	781307.758	2760.057	TOP
3673	9978730.747	781307.280	2760.060	TOP
3674	9978730.645	781306.797	2760.059	TOP
3675	9978730.389	781306.277	2760.032	TOP
3676	9978730.439	781305.796	2760.031	TOP
3677	9978730.571	781305.333	2760.039	TOP
3678	9978730.615	781304.848	2760.035	TOP
3679	9978730.891	781304.401	2760.052	TOP
3680	9978731.035	781303.930	2760.054	TOP
3681	9978731.972	781302.100	2760.100	TOP
3682	9978732.767	781297.848	2760.125	TOP
3683	9978732.884	781297.356	2760.134	TOP
3684	9978732.826	781296.873	2760.125	TOP
3685	9978732.723	781296.377	2760.120	TOP
3686	9978732.704	781295.898	2760.119	TOP
3687	9978732.831	781295.413	2760.119	TOP
3688	9978732.861	781294.936	2760.120	TOP
3689	9978608.809	782236.741	2699.957	BORDE
3690	9978615.024	782221.117	2700.788	ASFALTO
3691	9978616.077	782220.159	2701.191	PIE TALUD
3692	9978615.944	782248.786	2698.897	BORDE
3693	9978617.250	782249.322	2698.604	ASFALTO
3694	9978625.987	782136.704	2699.827	ASFALTO
3695	9978625.932	782236.659	2699.786	PIE TALUD
3696	9978729.767	781290.036	2759.915	TOP
3697	9978726.774	781362.097	2756.966	TOP
3698	9978726.648	781362.613	2756.973	TOP
3699	9978726.677	781363.234	2756.985	TOP
3700	9978726.538	781363.752	2756.990	TOP
3701	9978726.335	781364.249	2756.993	TOP
3702	9978726.141	781364.729	2756.995	TOP
3703	9978725.937	781365.209	2756.997	TOP
3704	9978725.856	781365.781	2757.005	TOP
3705	9978725.666	781366.280	2757.008	TOP
3706	9978725.542	781366.830	2757.015	TOP
3707	9978725.356	781367.332	2757.018	TOP
3708	9978725.166	781367.817	2757.021	TOP
3709	9978725.062	781368.376	2757.028	TOP
3710	9978721.566	781371.840	2756.985	TOP
3711	9978721.067	781371.126	2756.975	TOP
3712	9978720.789	781371.594	2756.975	TOP
3713	9978720.619	781373.118	2756.981	TOP
3714	9978720.298	781373.519	2756.979	TOP
3715	9978720.177	781374.095	2756.987	TOP
3716	9978719.470	781375.629	2757.003	TOP
3717	9978719.329	781376.174	2757.010	TOP
3718	9978719.327	781376.683	2757.014	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3719	9978719.156	781377.187	2757.020	TOP
3720	9978718.948	781377.676	2757.024	TOP
3721	9978718.707	781378.171	2757.027	TOP
3722	9978718.596	781378.734	2757.036	TOP
3723	9978718.363	781379.232	2757.039	TOP
3724	9978718.276	781379.801	2757.049	TOP
3725	9978718.005	781380.279	2757.051	TOP
3726	9978717.688	781380.684	2757.050	TOP
3727	9978717.220	781381.029	2757.044	TOP
3728	9978717.247	781381.688	2757.059	TOP
3729	9978717.049	781382.221	2757.065	TOP
3730	9978716.829	781382.725	2757.070	TOP
3731	9978716.743	781383.319	2757.080	TOP
3732	9978716.417	781383.738	2757.080	TOP
3733	9978716.255	781384.303	2757.088	TOP
3734	9978715.929	781384.980	2757.122	TOP
3735	9978714.645	781385.521	2757.138	TOP
3736	9978714.519	781386.102	2757.147	TOP
3737	9978709.492	781417.522	2757.278	TOP
3738	9978652.947	782414.623	2688.192	BORDE
3739	9978712.536	781395.087	2753.112	TOP
3740	9978712.836	781394.621	2753.111	TOP
3741	9978712.995	781394.029	2753.108	TOP
3742	9978713.711	781391.789	2753.097	TOP
3743	9978713.348	781390.090	2753.080	TOP
3744	9978713.474	781389.503	2753.076	TOP
3745	9978713.691	781388.977	2753.074	TOP
3746	9978713.473	781388.107	2753.065	TOP
3747	9978713.874	781387.758	2753.066	TOP
3748	9978714.294	781387.394	2753.068	TOP
3749	9978714.836	781386.750	2753.063	TOP
3750	9978714.725	781386.357	2753.064	TOP
3751	9978715.039	781385.910	2753.064	TOP
3752	9978715.549	781385.644	2753.067	TOP
3753	9978715.771	781385.131	2753.065	TOP
3754	9978715.747	781384.445	2753.060	TOP
3755	9978715.975	781383.944	2753.058	TOP
3756	9978716.340	781383.557	2753.059	TOP
3757	9978716.808	781383.218	2753.061	TOP
3758	9978716.901	781382.637	2753.057	TOP
3759	9978717.083	781382.105	2753.055	TOP
3760	9978717.274	781381.582	2753.059	TOP
3761	9978717.372	781380.982	2753.050	TOP
3762	9978717.633	781380.516	2753.049	TOP
3763	9978717.788	781379.957	2753.047	TOP
3764	9978717.963	781379.440	2753.045	TOP
3765	9978718.080	781378.866	2753.042	TOP
3766	9978718.332	781378.407	2753.041	TOP
3767	9978718.525	781377.864	2753.039	TOP
3768	9978718.734	781377.398	2753.038	TOP
3769	9978718.896	781376.869	2753.036	TOP
3770	9978718.913	781376.288	2753.032	TOP
3771	9978719.111	781375.747	2753.030	TOP
3772	9978719.152	781375.142	2753.027	TOP
3773	9978719.631	781373.575	2753.021	TOP
3774	9978719.946	781373.166	2753.021	TOP
3775	9978720.326	781372.771	2753.023	TOP
3776	9978720.529	781372.280	2753.021	TOP
3777	9978720.649	781371.733	2753.019	TOP
3778	9978720.796	781371.207	2753.017	TOP
3779	9978720.971	781370.685	2753.015	TOP
3780	9978721.188	781370.146	2753.018	TOP
3781	9978721.440	781369.634	2753.016	TOP
3782	9978721.656	781369.146	2753.019	TOP
3783	9978721.927	781368.690	2753.023	TOP
3784	9978722.202	781368.230	2753.031	TOP
3785	9978722.480	781367.770	2753.031	TOP
3786	9978722.801	781367.301	2753.034	TOP
3787	9978723.147	781366.834	2753.034	TOP
3788	9978723.470	781366.366	2753.034	TOP
3789	9978724.906	781366.946	2753.034	TOP
3790	9978725.182	781366.479	2753.033	TOP
3791	9978725.450	781366.014	2753.033	TOP
3792	9978725.640	781365.512	2753.032	TOP
3793	9978725.768	781364.977	2753.030	TOP
3794	9978726.037	781364.538	2753.034	TOP
3795	9978726.299	781364.075	2753.030	TOP
3796	9978726.246	781363.459	2753.026	TOP
3797	9978726.485	781362.988	2753.026	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3798	9978726.719	781362.501	2753.028	TOP
3799	9978726.902	781362.031	2753.025	TOP
3800	9978727.047	781361.506	2753.023	TOP
3801	9978727.226	781361.009	2753.022	TOP
3802	9978727.471	781360.543	2753.022	TOP
3803	9978727.523	781359.971	2753.020	TOP
3804	9978727.682	781359.469	2753.019	TOP
3805	9978653.894	782415.009	2687.834	ASFALTO
3806	9978661.400	782437.302	2686.626	ASFALTO
3807	9978668.935	782436.805	2687.031	BORDE
3808	9978665.745	782447.285	2685.977	ASFALTO
3809	9978683.623	782451.592	2684.106	ASFALTO
3810	9978662.421	782446.574	2686.467	BORDE
3811	9978671.196	782457.824	2685.228	ASFALTO
3812	9978726.264	781352.979	2752.967	TOP
3813	9978725.972	781352.274	2752.960	TOP
3814	9978725.230	781351.370	2752.947	TOP
3815	9978725.115	781350.751	2752.942	TOP
3816	9978724.878	781350.102	2752.936	TOP
3817	9978724.054	781349.172	2752.922	TOP
3818	9978723.954	781348.571	2752.918	TOP
3819	9978723.697	781347.921	2752.912	TOP
3820	9978721.668	781345.952	2752.879	TOP
3821	9978721.878	781345.508	2752.879	TOP
3822	9978722.009	781345.025	2752.878	TOP
3823	9978722.149	781344.565	2752.870	TOP
3824	9978722.261	781344.099	2752.877	TOP
3825	9978722.361	781343.608	2752.875	TOP
3826	9978722.504	781343.156	2752.875	TOP
3827	9978722.679	781342.694	2752.875	TOP
3828	9978723.841	781342.242	2752.878	TOP
3829	9978723.126	781341.840	2752.876	TOP
3830	9978723.062	781341.301	2752.872	TOP
3831	9978723.121	781340.793	2752.871	TOP
3832	9978723.289	781340.323	2752.874	TOP
3833	9978723.351	781339.832	2752.869	TOP
3834	9978723.501	781339.373	2752.872	TOP
3835	9978723.728	781338.945	2752.873	TOP
3836	9978724.018	781338.539	2752.871	TOP
3837	9978724.262	781338.104	2752.872	TOP
3838	9978724.623	781337.724	2752.875	TOP
3839	9978724.770	781337.262	2752.874	TOP
3840	9978724.919	781336.799	2752.874	TOP
3841	9978725.125	781336.360	2752.875	TOP
3842	9978725.266	781335.897	2752.874	TOP
3843	9978725.407	781335.411	2752.874	TOP
3844	9978725.569	781334.966	2752.874	TOP
3845	9978725.883	781334.557	2752.876	TOP
3846	9978726.090	781334.129	2752.877	TOP
3847	9978726.223	781333.685	2752.876	TOP
3848	9978726.287	781333.170	2752.875	TOP
3849	9978726.406	781332.178	2752.873	TOP
3850	9978726.421	781331.679	2752.871	TOP
3851	9978726.478	781331.191	2752.870	TOP
3852	9978726.554	781330.703	2752.869	TOP
3853	9978726.645	781330.240	2752.868	TOP
3854	9978726.772	781329.764	2752.868	TOP
3855	9978726.897	781329.311	2752.868	TOP
3856	9978726.877	781328.806	2752.866	TOP
3857	9978726.972	781328.304	2752.865	TOP
3858	9978726.986	781327.820	2752.864	TOP
3859	9978727.103	781327.357	2752.863	TOP
3860	9978684.948	782451.074	2684.652	PIE TALUD
3861	9978666.550	782457.109	2685.935	BORDE
3862	9978676.124	782466.173	2684.530	ASFALTO
3863	9978689.824	782465.991	2683.287	ASFALTO
3864	9978727.832	781323.072	2752.859	TOP
3865	9978727.840	781322.572	2752.857	TOP
3866	9978727.912	781322.097	2752.856	TOP
3867	9978728.002	781321.524	2752.856	TOP
3868	9978728.078	781321.153	2752.855	TOP
3869	9978728.010	781320.638	2752.852	TOP
3870	9978728.021	781320.147	2752.852	TOP
3871	9978727.977	781319.632	2752.850	TOP
3872	9978728.001	781319.156	2752.849	TOP
3873	9978728.098	781318.697	2752.845	TOP
3874	9978728.188	781318.221	2752.848	TOP
3875	9978728.180	781317.747	2752.848	TOP
3876	9978728.136	781317.276	2752.848	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3877	9978728.479	781316.812	2752.848	TOP
3878	9978728.634	781316.361	2752.849	TOP
3879	9978728.806	781315.918	2752.850	TOP
3880	9978728.921	781315.455	2752.850	TOP
3881	9978729.102	781315.001	2752.851	TOP
3882	9978729.140	781314.522	2752.851	TOP
3883	9978729.023	781314.018	2752.848	TOP
3884	9978729.044	781313.541	2752.847	TOP
3885	9978729.076	781313.070	2752.847	TOP
3886	9978729.170	781312.600	2752.847	TOP
3887	9978729.290	781312.124	2752.846	TOP
3888	9978729.270	781311.638	2752.846	TOP
3889	9978729.272	781311.163	2752.845	TOP
3890	9978729.317	781310.678	2752.844	TOP
3891	9978729.367	781310.217	2752.843	TOP
3892	9978729.432	781309.235	2752.843	TOP
3893	9978729.577	781308.791	2752.844	TOP
3894	9978729.609	781308.311	2752.843	TOP
3895	9978729.646	781307.837	2752.843	TOP
3896	9978729.758	781307.364	2752.843	TOP
3897	9978729.864	781306.891	2752.844	TOP
3898	9978729.969	781306.427	2752.844	TOP
3899	9978730.014	781305.968	2752.844	TOP
3900	9978730.112	781305.498	2752.845	TOP
3901	9978730.224	781305.022	2752.845	TOP
3902	9978730.341	781304.558	2752.846	TOP
3903	9978730.313	781304.061	2752.845	TOP
3904	9978730.192	781303.565	2752.843	TOP
3905	9978729.959	781303.083	2752.839	TOP
3906	9978729.920	781302.587	2752.838	TOP
3907	9978729.658	781302.080	2752.834	TOP
3908	9978729.612	781301.588	2752.833	TOP
3909	9978729.563	781301.136	2752.832	TOP
3910	9978729.346	781300.644	2752.828	TOP
3911	9978729.302	781300.158	2752.827	TOP
3912	9978729.357	781299.689	2752.828	TOP
3913	9978729.727	781299.245	2752.832	TOP
3914	9978729.847	781298.785	2752.833	TOP
3915	9978730.056	781298.331	2752.835	TOP
3916	9978730.175	781297.874	2752.838	TOP
3917	9978730.549	781297.413	2752.840	TOP
3918	9978730.760	781296.945	2752.842	TOP
3919	9978730.851	781296.469	2752.843	TOP
3920	9978731.100	781296.009	2752.846	TOP
3921	9978731.046	781295.536	2752.845	TOP
3922	9978730.992	781295.057	2752.844	TOP
3923	9978731.041	781294.570	2752.844	TOP
3924	9978731.314	781294.111	2752.847	TOP
3925	9978731.451	781293.635	2752.848	TOP
3926	9978731.429	781293.161	2752.848	TOP
3927	9978730.894	781292.182	2752.841	TOP
3928	9978730.122	781291.207	2752.831	TOP
3929	9978730.021	781290.726	2752.829	TOP
3930	9978729.801	781290.257	2752.827	TOP
3931	9978729.737	781289.782	2752.826	TOP
3932	9978729.601	781289.306	2752.824	TOP
3933	9978729.395	781288.830	2752.821	TOP
3934	9978729.244	781288.367	2752.820	TOP
3935	9978729.104	781287.889	2752.814	TOP
3936	9978728.570	781287.432	2752.811	TOP
3937	9978728.338	781286.966	2752.807	TOP
3938	9978728.228	781286.488	2752.806	TOP
3939	9978728.088	781286.036	2752.803	TOP
3940	9978728.000	781285.574	2752.807	TOP
3941	9978727.943	781285.110	2752.803	TOP
3942	9978695.356	782465.204	2683.763	PIE TALUD
3943	9978683.189	782475.203	2683.701	ASFALTO
3944	9978672.644	782465.996	2685.368	BORDE
3945	9978690.053	782485.904	2682.914	ASFALTO
3946	9978704.381	782479.225	2682.392	ASFALTO
3947	9978726.685	781282.364	2752.792	TOP
3948	9978726.268	781281.908	2752.784	TOP
3949	9978725.956	781281.462	2752.780	TOP
3950	9978725.901	781281.003	2752.783	TOP
3951	9978725.838	781280.548	2752.779	TOP
3952	9978725.821	781280.087	2752.779	TOP
3953	9978725.675	781279.633	2752.777	TOP
3954	9978725.562	781279.171	2752.776	TOP
3955	9978725.602	781278.711	2752.777	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
3956	9978725 517	781278 265	2752 777	TOP
3957	9978725 522	781277 349	2752 777	TOP
3958	9978725 352	781276 881	2752 776	TOP
3959	9978725 089	781276 449	2752 773	TOP
3960	9978724 892	781276 010	2752 774	TOP
3961	9978724 739	781275 559	2752 769	TOP
3962	9978724 671	781275 118	2752 769	TOP
3965	9978724 658	781274 653	2752 769	TOP
3964	9978724 628	781274 202	2752 770	TOP
3965	9978724 586	781273 743	2752 770	TOP
3966	9978724 683	781273 292	2752 771	TOP
3967	9978724 754	781272 820	2752 773	TOP
3968	9978724 555	781272 389	2752 771	TOP
3969	9978724 384	781271 943	2752 769	TOP
3970	9978723 970	781271 529	2752 765	TOP
3971	9978723 808	781271 102	2752 764	TOP
3972	9978723 688	781270 660	2752 768	TOP
3973	9978723 478	781270 236	2752 761	TOP
3974	9978723 262	781269 794	2752 759	TOP
3975	9978723 754	781269 273	2752 766	TOP
3976	9978724 070	781268 768	2752 770	TOP
3977	9978724 325	781268 270	2752 778	TOP
3978	9978724 528	781267 781	2752 778	TOP
3979	9978724 754	781267 279	2752 781	TOP
3980	9978724 482	781266 859	2752 779	TOP
3981	9978724 310	781266 415	2752 777	TOP
3982	9978724 068	781265 997	2752 775	TOP
3983	9978723 901	781265 555	2752 774	TOP
3984	9978723 771	781265 121	2752 773	TOP
3985	9978723 663	781264 669	2752 772	TOP
3986	9978723 379	781264 245	2752 770	TOP
3987	9978723 073	781263 839	2752 767	TOP
3988	9978722 867	781263 407	2752 766	TOP
3989	9978722 786	781262 953	2752 766	TOP
3990	9978722 764	781262 488	2752 770	TOP
3991	9978722 717	781262 035	2752 767	TOP
3992	9978722 635	781261 589	2752 767	TOP
3993	9978722 524	781261 151	2752 767	TOP
3994	9978722 362	781260 712	2752 768	TOP
3995	9978722 152	781260 285	2752 764	TOP
3996	9978721 890	781259 892	2752 762	TOP
3997	9978721 699	781259 459	2752 761	TOP
3998	9978721 563	781259 038	2752 760	TOP
3999	9978721 400	781258 617	2752 759	TOP
4000	9978721 259	781258 174	2752 759	TOP
4001	9978721 066	781257 748	2752 758	TOP
4002	9978721 125	781257 275	2752 760	TOP
4003	9978721 127	781256 814	2752 761	TOP
4004	9978722 275	781244 542	2752 815	TOP
4005	9978721 400	781243 369	2752 809	TOP
4006	9978721 223	781242 983	2752 812	TOP
4007	9978720 597	781241 661	2752 809	TOP
4008	9978720 057	781241 356	2752 801	TOP
4009	9978719 242	781241 154	2752 792	TOP
4010	9978718 048	781241 074	2752 779	TOP
4011	9978717 889	781240 641	2752 779	TOP
4012	9978717 779	781240 187	2752 779	TOP
4013	9978716 940	781240 014	2752 770	TOP
4014	9978716 587	781239 659	2752 771	TOP
4015	9978716 260	781239 300	2752 765	TOP
4016	9978716 059	781238 890	2752 765	TOP
4017	9978715 812	781238 488	2752 764	TOP
4018	9978715 594	781238 080	2752 766	TOP
4019	9978715 448	781237 660	2752 763	TOP
4020	9978715 282	781237 231	2752 766	TOP
4021	9978714 348	781234 830	2749 354	TOP
4022	9978714 484	781235 280	2749 355	TOP
4023	9978714 794	781235 629	2749 353	TOP
4024	9978714 918	781236 084	2749 353	TOP
4025	9978714 864	781236 582	2749 356	TOP
4026	9978715 029	781237 014	2749 356	TOP
4027	9978714 974	781237 518	2749 359	TOP
4028	9978715 044	781237 983	2749 361	TOP
4029	9978715 628	781238 731	2749 357	TOP
4030	9978715 813	781239 142	2749 357	TOP
4031	9978716 065	781239 542	2749 356	TOP
4032	9978716 920	781239 928	2749 354	TOP
4033	9978716 787	781240 240	2749 350	TOP
4034	9978717 042	781240 623	2749 349	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4035	9978717 510	781240 947	2749 345	TOP
4036	9978717 873	781241 520	2749 342	TOP
4037	9978718 792	781241 479	2749 332	TOP
4038	9978719 025	781241 892	2749 330	TOP
4039	9978719 224	781242 299	2749 330	TOP
4040	9978720 364	781245 803	2749 330	TOP
4041	9978719 815	781251 580	2749 363	TOP
4042	9978719 902	781254 011	2749 363	TOP
4043	9978720 040	781254 441	2749 363	TOP
4044	9978720 044	781257 222	2749 371	TOP
4045	9978720 248	781257 643	2749 370	TOP
4046	9978720 519	781258 040	2749 368	TOP
4047	9978720 700	781258 464	2749 366	TOP
4048	9978720 858	781258 898	2749 366	TOP
4049	9978721 002	781259 321	2749 365	TOP
4050	9978721 144	781259 746	2749 364	TOP
4051	9978721 361	781260 158	2749 365	TOP
4052	9978721 602	781261 041	2749 362	TOP
4053	9978721 686	781261 480	2749 362	TOP
4054	9978721 831	781261 903	2749 361	TOP
4055	9978722 022	781262 342	2749 360	TOP
4056	9978722 150	781262 776	2749 359	TOP
4057	9978722 303	781263 218	2749 358	TOP
4058	9978722 484	781263 649	2749 357	TOP
4059	9978722 745	781264 063	2749 355	TOP
4060	9978722 846	781264 499	2749 354	TOP
4061	9978723 152	781264 925	2749 351	TOP
4062	9978723 313	781265 360	2749 350	TOP
4063	9978723 468	781265 802	2749 349	TOP
4064	9978723 608	781266 233	2749 348	TOP
4065	9978723 695	781266 664	2749 348	TOP
4066	9978723 834	781267 120	2749 347	TOP
4067	9978723 969	781267 564	2749 346	TOP
4068	9978723 975	781268 030	2749 347	TOP
4069	9978723 914	781268 494	2749 349	TOP
4070	9978723 882	781268 958	2749 350	TOP
4071	9978723 755	781269 443	2749 352	TOP
4072	9978723 632	781269 916	2749 354	TOP
4073	9978723 249	781270 427	2749 360	TOP
4074	9978723 212	781270 890	2749 361	TOP
4075	9978723 446	781271 310	2749 359	TOP
4076	9978723 515	781271 754	2749 359	TOP
4077	9978723 649	781272 195	2749 358	TOP
4078	9978723 985	781272 621	2749 354	TOP
4079	9978724 128	781273 055	2749 353	TOP
4080	9978724 263	781273 500	2749 352	TOP
4081	9978724 317	781273 942	2749 351	TOP
4082	9978724 488	781274 383	2749 350	TOP
4083	9978724 609	781274 828	2749 349	TOP
4084	9978724 792	781275 279	2749 347	TOP
4085	9978724 686	781275 741	2749 349	TOP
4086	9978724 291	781276 232	2749 354	TOP
4087	9978724 291	781276 680	2749 355	TOP
4088	9978723 822	781277 631	2749 362	TOP
4089	9978723 665	781278 092	2749 364	TOP
4090	9978723 745	781278 541	2749 363	TOP
4091	9978724 548	781280 321	2749 354	TOP
4092	9978724 917	781280 757	2749 350	TOP
4093	9978725 181	781281 191	2749 347	TOP
4094	9978726 376	781281 616	2749 332	TOP
4095	9978726 701	781282 061	2749 330	TOP
4096	9978726 701	781282 529	2749 328	TOP
4097	9978726 905	781282 982	2749 326	TOP
4098	9978726 905	781283 445	2749 324	TOP
4099	9978726 905	781283 903	2749 326	TOP
4100	9978726 905	781284 389	2749 326	TOP
4101	9978726 905	781284 875	2749 328	TOP
4102	9978726 905	781285 361	2749 328	TOP
4103	9978726 905	781285 847	2749 328	TOP
4104	9978726 905	781286 332	2749 328	TOP
4105	9978727 025	781286 800	2749 325	TOP
4106	9978727 310	781287 269	2749 322	TOP
4107	9978727 543	781287 743	2749 319	TOP
4108	9978727 628	781288 197	2749 318	TOP
4109	9978728 130	781288 663	2749 311	TOP
4110	9978728 271	781289 123	2749 309	TOP
4111	9978728 360	781289 602	2749 308	TOP
4112	9978730 073	781293 744	2749 285	TOP
4113	9978729 937	781294 226	2749 286	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4114	9978710.015	781294.604	2749.285	TOP
4115	9978730.253	781298.999	2749.279	TOP
4116	9978730.154	781298.466	2749.279	TOP
4117	9978729.857	781299.914	2749.282	TOP
4118	9978729.746	781300.378	2749.283	TOP
4119	9978729.663	781300.848	2749.284	TOP
4120	9978729.647	781301.320	2749.283	TOP
4121	9978729.707	781301.787	2749.282	TOP
4122	9978729.737	781302.279	2749.281	TOP
4123	9978729.819	781302.757	2749.279	TOP
4124	9978729.808	781303.253	2749.278	TOP
4125	9978729.877	781303.714	2749.277	TOP
4126	9978729.822	781304.191	2749.277	TOP
4127	9978729.820	781304.647	2749.279	TOP
4128	9978729.433	781306.064	2749.279	TOP
4129	9978726.435	781306.539	2749.278	TOP
4130	9978729.330	781307.013	2749.279	TOP
4131	9978729.407	781307.488	2749.277	TOP
4132	9978729.327	781307.970	2749.277	TOP
4133	9978729.317	781308.451	2749.276	TOP
4134	9978729.210	781308.914	2749.277	TOP
4135	9978729.300	781309.397	2749.275	TOP
4136	9978729.234	781309.881	2749.275	TOP
4137	9978729.158	781310.363	2749.275	TOP
4138	9978729.092	781310.826	2749.274	TOP
4139	9978729.166	781311.268	2749.268	TOP
4140	9978729.112	781311.738	2749.268	TOP
4141	9978729.047	781312.210	2749.267	TOP
4142	9978729.000	781312.683	2749.267	TOP
4143	9978728.922	781313.156	2749.267	TOP
4144	9978728.906	781313.633	2749.266	TOP
4145	9978728.822	781314.113	2749.266	TOP
4146	9978697.481	782493.669	2682.002	ASFALTO
4147	9978697.282	782475.830	2684.766	BORDE
4148	9978728.553	781317.483	2749.265	TOP
4149	9978728.351	781317.962	2749.266	TOP
4150	9978728.286	781318.436	2749.266	TOP
4151	9978728.272	781318.921	2749.265	TOP
4152	9978728.201	781319.381	2749.264	TOP
4153	9978728.253	781319.893	2749.262	TOP
4154	9978728.275	781320.397	2749.261	TOP
4155	9978728.234	781320.884	2749.260	TOP
4156	9978705.041	782478.629	2682.779	PIE TALUD
4157	9978713.603	782491.019	2681.609	ASFALTO
4158	9978715.047	782489.978	2682.173	PIE TALUD
4159	9978696.444	782485.020	2683.541	BORDE
4160	9978691.791	782480.739	2682.471	BORDE
4161	9978705.294	782505.523	2680.960	ASFALTO
4162	9978701.639	782503.876	2681.469	BORDE
4163	9978723.576	782503.811	2680.872	ASFALTO
4164	9978724.252	782503.228	2681.215	PIE TALUD
4165	9978707.778	782519.909	2680.680	BORDE
4166	9978711.927	782515.658	2680.117	ASFALTO
4167	9978733.929	782518.702	2680.148	ASFALTO
4168	9978727.443	781327.149	2749.249	TOP
4169	9978727.368	781327.636	2749.248	TOP
4170	9978727.245	781328.116	2749.248	TOP
4171	9978727.109	781328.560	2749.248	TOP
4172	9978727.011	781329.041	2749.248	TOP
4173	9978726.717	781329.451	2749.250	TOP
4174	9978726.487	781329.868	2749.251	TOP
4175	9978726.945	781330.323	2749.251	TOP
4176	9978726.224	781330.807	2749.250	TOP
4177	9978726.112	781331.286	2749.250	TOP
4178	9978725.991	781331.708	2749.251	TOP
4179	9978725.895	781332.202	2749.249	TOP
4180	9978725.753	781332.677	2749.249	TOP
4181	9978725.561	781333.110	2749.249	TOP
4182	9978725.448	781333.597	2749.249	TOP
4183	9978725.338	781334.061	2749.248	TOP
4184	9978725.184	781334.521	2749.248	TOP
4185	9978725.020	781334.963	2749.248	TOP
4186	9978724.864	781335.433	2749.248	TOP
4187	9978724.725	781335.906	2749.248	TOP
4188	9978724.619	781336.380	2749.247	TOP
4189	9978724.493	781336.839	2749.247	TOP
4190	9978724.349	781337.307	2749.246	TOP
4191	9978724.231	781337.777	2749.246	TOP
4192	9978724.076	781338.245	2749.245	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4193	9978723.905	781338.722	2749.245	TOP
4194	9978723.793	781339.169	2749.245	TOP
4195	9978723.611	781339.620	2749.245	TOP
4196	9978723.510	781340.094	2749.244	TOP
4197	9978723.374	781340.563	2749.243	TOP
4198	9978723.165	781341.007	2749.244	TOP
4199	9978722.715	781341.350	2749.247	TOP
4200	9978722.166	781342.162	2749.250	TOP
4201	9978722.010	781342.625	2749.249	TOP
4202	9978721.807	781343.049	2749.250	TOP
4203	9978721.643	781343.511	2749.249	TOP
4204	9978721.466	781343.945	2749.249	TOP
4205	9978721.669	781344.555	2749.244	TOP
4206	9978721.643	781345.586	2749.239	TOP
4207	9978721.440	781346.059	2749.239	TOP
4208	9978721.741	781346.716	2749.232	TOP
4209	9978721.929	781347.330	2749.227	TOP
4210	9978724.930	781351.441	2749.171	TOP
4211	9978725.756	781352.396	2749.156	TOP
4212	9978725.741	781352.942	2749.154	TOP
4213	9978726.536	781353.905	2749.139	TOP
4214	9978724.624	782518.291	2680.454	PIE TALUD
4215	9978726.709	781355.118	2749.131	TOP
4216	9978725.773	782524.208	2679.234	ASFALTO
4217	9978727.160	781356.493	2749.118	TOP
4218	9978727.163	781357.085	2749.114	TOP
4219	9978723.368	782525.005	2679.317	BORDE
4220	9978727.630	781359.674	2749.094	TOP
4221	9978727.401	781360.127	2749.094	TOP
4222	9978727.203	781360.648	2749.093	TOP
4223	9978726.950	781361.095	2749.094	TOP
4224	9978726.694	781361.555	2749.094	TOP
4225	9978726.434	781361.995	2749.094	TOP
4226	9978726.140	781362.429	2749.095	TOP
4227	9978725.855	781362.865	2749.095	TOP
4228	9978725.421	781363.820	2749.094	TOP
4229	9978725.137	781364.274	2749.094	TOP
4230	9978721.827	781368.982	2749.100	TOP
4231	9978721.288	781369.275	2749.104	TOP
4232	9978721.022	781369.721	2749.104	TOP
4233	9978720.750	781370.177	2749.104	TOP
4234	9978720.568	781370.676	2749.102	TOP
4235	9978720.337	781371.155	2749.102	TOP
4236	9978720.231	781371.699	2749.099	TOP
4237	9978719.899	781372.111	2749.100	TOP
4238	9978719.645	781372.585	2749.099	TOP
4239	9978719.424	781373.057	2749.098	TOP
4240	9978719.202	781373.529	2749.097	TOP
4241	9978719.040	781374.048	2749.096	TOP
4242	9978718.851	781374.554	2749.094	TOP
4243	9978718.583	781375.012	2749.094	TOP
4244	9978718.341	781376.098	2749.088	TOP
4245	9978718.117	781376.584	2749.087	TOP
4246	9978717.897	781377.009	2749.087	TOP
4247	9978717.541	781377.455	2749.087	TOP
4248	9978717.304	781377.920	2749.086	TOP
4249	9978716.536	781379.323	2749.084	TOP
4250	9978716.198	781379.727	2749.084	TOP
4251	9978715.997	781380.529	2749.076	TOP
4252	9978715.748	781380.967	2749.076	TOP
4253	9978715.510	781381.351	2749.077	TOP
4254	9978715.410	781381.776	2749.077	TOP
4255	9978715.246	781383.650	2749.064	TOP
4256	9978715.911	781384.071	2749.065	TOP
4257	9978715.614	781384.545	2749.063	TOP
4258	9978715.371	781385.095	2749.061	TOP
4259	9978714.290	781385.597	2749.059	TOP
4260	9978714.248	781385.976	2749.060	TOP
4261	9978713.276	781386.847	2749.059	TOP
4262	9978712.960	781387.279	2749.059	TOP
4263	9978712.613	781387.682	2749.059	TOP
4264	9978712.650	781388.397	2749.053	TOP
4265	9978712.649	781388.085	2749.048	TOP
4266	9978712.426	781389.594	2749.046	TOP
4267	9978706.615	781416.488	2748.865	TOP
4268	9978706.347	781417.072	2748.862	TOP
4269	9978706.157	781417.731	2748.858	TOP
4270	9978705.812	781418.204	2748.856	TOP
4271	9978705.905	781419.220	2748.846	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4272	9978702.385	781423.397	2744.984	TOP
4273	9978702.816	781422.994	2744.990	TOP
4274	9978703.075	781422.387	2744.401	TOP
4275	9978706.197	781414.431	2744.547	TOP
4276	9978706.624	781414.036	2744.546	TOP
4277	9978706.976	781413.569	2744.550	TOP
4278	9978707.095	781412.862	2744.566	TOP
4279	9978707.333	781412.278	2744.576	TOP
4280	9978708.871	781408.138	2744.647	TOP
4281	9978713.150	781398.190	2744.783	TOP
4282	9978712.777	781397.153	2744.824	TOP
4283	9978712.760	781396.999	2744.843	TOP
4284	9978712.512	781395.441	2744.874	TOP
4285	9978712.499	781394.680	2744.893	TOP
4286	9978712.521	781394.006	2744.909	TOP
4287	9978712.221	781393.028	2744.941	TOP
4288	9978712.151	781392.258	2744.962	TOP
4289	9978712.141	781391.554	2744.979	TOP
4290	9978711.864	781390.610	2745.010	TOP
4291	9978711.869	781389.923	2745.026	TOP
4292	9978711.949	781389.306	2745.039	TOP
4293	9978711.870	781388.552	2745.059	TOP
4294	9978712.116	781388.068	2745.064	TOP
4295	9978712.168	781387.417	2745.077	TOP
4296	9978712.375	781386.899	2745.080	TOP
4297	9978712.613	781386.402	2745.088	TOP
4298	9978712.749	781385.835	2745.098	TOP
4299	9978713.058	781385.397	2745.099	TOP
4300	9978713.327	781384.981	2745.102	TOP
4301	9978713.583	781384.449	2745.105	TOP
4302	9978713.803	781383.967	2745.110	TOP
4303	9978714.013	781383.131	2745.145	TOP
4304	9978714.206	781381.631	2745.151	TOP
4305	9978714.542	781381.205	2745.150	TOP
4306	9978714.653	781380.632	2745.160	TOP
4307	9978714.819	781380.115	2745.166	TOP
4308	9978714.970	781379.580	2745.174	TOP
4309	9978715.269	781379.129	2745.174	TOP
4310	9978715.535	781378.683	2745.176	TOP
4311	9978715.775	781378.210	2745.179	TOP
4312	9978715.997	781377.734	2745.183	TOP
4313	9978716.295	781377.298	2745.179	TOP
4314	9978716.517	781376.815	2745.187	TOP
4315	9978716.752	781376.345	2745.189	TOP
4316	9978717.027	781375.898	2745.191	TOP
4317	9978717.203	781375.412	2745.195	TOP
4318	9978717.418	781374.934	2745.199	TOP
4319	9978717.713	781374.494	2745.199	TOP
4320	9978717.944	781374.020	2745.202	TOP
4321	9978718.170	781373.557	2745.200	TOP
4322	9978718.428	781373.096	2745.206	TOP
4323	9978718.631	781372.626	2745.209	TOP
4324	9978718.926	781372.193	2745.209	TOP
4325	9978719.168	781371.714	2745.211	TOP
4326	9978719.518	781371.310	2745.208	TOP
4327	9978719.742	781370.843	2745.210	TOP
4328	9978719.972	781370.390	2745.212	TOP
4329	9978720.406	781370.045	2745.205	TOP
4330	9978720.683	781369.595	2745.205	TOP
4331	9978720.946	781369.148	2745.206	TOP
4332	9978721.220	781368.695	2745.206	TOP
4333	9978721.410	781368.213	2745.209	TOP
4334	9978721.655	781367.760	2745.210	TOP
4335	9978721.955	781367.332	2745.209	TOP
4336	9978722.191	781366.856	2745.211	TOP
4337	9978722.445	781366.387	2745.211	TOP
4338	9978722.667	781365.910	2745.213	TOP
4339	9978722.939	781365.481	2745.213	TOP
4340	9978724.394	781363.320	2745.205	TOP
4341	9978724.699	781362.898	2745.199	TOP
4342	9978724.990	781362.465	2745.201	TOP
4343	9978725.267	781362.021	2745.200	TOP
4344	9978725.575	781361.607	2745.194	TOP
4345	9978725.947	781361.218	2745.192	TOP
4346	9978726.282	781360.816	2745.188	TOP
4347	9978726.541	781360.361	2745.188	TOP
4348	9978726.812	781359.917	2745.186	TOP
4349	9978727.206	781359.517	2745.180	TOP
4350	9978727.517	781359.097	2745.177	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4351	9978727.124	781358.311	2745.204	TOP
4352	9978726.286	781357.299	2745.249	TOP
4353	9978726.333	781356.734	2745.253	TOP
4354	9978725.809	781355.931	2745.286	TOP
4355	9978725.802	781355.316	2745.299	TOP
4356	9978725.198	781354.450	2745.334	TOP
4357	9978725.154	781353.873	2745.345	TOP
4358	9978724.827	781353.156	2745.367	TOP
4359	9978724.837	781352.586	2745.376	TOP
4360	9978724.838	781352.025	2745.385	TOP
4361	9978724.768	781351.441	2745.397	TOP
4362	9978721.503	781347.746	2745.567	TOP
4363	9978720.570	781346.784	2745.614	TOP
4364	9978720.494	781346.217	2745.625	TOP
4365	9978720.535	781345.721	2745.631	TOP
4366	9978720.739	781345.271	2745.631	TOP
4367	9978720.945	781344.843	2745.631	TOP
4368	9978721.091	781344.382	2745.632	TOP
4369	9978721.153	781343.894	2745.637	TOP
4370	9978721.260	781343.418	2745.641	TOP
4371	9978721.427	781342.960	2745.642	TOP
4372	9978721.622	781342.525	2745.638	TOP
4373	9978721.818	781342.076	2745.641	TOP
4374	9978722.022	781341.653	2745.636	TOP
4375	9978722.319	781341.263	2745.635	TOP
4376	9978722.522	781340.822	2745.630	TOP
4377	9978722.738	781340.387	2745.633	TOP
4378	9978722.914	781339.936	2745.633	TOP
4379	9978723.088	781339.488	2745.633	TOP
4380	9978723.244	781339.029	2745.633	TOP
4381	9978723.416	781338.574	2745.633	TOP
4382	9978723.528	781338.110	2745.636	TOP
4383	9978723.677	781337.642	2745.637	TOP
4384	9978724.392	781336.881	2745.621	TOP
4385	9978724.639	781336.454	2745.618	TOP
4386	9978724.820	781336.007	2745.617	TOP
4387	9978724.662	781335.425	2745.630	TOP
4388	9978724.402	781334.813	2745.647	TOP
4389	9978725.238	781334.596	2745.620	TOP
4390	9978725.301	781334.112	2745.624	TOP
4391	9978725.377	781333.637	2745.627	TOP
4392	9978725.997	781333.132	2745.632	TOP
4393	9978725.518	781332.659	2745.634	TOP
4394	9978725.680	781332.199	2745.633	TOP
4395	9978725.852	781331.750	2745.632	TOP
4396	9978726.215	781331.368	2745.624	TOP
4397	9978726.154	781330.908	2745.620	TOP
4398	9978726.517	781330.451	2745.629	TOP
4399	9978726.678	781329.986	2745.623	TOP
4400	9978726.896	781329.560	2745.620	TOP
4401	9978741.081	782532.544	2679.411	ASFALTO
4402	9978741.832	782531.970	2679.770	PIE TALUD
4403	9978720.652	782534.568	2678.251	ASFALTO
4404	9978718.366	782535.185	2678.522	BORDE
4405	9978746.213	782551.447	2678.283	ASFALTO
4406	9978746.983	782551.224	2678.651	PIE TALUD
4407	9978719.978	782543.577	2678.014	BORDE
4408	9978725.758	782547.878	2677.325	ASFALTO
4409	9978726.197	782549.353	2677.122	ASFALTO
4410	9978746.488	782571.906	2677.031	ASFALTO
4411	9978746.266	782572.727	2677.322	PIE TALUD
4412	9978728.125	782557.737	2676.476	ASFALTO
4413	9978727.258	782554.398	2677.210	BORDE
4414	9978729.486	782569.066	2675.704	ASFALTO
4415	9978729.449	782588.686	2675.947	ASFALTO
4416	9978729.951	782588.788	2676.223	PIE TALUD
4417	9978729.039	782563.485	2676.613	BORDE
4418	9978727.260	782570.737	2675.872	BORDE
4419	9978746.055	782603.456	2674.881	ASFALTO
4420	9978746.854	782603.514	2674.973	PIE TALUD
4421	9978728.487	781319.514	2745.660	TOP
4422	9978728.435	782582.067	2674.674	ASFALTO
4423	9978726.284	782582.541	2675.014	BORDE
4424	9978743.673	782618.653	2673.336	ASFALTO
4425	9978744.290	782618.641	2673.775	PIE TALUD
4426	9978727.144	782593.440	2674.033	ASFALTO
4427	9978722.474	782596.790	2673.776	BORDE
4428	9978720.425	782606.169	2673.197	BORDE
4429	9978728.902	781315.710	2745.673	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4430	9978728.426	781315.122	2745.897	TOP
4431	9978728.888	781314.741	2745.583	TOP
4432	9978729.098	781314.288	2745.678	TOP
4433	9978729.189	781313.819	2745.678	TOP
4434	9978729.222	781313.340	2745.680	TOP
4435	9978729.271	781312.859	2745.681	TOP
4436	9978729.266	781312.374	2745.681	TOP
4437	9978729.357	781311.900	2745.685	TOP
4438	9978729.310	781311.408	2745.688	TOP
4439	9978729.333	781310.930	2745.692	TOP
4440	9978729.327	781310.444	2745.695	TOP
4441	9978729.428	781309.975	2745.694	TOP
4442	9978729.499	781309.499	2745.694	TOP
4443	9978729.527	781309.026	2745.696	TOP
4444	9978729.596	781308.560	2745.699	TOP
4445	9978729.617	781308.082	2745.698	TOP
4446	9978729.694	781307.600	2745.698	TOP
4447	9978729.694	781307.124	2745.700	TOP
4448	9978729.747	781306.642	2745.701	TOP
4449	9978729.830	781306.170	2745.700	TOP
4450	9978729.876	781305.708	2745.701	TOP
4451	9978729.730	781305.207	2745.708	TOP
4452	9978729.545	781304.690	2745.718	TOP
4453	9978729.395	781304.195	2745.726	TOP
4454	9978729.721	781303.764	2745.715	TOP
4455	9978729.647	781303.277	2745.720	TOP
4456	9978729.087	781302.735	2745.743	TOP
4457	9978729.017	781302.250	2745.748	TOP
4458	9978729.029	781301.782	2745.749	TOP
4459	9978728.914	781301.308	2745.756	TOP
4460	9978728.904	781300.835	2745.758	TOP
4461	9978728.522	781300.325	2745.774	TOP
4462	9978728.419	781299.849	2745.779	TOP
4463	9978728.150	781299.352	2745.791	TOP
4464	9978727.961	781298.868	2745.800	TOP
4465	9978727.969	781298.401	2745.801	TOP
4466	9978727.934	781297.939	2745.804	TOP
4467	9978727.909	781297.467	2745.806	TOP
4468	9978727.273	781296.945	2745.831	TOP
4469	9978727.120	781296.468	2745.838	TOP
4470	9978727.272	781296.011	2745.833	TOP
4471	9978727.268	781295.547	2745.835	TOP
4472	9978727.445	781295.090	2745.829	TOP
4473	9978727.566	781294.622	2745.826	TOP
4474	9978727.560	781294.165	2745.827	TOP
4475	9978727.355	781293.677	2745.835	TOP
4476	9978727.264	781293.214	2745.839	TOP
4477	9978727.281	781292.762	2745.840	TOP
4478	9978727.313	781292.291	2745.839	TOP
4479	9978727.233	781291.818	2745.843	TOP
4480	9978726.624	781291.334	2745.866	TOP
4481	9978726.584	781290.864	2745.876	TOP
4482	9978726.060	781290.407	2745.888	TOP
4483	9978725.671	781289.932	2745.896	TOP
4484	9978725.528	781289.475	2745.909	TOP
4485	9978725.260	781289.005	2745.919	TOP
4486	9978725.188	781288.505	2745.922	TOP
4487	9978725.132	781288.043	2745.925	TOP
4488	9978725.027	781287.201	2745.929	TOP
4489	9978725.132	781286.740	2745.925	TOP
4490	9978724.991	781286.279	2745.930	TOP
4491	9978724.934	781285.833	2745.932	TOP
4492	9978724.884	781285.382	2745.934	TOP
4493	9978724.785	781284.933	2745.937	TOP
4494	9978724.776	781284.469	2745.937	TOP
4495	9978724.600	781284.020	2745.945	TOP
4496	9978724.465	781283.574	2745.948	TOP
4497	9978724.239	781283.123	2745.956	TOP
4498	9978724.185	781282.670	2745.957	TOP
4499	9978724.201	781282.210	2745.956	TOP
4500	9978724.055	781281.764	2745.961	TOP
4501	9978724.066	781281.305	2745.960	TOP
4502	9978723.866	781280.866	2745.967	TOP
4503	9978723.790	781280.417	2745.969	TOP
4504	9978723.778	781279.974	2745.968	TOP
4505	9978723.737	781279.504	2745.969	TOP
4506	9978723.643	781279.055	2745.972	TOP
4507	9978723.423	781278.634	2745.979	TOP
4508	9978723.271	781278.180	2745.981	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4509	9978722.892	781277.752	2745.997	TOP
4510	9978722.656	781277.313	2746.004	TOP
4511	9978722.616	781276.873	2746.005	TOP
4512	9978722.675	781276.413	2746.001	TOP
4513	9978722.767	781275.963	2745.996	TOP
4514	9978722.759	781275.514	2745.995	TOP
4515	9978722.853	781275.049	2745.990	TOP
4516	9978723.123	781274.566	2745.978	TOP
4517	9978723.295	781274.097	2745.970	TOP
4518	9978723.051	781273.615	2745.955	TOP
4519	9978723.849	781273.150	2745.946	TOP
4520	9978723.943	781272.681	2745.941	TOP
4521	9978723.913	781272.233	2745.940	TOP
4522	9978723.909	781271.763	2745.938	TOP
4523	9978723.888	781271.325	2745.937	TOP
4524	9978723.789	781270.877	2745.939	TOP
4525	9978723.734	781270.427	2745.939	TOP
4526	9978723.735	781269.965	2745.937	TOP
4527	9978723.585	781269.532	2745.940	TOP
4528	9978723.444	781269.080	2745.943	TOP
4529	9978723.310	781268.644	2745.946	TOP
4530	9978723.174	781268.213	2745.949	TOP
4531	9978723.075	781267.762	2745.950	TOP
4532	9978722.888	781267.323	2745.955	TOP
4533	9978722.824	781266.875	2745.955	TOP
4534	9978722.706	781266.443	2745.957	TOP
4535	9978722.852	781266.270	2745.975	TOP
4536	9978722.678	781266.842	2745.979	TOP
4537	9978721.588	781263.409	2745.979	TOP
4538	9978721.413	781262.970	2745.983	TOP
4539	9978721.301	781262.537	2745.984	TOP
4540	9978721.222	781262.084	2745.984	TOP
4541	9978721.139	781261.652	2745.984	TOP
4542	9978721.088	781261.208	2745.983	TOP
4543	9978721.029	781260.747	2745.981	TOP
4544	9978720.950	781260.308	2745.981	TOP
4545	9978720.706	781259.895	2745.987	TOP
4546	9978720.504	781259.478	2745.991	TOP
4547	9978720.306	781259.079	2745.996	TOP
4548	9978720.163	781258.648	2745.997	TOP
4549	9978719.938	781258.228	2746.002	TOP
4550	9978719.802	781257.799	2746.004	TOP
4551	9978719.741	781257.358	2746.002	TOP
4552	9978719.721	781256.906	2745.995	TOP
4553	9978719.666	781256.452	2745.998	TOP
4554	9978719.611	781256.001	2745.996	TOP
4555	9978719.442	781255.580	2745.998	TOP
4556	9978719.294	781255.151	2746.000	TOP
4557	9978719.222	781254.708	2745.998	TOP
4558	9978719.120	781254.264	2745.998	TOP
4559	9978719.021	781253.830	2745.998	TOP
4560	9978719.006	781253.364	2745.994	TOP
4561	9978718.872	781252.926	2745.995	TOP
4562	9978718.855	781252.470	2745.991	TOP
4563	9978718.691	781252.059	2745.993	TOP
4564	9978718.607	781251.607	2745.992	TOP
4565	9978718.560	781251.147	2745.989	TOP
4566	9978718.734	781250.635	2745.978	TOP
4567	9978718.800	781250.139	2745.970	TOP
4568	9978718.987	781249.613	2745.958	TOP
4569	9978718.939	781249.183	2745.957	TOP
4570	9978718.925	781248.723	2745.954	TOP
4571	9978718.821	781248.246	2745.948	TOP
4572	9978718.870	781247.754	2745.942	TOP
4573	9978718.861	781247.232	2745.929	TOP
4574	9978718.906	781246.795	2745.928	TOP
4575	9978718.933	781246.386	2745.932	TOP
4576	9978718.617	781245.944	2745.931	TOP
4577	9978718.553	781245.487	2745.928	TOP
4578	9978718.637	781244.979	2745.929	TOP
4579	9978718.732	781244.482	2745.931	TOP
4580	9978718.965	781243.919	2745.895	TOP
4581	9978718.991	781243.435	2745.880	TOP
4582	9978718.847	781242.982	2745.888	TOP
4583	9978718.649	781242.573	2745.890	TOP
4584	9978717.943	781242.135	2745.913	TOP
4585	9978717.673	781241.833	2745.917	TOP
4586	9978717.350	781241.564	2745.924	TOP
4587	9978716.538	781241.356	2745.949	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4588	9978716.682	781240.824	2745.938	TOP
4589	9978716.486	781240.417	2745.940	TOP
4590	9978716.306	781240.003	2745.941	TOP
4591	9978716.196	781239.567	2745.939	TOP
4592	9978715.967	781239.146	2745.942	TOP
4593	9978715.666	781238.781	2745.947	TOP
4594	9978715.449	781238.376	2745.950	TOP
4595	9978715.251	781237.974	2745.951	TOP
4596	9978715.101	781237.543	2745.951	TOP
4597	9978714.901	781237.132	2745.952	TOP
4598	9978714.928	781236.627	2745.944	TOP
4599	9978714.621	781236.259	2745.950	TOP
4600	9978714.569	781235.792	2745.945	TOP
4601	9978714.521	781235.333	2745.940	TOP
4602	9978714.355	781234.914	2745.940	TOP
4603	9978714.263	781234.444	2745.936	TOP
4604	9978714.107	781234.028	2745.936	TOP
4605	9978713.771	781233.670	2745.942	TOP
4606	9978712.319	781231.851	2745.965	TOP
4607	9978712.106	781231.463	2745.966	TOP
4608	9978710.846	781229.896	2742.594	TOP
4609	9978711.102	781230.284	2742.589	TOP
4610	9978711.581	781230.555	2742.569	TOP
4611	9978711.953	781230.885	2742.557	TOP
4612	9978712.405	781231.184	2742.539	TOP
4613	9978712.574	781231.594	2742.540	TOP
4614	9978713.745	781232.023	2742.541	TOP
4615	9978713.043	781232.375	2742.532	TOP
4616	9978713.271	781232.777	2742.529	TOP
4617	9978713.408	781233.207	2742.532	TOP
4618	9978713.624	781233.600	2742.529	TOP
4619	9978713.724	781234.042	2742.535	TOP
4620	9978714.507	781235.689	2742.529	TOP
4621	9978714.628	781236.128	2742.532	TOP
4622	9978714.782	781236.557	2742.533	TOP
4623	9978714.956	781236.969	2742.532	TOP
4624	9978715.101	781237.409	2742.534	TOP
4625	9978715.280	781237.821	2742.533	TOP
4626	9978715.440	781238.256	2742.534	TOP
4627	9978715.488	781238.721	2742.541	TOP
4628	9978715.534	781239.191	2742.549	TOP
4629	9978715.477	781239.694	2742.563	TOP
4630	9978715.606	781240.134	2742.565	TOP
4631	9978715.745	781240.560	2742.566	TOP
4632	9978715.951	781240.962	2742.563	TOP
4633	9978716.183	781241.362	2742.558	TOP
4634	9978716.371	781241.812	2742.562	TOP
4635	9978716.451	781242.298	2742.560	TOP
4636	9978716.714	781242.624	2742.552	TOP
4637	9978717.089	781243.963	2742.537	TOP
4638	9978717.259	781243.390	2742.536	TOP
4639	9978717.462	781243.803	2742.532	TOP
4640	9978717.528	781244.261	2742.537	TOP
4641	9978717.693	781244.686	2742.535	TOP
4642	9978717.872	781245.108	2742.533	TOP
4643	9978718.075	781245.990	2742.538	TOP
4644	9978718.185	781246.429	2742.539	TOP
4645	9978718.363	781246.848	2742.537	TOP
4646	9978718.394	781248.711	2742.568	TOP
4647	9978718.131	781249.271	2742.594	TOP
4648	9978718.279	781249.703	2742.593	TOP
4649	9978718.520	781250.095	2742.585	TOP
4650	9978718.713	781250.508	2742.580	TOP
4651	9978718.855	781250.943	2742.579	TOP
4652	9978718.928	781251.393	2742.582	TOP
4653	9978719.040	781251.836	2742.583	TOP
4654	9978719.131	781252.271	2742.584	TOP
4655	9978719.195	781252.723	2742.588	TOP
4656	9978719.280	781253.158	2742.580	TOP
4657	9978719.359	781253.619	2742.592	TOP
4658	9978719.471	781254.055	2742.592	TOP
4659	9978719.560	781254.492	2742.585	TOP
4660	9978719.577	781254.951	2742.599	TOP
4661	9978719.579	781255.419	2742.605	TOP
4662	9978719.740	781255.846	2742.602	TOP
4663	9978719.818	781256.292	2742.604	TOP
4664	9978719.899	781256.731	2742.602	TOP
4665	9978720.106	781257.153	2742.598	TOP
4666	9978720.197	781257.587	2742.599	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4667	9978720.261	781258.039	2742.601	TOP
4668	9978720.356	781258.482	2742.601	TOP
4669	9978720.501	781258.910	2742.598	TOP
4670	9978720.622	781259.330	2742.596	TOP
4671	9978720.712	781259.778	2742.596	TOP
4672	9978720.820	781260.204	2742.595	TOP
4673	9978720.817	781260.670	2742.600	TOP
4674	9978720.955	781261.100	2742.597	TOP
4675	9978721.104	781261.528	2742.593	TOP
4676	9978721.135	781261.977	2742.597	TOP
4677	9978721.260	781262.421	2742.594	TOP
4678	9978721.346	781262.865	2742.594	TOP
4679	9978721.494	781263.296	2742.589	TOP
4680	9978721.734	781263.719	2742.579	TOP
4681	9978721.767	781264.168	2742.582	TOP
4682	9978721.967	781264.591	2742.574	TOP
4683	9978722.072	781265.033	2742.572	TOP
4684	9978722.216	781265.476	2742.568	TOP
4685	9978722.309	781265.922	2742.566	TOP
4686	9978722.449	781266.355	2742.562	TOP
4687	9978722.555	781266.789	2742.559	TOP
4688	9978722.711	781267.226	2742.554	TOP
4689	9978722.881	781267.654	2742.547	TOP
4690	9978722.886	781268.119	2742.551	TOP
4691	9978722.894	781268.575	2742.554	TOP
4692	9978723.334	781271.264	2742.546	TOP
4693	9978723.306	781271.719	2742.553	TOP
4694	9978723.103	781272.196	2742.569	TOP
4695	9978722.828	781273.586	2742.596	TOP
4696	9978722.833	781274.023	2742.598	TOP
4697	9978722.830	781274.477	2742.601	TOP
4698	9978722.659	781274.944	2742.614	TOP
4699	9978722.652	781275.395	2742.617	TOP
4700	9978722.611	781275.858	2742.622	TOP
4701	9978722.766	781276.731	2742.617	TOP
4702	9978722.806	781277.191	2742.616	TOP
4703	9978722.889	781277.634	2742.613	TOP
4704	9978722.868	781278.088	2742.617	TOP
4705	9978722.836	781278.540	2742.620	TOP
4706	9978722.907	781278.980	2742.618	TOP
4707	9978723.093	781279.426	2742.608	TOP
4708	9978723.109	781279.878	2742.608	TOP
4709	9978723.174	781280.331	2742.606	TOP
4710	9978723.270	781280.771	2742.601	TOP
4711	9978723.320	781281.222	2742.599	TOP
4712	9978723.448	781281.660	2742.592	TOP
4713	9978723.495	781282.115	2742.591	TOP
4714	9978723.640	781283.020	2742.583	TOP
4715	9978723.607	781283.464	2742.586	TOP
4716	9978727.852	781318.012	2738.513	TOP
4717	9978727.831	781317.521	2738.524	TOP
4718	9978727.899	781317.043	2738.527	TOP
4719	9978724.693	781294.580	2739.069	TOP
4720	9978724.993	781294.128	2739.045	TOP
4721	9978725.102	781293.678	2739.037	TOP
4722	9978725.261	781293.225	2739.025	TOP
4723	9978725.343	781292.776	2739.020	TOP
4724	9978725.436	781292.324	2739.013	TOP
4725	9978725.419	781291.867	2739.016	TOP
4726	9978725.481	781291.395	2739.025	TOP
4727	9978725.467	781290.933	2739.034	TOP
4728	9978725.185	781290.480	2739.040	TOP
4729	9978725.100	781290.019	2739.049	TOP
4730	9978724.946	781289.564	2739.054	TOP
4731	9978724.266	781289.101	2739.081	TOP
4732	9978724.250	781288.646	2739.094	TOP
4733	9978724.250	781288.192	2739.105	TOP
4734	9978724.341	781287.746	2739.118	TOP
4735	9978724.111	781287.297	2739.179	TOP
4736	9978724.064	781286.835	2739.140	TOP
4737	9978723.992	781286.384	2739.149	TOP
4738	9978723.910	781285.937	2739.155	TOP
4739	9978723.825	781285.491	2739.162	TOP
4740	9978723.689	781285.045	2739.174	TOP
4741	9978723.576	781284.599	2739.183	TOP
4742	9978723.553	781284.142	2739.184	TOP
4743	9978723.453	781283.691	2739.192	TOP
4744	9978723.378	781283.248	2739.198	TOP
4745	9978723.164	781282.801	2739.215	TOP



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4746	9978723.118	781282.355	2739.218	TCP
4747	9978722.976	781281.501	2739.219	TCP
4748	9978723.003	781281.445	2739.225	TCP
4749	9978722.983	781281.001	2739.225	TCP
4750	9978723.000	781280.552	2739.212	TCP
4751	9978722.964	781280.105	2739.213	TCP
4752	9978723.002	781279.657	2739.218	TCP
4753	9978722.759	781279.209	2739.217	TCP
4754	9978722.518	781278.782	2739.255	TCP
4755	9978722.381	781278.344	2739.265	TCP
4756	9978722.267	781277.897	2739.272	TCP
4757	9978722.382	781277.431	2739.259	TCP
4758	9978722.413	781276.988	2739.254	TCP
4759	9978722.856	781276.494	2739.212	TCP
4760	9978722.786	781276.050	2739.215	TCP
4761	9978722.769	781275.618	2739.213	TCP
4762	9978722.747	781275.157	2739.211	TCP
4763	9978722.720	781274.918	2739.195	TCP
4764	9978723.031	781274.478	2739.163	TCP
4765	9978723.052	781271.966	2739.157	TCP
4766	9978722.975	781271.521	2739.159	TCP
4767	9978722.922	781271.084	2739.159	TCP
4768	9978722.872	781270.617	2739.150	TCP
4769	9978722.914	781270.170	2739.150	TCP
4770	9978722.764	781269.734	2739.158	TCP
4771	9978722.579	781269.295	2739.170	TCP
4772	9978722.476	781268.857	2739.173	TCP
4773	9978722.387	781268.412	2739.176	TCP
4774	9978722.466	781267.950	2739.163	TCP
4775	9978722.481	781267.480	2739.156	TCP
4776	9978722.356	781267.039	2739.161	TCP
4777	9978722.256	781266.602	2739.164	TCP
4778	9978722.181	781266.164	2739.165	TCP
4779	9978722.024	781265.725	2739.172	TCP
4780	9978721.871	781265.289	2739.180	TCP
4781	9978721.812	781264.846	2739.178	TCP
4782	9978721.714	781264.400	2739.180	TCP
4783	9978721.635	781263.954	2739.181	TCP
4784	9978721.643	781263.502	2739.173	TCP
4785	9978721.366	781263.091	2739.191	TCP
4786	9978721.217	781262.642	2739.195	TCP
4787	9978721.121	781262.203	2739.198	TCP
4788	9978721.027	781261.770	2739.199	TCP
4789	9978720.845	781261.342	2739.207	TCP
4790	9978720.716	781260.914	2739.211	TCP
4791	9978720.585	781260.485	2739.215	TCP
4792	9978720.332	781259.163	2739.213	TCP
4793	9978720.215	781258.730	2739.216	TCP
4794	9978720.157	781258.284	2739.212	TCP
4795	9978719.994	781257.857	2739.218	TCP
4796	9978719.929	781257.412	2739.215	TCP
4797	9978719.743	781256.988	2739.223	TCP
4798	9978719.695	781256.545	2739.218	TCP
4799	9978719.764	781256.096	2739.203	TCP
4800	9978719.712	781255.620	2739.198	TCP
4801	9978719.642	781255.164	2739.195	TCP
4802	9978719.581	781254.710	2739.190	TCP
4803	9978719.483	781254.282	2739.190	TCP
4804	9978719.372	781253.836	2739.190	TCP
4805	9978719.264	781253.400	2739.189	TCP
4806	9978719.169	781252.953	2739.188	TCP
4807	9978719.073	781252.503	2739.186	TCP
4808	9978719.024	781252.054	2739.180	TCP
4809	9978718.932	781251.617	2739.178	TCP
4810	9978718.836	781251.173	2739.175	TCP
4811	9978718.758	781250.721	2739.171	TCP
4812	9978718.645	781250.287	2739.170	TCP
4813	9978718.646	781249.810	2739.159	TCP
4814	9978718.566	781249.378	2739.155	TCP
4815	9978718.526	781248.909	2739.147	TCP
4816	9978718.436	781248.466	2739.144	TCP
4817	9978718.301	781248.031	2739.144	TCP
4818	9978718.243	781247.589	2739.138	TCP
4819	9978718.110	781247.154	2739.138	TCP
4820	9978718.041	781246.702	2739.132	TCP
4821	9978717.929	781246.274	2739.130	TCP
4822	9978717.334	781244.569	2739.134	TCP
4823	9978717.179	781244.134	2739.135	TCP
4824	9978717.122	781243.680	2739.127	TCP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4825	9978717.042	781243.216	2739.120	TCP
4826	9978716.986	781242.761	2739.112	TCP
4827	9978716.898	781242.309	2739.107	TCP
4828	9978716.792	781241.877	2739.103	TCP
4829	9978716.686	781241.421	2739.098	TCP
4830	9978716.513	781241.001	2739.100	TCP
4831	9978716.335	781240.573	2739.102	TCP
4832	9978716.274	781240.118	2739.093	TCP
4833	9978716.058	781239.713	2739.099	TCP
4834	9978715.898	781239.294	2739.099	TCP
4835	9978715.710	781238.874	2739.102	TCP
4836	9978715.501	781238.462	2739.106	TCP
4837	9978715.333	781238.052	2739.107	TCP
4838	9978715.245	781237.632	2739.107	TCP
4839	9978715.008	781237.204	2739.106	TCP
4840	9978714.813	781236.784	2739.109	TCP
4841	9978714.682	781236.348	2739.105	TCP
4842	9978714.519	781235.922	2739.104	TCP
4843	9978714.331	781235.511	2739.106	TCP
4844	9978714.205	781235.069	2739.102	TCP
4845	9978714.080	781234.635	2739.097	TCP
4846	9978713.932	781234.205	2739.095	TCP
4847	9978713.716	781233.802	2739.098	TCP
4848	9978713.545	781233.386	2739.098	TCP
4849	9978713.400	781232.973	2739.095	TCP
4850	9978713.252	781232.536	2739.092	TCP
4851	9978713.024	781232.135	2739.096	TCP
4852	9978712.908	781231.690	2739.089	TCP
4853	9978712.629	781231.312	2739.099	TCP
4854	9978712.329	781230.972	2739.110	TCP
4855	9978710.361	781228.888	2739.130	TCP
4856	9978710.092	781228.515	2739.137	TCP
4857	9978709.782	781228.152	2739.208	TCP
4858	9978708.630	781227.308	2735.875	TCP
4859	9978708.851	781227.676	2735.870	TCP
4860	9978709.198	781228.002	2735.852	TCP
4861	9978709.711	781228.263	2735.812	TCP
4862	9978710.078	781228.595	2735.791	TCP
4863	9978710.354	781228.961	2735.781	TCP
4864	9978710.892	781229.207	2735.738	TCP
4865	9978711.196	781229.559	2735.724	TCP
4866	9978711.495	781229.921	2735.710	TCP
4867	9978711.699	781230.331	2735.700	TCP
4868	9978711.940	781230.729	2735.703	TCP
4869	9978712.226	781231.087	2735.680	TCP
4870	9978712.476	781231.467	2735.682	TCP
4871	9978712.792	781231.822	2735.666	TCP
4872	9978713.017	781232.124	2735.661	TCP
4873	9978713.170	781232.644	2735.664	TCP
4874	9978713.409	781233.045	2735.657	TCP
4875	9978713.551	781233.462	2735.661	TCP
4876	9978713.796	781233.851	2735.653	TCP
4877	9978714.082	781234.218	2735.636	TCP
4878	9978714.338	781234.606	2735.629	TCP
4879	9978714.570	781235.005	2735.619	TCP
4880	9978714.757	781235.415	2735.620	TCP
4881	9978714.972	781235.811	2735.611	TCP
4882	9978715.153	781236.285	2735.610	TCP
4883	9978715.253	781236.687	2735.619	TCP
4884	9978715.360	781237.137	2735.626	TCP
4885	9978715.554	781237.544	2735.621	TCP
4886	9978715.715	781237.976	2735.625	TCP
4887	9978715.850	781238.389	2735.622	TCP
4888	9978716.016	781238.825	2735.624	TCP
4889	9978716.206	781239.256	2735.623	TCP
4890	9978716.354	781239.692	2735.627	TCP
4891	9978716.543	781240.138	2735.633	TCP
4892	9978716.643	781240.546	2735.630	TCP
4893	9978716.751	781240.990	2735.636	TCP
4894	9978716.856	781241.434	2735.638	TCP
4895	9978716.959	781241.885	2735.644	TCP
4896	9978717.160	781242.299	2735.638	TCP
4897	9978717.354	781242.708	2735.632	TCP
4898	9978717.468	781243.151	2735.636	TCP
4899	9978717.599	781243.586	2735.638	TCP
4900	9978717.742	781244.023	2735.638	TCP
4901	9978717.907	781244.450	2735.636	TCP
4902	9978718.049	781244.877	2735.636	TCP
4903	9978718.207	781245.302	2735.633	TCP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4904	9978718.272	781245.747	2735.845	TOP
4905	9978718.293	781246.194	2735.844	TOP
4906	9978718.432	781246.660	2735.659	TOP
4907	9978718.466	781247.110	2735.667	TOP
4908	9978718.460	781247.574	2735.683	TOP
4909	9978718.388	781248.081	2735.707	TOP
4910	9978718.443	781248.529	2735.716	TOP
4911	9978718.506	781248.987	2735.723	TOP
4912	9978718.540	781249.461	2735.735	TOP
4913	9978718.514	781249.929	2735.752	TOP
4914	9978718.615	781250.366	2735.754	TOP
4915	9978718.701	781250.812	2735.759	TOP
4916	9978718.809	781251.262	2735.761	TOP
4917	9978718.964	781251.686	2735.756	TOP
4918	9978719.183	781252.087	2735.744	TOP
4919	9978719.312	781252.525	2735.743	TOP
4920	9978719.510	781252.935	2735.733	TOP
4921	9978719.546	781253.398	2735.742	TOP
4922	9978719.595	781253.851	2735.749	TOP
4923	9978719.609	781254.318	2735.761	TOP
4924	9978719.645	781254.772	2735.769	TOP
4925	9978719.658	781255.224	2735.780	TOP
4926	9978719.775	781255.662	2735.778	TOP
4927	9978719.841	781256.125	2735.783	TOP
4928	9978719.877	781256.584	2735.791	TOP
4929	9978719.839	781257.040	2735.807	TOP
4930	9978719.890	781257.498	2735.813	TOP
4931	9978719.944	781257.945	2735.818	TOP
4932	9978720.062	781258.375	2735.815	TOP
4933	9978720.132	781258.812	2735.811	TOP
4934	9978720.411	781259.223	2735.797	TOP
4935	9978720.522	781259.653	2735.794	TOP
4936	9978720.640	781260.090	2735.791	TOP
4937	9978720.764	781260.516	2735.787	TOP
4938	9978720.853	781260.963	2735.787	TOP
4939	9978720.766	781261.437	2735.807	TOP
4940	9978720.736	781261.899	2735.820	TOP
4941	9978720.942	781262.310	2735.805	TOP
4942	9978721.069	781262.753	2735.801	TOP
4943	9978721.208	781263.180	2735.794	TOP
4944	9978721.339	781263.626	2735.788	TOP
4945	9978721.472	781264.055	2735.782	TOP
4946	9978721.559	781264.493	2735.780	TOP
4947	9978721.615	781264.949	2735.783	TOP
4948	9978721.703	781265.390	2735.781	TOP
4949	9978721.859	781265.823	2735.771	TOP
4950	9978722.043	781266.245	2735.758	TOP
4951	9978722.140	781266.699	2735.755	TOP
4952	9978722.194	781267.130	2735.734	TOP
4953	9978722.372	781267.578	2735.744	TOP
4954	9978722.478	781268.015	2735.739	TOP
4955	9978722.509	781268.471	2735.743	TOP
4956	9978722.630	781268.910	2735.736	TOP
4957	9978722.748	781269.349	2735.729	TOP
4958	9978722.784	781269.795	2735.732	TOP
4959	9978722.666	781270.280	2735.752	TOP
4960	9978722.736	781270.722	2735.750	TOP
4961	9978722.857	781271.160	2735.742	TOP
4962	9978722.883	781271.595	2735.745	TOP
4963	9978722.810	781272.066	2735.759	TOP
4964	9978722.338	781273.026	2735.824	TOP
4965	9978722.389	781273.465	2735.824	TOP
4966	9978721.952	781273.962	2735.878	TOP
4967	9978721.901	781274.402	2735.889	TOP
4968	9978721.954	781274.845	2735.888	TOP
4969	9978721.838	781275.328	2735.926	TOP
4970	9978721.894	781275.775	2735.926	TOP
4971	9978721.626	781276.221	2735.938	TOP
4972	9978721.822	781277.546	2735.927	TOP
4973	9978721.913	781277.993	2735.920	TOP
4974	9978721.960	781278.432	2735.918	TOP
4975	9978721.956	781278.886	2735.922	TOP
4976	9978722.151	781279.319	2735.903	TOP
4977	9978722.190	781279.761	2735.890	TOP
4978	9978722.516	781280.197	2735.867	TOP
4979	9978722.548	781280.648	2735.866	TOP
4980	9978722.632	781281.530	2735.861	TOP
4981	9978722.618	781281.987	2735.865	TOP
4982	9978722.674	781282.442	2735.865	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
4983	9978722.647	781282.887	2735.865	TOP
4984	9978722.612	781283.347	2735.871	TOP
4985	9978724.448	781290.078	2735.665	TOP
4986	9978724.190	781295.525	2735.669	TOP
4987	9978723.940	781295.962	2735.684	TOP
4988	9978723.727	781300.042	2735.681	TOP
4989	9978723.757	781300.496	2735.673	TOP
4990	9978723.559	781300.928	2735.690	TOP
4991	9978723.372	781301.365	2735.706	TOP
4992	9978723.287	781301.810	2735.710	TOP
4993	9978723.574	781303.677	2735.654	TOP
4994	9978723.621	781304.138	2735.642	TOP
4995	9978723.702	781304.611	2735.626	TOP
4996	9978723.860	781305.089	2735.601	TOP
4997	9978724.583	781306.101	2735.505	TOP
4998	9978727.163	781311.226	2735.127	TOP
4999	9978727.149	781311.689	2735.120	TOP
5000	9978727.627	781312.740	2735.045	TOP
5001	9978727.567	781313.215	2735.042	TOP
5002	9978727.496	781313.674	2735.041	TOP
5003	9978727.879	781314.127	2735.044	TOP
5004	9978727.279	781314.587	2735.045	TOP
5005	9978727.280	781315.072	2735.054	TOP
5006	9978727.254	781315.540	2735.026	TOP
5007	9978727.285	781316.031	2735.015	TOP
5008	9978727.173	781316.483	2735.014	TOP
5009	9978727.109	781316.955	2735.010	TOP
5010	9978727.083	781317.439	2735.001	TOP
5011	9978727.038	781317.905	2734.995	TOP
5012	9978727.004	781318.393	2734.986	TOP
5013	9978726.893	781318.853	2734.987	TOP
5014	9978726.774	781319.309	2734.989	TOP
5015	9978726.768	781319.790	2734.977	TOP
5016	9978726.676	781320.272	2734.974	TOP
5017	9978726.537	781320.729	2734.978	TOP
5018	9978726.346	781322.686	2734.946	TOP
5019	9978726.182	781323.079	2734.952	TOP
5020	9978726.118	781323.551	2734.945	TOP
5021	9978726.015	781324.025	2734.942	TOP
5022	9978725.875	781324.474	2734.944	TOP
5023	9978725.721	781324.934	2734.948	TOP
5024	9978725.544	781325.380	2734.953	TOP
5025	9978725.459	781325.856	2734.948	TOP
5026	9978725.330	781326.305	2734.948	TOP
5027	9978725.176	781326.756	2734.951	TOP
5028	9978725.077	781327.206	2734.948	TOP
5029	9978724.942	781327.678	2734.947	TOP
5030	9978724.908	781328.158	2734.935	TOP
5031	9978724.741	781328.597	2734.942	TOP
5032	9978724.664	781329.065	2734.932	TOP
5033	9978724.604	781329.550	2734.922	TOP
5034	9978724.474	781329.999	2734.921	TOP
5035	9978724.478	781330.494	2734.904	TOP
5036	9978724.337	781330.959	2734.903	TOP
5037	9978724.232	781331.421	2734.898	TOP
5038	9978723.996	781331.836	2734.909	TOP
5039	9978723.774	781332.274	2734.917	TOP
5040	9978723.619	781332.727	2734.917	TOP
5041	9978723.492	781333.184	2734.914	TOP
5042	9978723.343	781333.628	2734.914	TOP
5043	9978723.1873	781334.086	2734.913	TOP
5044	9978723.144	781334.541	2734.930	TOP
5045	9978723.074	781335.071	2734.936	TOP
5046	9978723.011	781335.610	2734.935	TOP
5047	9978722.823	781336.144	2734.940	TOP
5048	9978720.927	781336.649	2734.962	TOP
5049	9978720.219	781337.188	2734.964	TOP
5050	9978720.436	781337.673	2734.985	TOP
5051	9978720.613	781338.128	2734.979	TOP
5052	9978720.204	781338.595	2734.970	TOP
5053	9978720.004	781339.020	2734.975	TOP
5054	9978719.808	781339.466	2734.974	TOP
5055	9978719.595	781340.871	2734.975	TOP
5056	9978719.336	781342.297	2734.987	TOP
5057	9978719.117	781343.699	2734.995	TOP
5058	9978723.988	781356.345	2733.841	TOP
5059	9978723.738	781356.791	2733.843	TOP
5060	9978723.551	781357.264	2733.837	TOP
5061	9978723.321	781357.725	2733.836	TOP





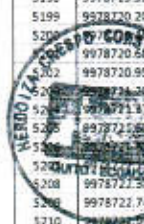
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5062	9978723.072	781358.168	2733.838	TOP
5063	9978722.815	781358.614	2733.840	TOP
5064	9978722.594	781359.061	2733.838	TOP
5065	9978722.413	781359.535	2733.831	TOP
5066	9978722.224	781360.004	2733.824	TOP
5067	9978721.971	781360.448	2733.825	TOP
5068	9978721.723	781360.897	2733.825	TOP
5069	9978721.512	781361.351	2733.821	TOP
5070	9978721.305	781361.813	2733.816	TOP
5071	9978721.040	781362.245	2733.818	TOP
5072	9978720.772	781362.675	2733.821	TOP
5073	9978720.519	781363.123	2733.820	TOP
5074	9978720.171	781363.508	2733.833	TOP
5075	9978719.923	781363.957	2733.831	TOP
5076	9978719.687	781364.397	2733.829	TOP
5077	9978719.315	781364.780	2733.843	TOP
5078	9978719.028	781365.202	2733.847	TOP
5079	9978718.749	781365.632	2733.849	TOP
5080	9978718.491	781366.068	2733.849	TOP
5081	9978718.244	781366.525	2733.856	TOP
5082	9978717.941	781367.023	2733.859	TOP
5083	9978717.663	781367.525	2733.861	TOP
5084	9978717.353	781368.027	2733.866	TOP
5085	9978717.053	781368.525	2733.870	TOP
5086	9978716.769	781369.027	2733.867	TOP
5087	9978716.494	781369.525	2733.865	TOP
5088	9978716.232	781370.027	2733.855	TOP
5089	9978715.978	781370.525	2733.847	TOP
5090	9978715.731	781371.027	2733.831	TOP
5091	9978715.483	781371.525	2733.818	TOP
5092	9978715.243	781372.027	2733.810	TOP
5093	9978715.007	781372.525	2733.796	TOP
5094	9978714.774	781373.027	2733.787	TOP
5095	9978714.543	781373.525	2733.783	TOP
5096	9978714.314	781374.027	2733.774	TOP
5097	9978714.087	781374.525	2733.764	TOP
5098	9978713.862	781375.027	2733.758	TOP
5099	9978713.639	781375.525	2733.749	TOP
5100	9978713.418	781376.027	2733.740	TOP
5101	9978713.199	781376.525	2733.729	TOP
5102	9978712.981	781377.027	2733.723	TOP
5103	9978712.764	781377.525	2733.717	TOP
5104	9978712.548	781378.027	2733.712	TOP
5105	9978712.333	781378.525	2733.707	TOP
5106	9978712.119	781379.027	2733.702	TOP
5107	9978711.906	781379.525	2733.697	TOP
5108	9978711.694	781380.027	2733.692	TOP
5109	9978711.483	781380.525	2733.687	TOP
5110	9978711.273	781381.027	2733.682	TOP
5111	9978711.064	781381.525	2733.677	TOP
5112	9978710.856	781382.027	2733.672	TOP
5113	9978710.649	781382.525	2733.667	TOP
5114	9978710.443	781383.027	2733.662	TOP
5115	9978710.238	781383.525	2733.657	TOP
5116	9978710.034	781384.027	2733.652	TOP
5117	9978709.831	781384.525	2733.647	TOP
5118	9978709.629	781385.027	2733.642	TOP
5119	9978709.427	781385.525	2733.637	TOP
5120	9978709.226	781386.027	2733.632	TOP
5121	9978709.026	781386.525	2733.627	TOP
5122	9978708.827	781387.027	2733.622	TOP
5123	9978708.629	781387.525	2733.617	TOP
5124	9978708.432	781388.027	2733.612	TOP
5125	9978708.236	781388.525	2733.607	TOP
5126	9978708.041	781389.027	2733.602	TOP
5127	9978707.847	781389.525	2733.597	TOP
5128	9978707.654	781390.027	2733.592	TOP
5129	9978707.462	781390.525	2733.587	TOP
5130	9978707.271	781391.027	2733.582	TOP
5131	9978707.081	781391.525	2733.577	TOP
5132	9978706.892	781392.027	2733.572	TOP
5133	9978706.704	781392.525	2733.567	TOP
5134	9978706.517	781393.027	2733.562	TOP
5135	9978706.331	781393.525	2733.557	TOP
5136	9978706.146	781394.027	2733.552	TOP
5137	9978705.962	781394.525	2733.547	TOP
5138	9978705.779	781395.027	2733.542	TOP
5139	9978705.597	781395.525	2733.537	TOP
5140	9978705.416	781396.027	2733.532	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5141	9978691.151	781415.920	2728.303	TOP
5142	9978691.580	781414.969	2728.305	TOP
5143	9978691.964	781414.570	2728.314	TOP
5144	9978692.427	781414.275	2728.305	TOP
5145	9978692.767	781413.829	2728.323	TOP
5146	9978693.007	781413.363	2728.362	TOP
5147	9978693.312	781412.755	2728.389	TOP
5148	9978693.766	781412.466	2728.379	TOP
5149	9978694.518	781406.521	2728.748	TOP
5150	9978694.961	781406.218	2728.738	TOP
5151	9978695.395	781405.894	2728.732	TOP
5152	9978703.964	781393.002	2729.348	TOP
5153	9978704.599	781391.466	2729.426	TOP
5154	9978704.836	781390.978	2729.446	TOP
5155	9978705.156	781390.559	2729.452	TOP
5156	9978705.415	781390.090	2729.468	TOP
5157	9978705.701	781389.647	2729.478	TOP
5158	9978706.035	781389.246	2729.480	TOP
5159	9978706.213	781388.716	2729.509	TOP
5160	9978706.471	781388.276	2729.522	TOP
5161	9978706.788	781387.852	2729.526	TOP
5162	9978710.728	781379.795	2729.799	TOP
5163	9978710.947	781379.312	2729.815	TOP
5164	9978711.013	781378.721	2729.857	TOP
5165	9978711.158	781378.208	2729.883	TOP
5166	9978711.400	781377.743	2729.894	TOP
5167	9978711.641	781377.280	2729.905	TOP
5168	9978711.807	781376.768	2729.928	TOP
5169	9978712.006	781376.269	2729.946	TOP
5170	9978712.216	781375.805	2729.960	TOP
5171	9978712.410	781375.321	2729.977	TOP
5172	9978712.656	781374.871	2729.985	TOP
5173	9978712.807	781374.355	2730.009	TOP
5174	9978713.066	781373.924	2730.014	TOP
5175	9978713.310	781373.479	2730.021	TOP
5176	9978713.575	781373.053	2730.025	TOP
5177	9978714.169	781372.240	2730.020	TOP
5178	9978714.524	781371.858	2730.009	TOP
5179	9978714.981	781371.550	2730.000	TOP
5180	9978715.163	781371.073	2730.000	TOP
5181	9978715.127	781370.584	2730.014	TOP
5182	9978715.549	781370.122	2730.023	TOP
5183	9978715.773	781369.657	2730.032	TOP
5184	9978716.081	781369.247	2730.027	TOP
5185	9978716.371	781368.833	2730.024	TOP
5186	9978716.597	781368.378	2730.031	TOP
5187	9978716.817	781367.921	2730.040	TOP
5188	9978716.992	781367.435	2730.055	TOP
5189	9978717.361	781367.062	2730.038	TOP
5190	9978717.673	781366.653	2730.031	TOP
5191	9978717.866	781366.188	2730.042	TOP
5192	9978718.097	781365.735	2730.047	TOP
5193	9978718.330	781365.281	2730.052	TOP
5194	9978718.560	781364.827	2730.057	TOP
5195	9978718.983	781364.471	2730.012	TOP
5196	9978719.341	781364.100	2730.015	TOP
5197	9978719.658	781363.700	2730.006	TOP
5198	9978719.928	781363.272	2730.003	TOP
5199	9978720.200	781362.838	2730.000	TOP
5200	9978720.581	781362.407	2730.000	TOP
5201	9978720.961	781361.947	2730.003	TOP
5202	9978720.952	781361.517	2730.000	TOP
5203	9978721.330	781361.081	2730.000	TOP
5204	9978721.475	781360.605	2730.010	TOP
5205	9978721.665	781360.152	2730.013	TOP
5206	9978721.855	781359.703	2730.012	TOP
5207	9978721.990	781359.291	2730.005	TOP
5208	9978722.285	781358.852	2730.003	TOP
5209	9978722.740	781358.473	2730.004	TOP
5210	9978722.950	781358.013	2730.006	TOP
5211	9978723.176	781357.548	2730.001	TOP
5212	9978723.392	781357.081	2730.019	TOP
5213	9978723.546	781356.638	2730.041	TOP
5214	9978723.559	781356.175	2730.074	TOP
5215	9978723.729	781355.800	2730.084	TOP
5216	9978723.007	781355.452	2730.231	TOP
5217	9978718.557	781349.698	2731.049	TOP
5218	9978718.417	781349.091	2731.103	TOP
5219	9978717.769	781348.263	2731.233	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5220	9978717.682	781347.693	2731.278	TOP
5221	9978717.543	781347.110	2731.329	TOP
5222	9978717.685	781346.635	2731.339	TOP
5223	9978717.791	781346.167	2731.353	TOP
5224	9978717.858	781345.664	2731.374	TOP
5225	9978718.012	781345.222	2731.379	TOP
5226	9978718.077	781344.741	2731.397	TOP
5227	9978718.231	781344.298	2731.403	TOP
5228	9978718.361	781343.831	2731.412	TOP
5229	9978718.508	781343.370	2731.419	TOP
5230	9978718.639	781342.925	2731.427	TOP
5231	9978718.727	781342.462	2731.441	TOP
5232	9978718.904	781342.018	2731.442	TOP
5233	9978719.021	781341.549	2731.452	TOP
5234	9978719.191	781341.122	2731.453	TOP
5235	9978719.479	781340.723	2731.437	TOP
5236	9978719.642	781340.285	2731.439	TOP
5237	9978719.860	781339.866	2731.432	TOP
5238	9978720.214	781339.506	2731.405	TOP
5239	9978720.419	781339.069	2731.401	TOP
5240	9978720.703	781338.666	2731.385	TOP
5241	9978720.893	781338.229	2731.387	TOP
5242	9978721.088	781337.799	2731.378	TOP
5243	9978721.296	781337.379	2731.372	TOP
5244	9978721.489	781336.939	2731.369	TOP
5245	9978721.836	781336.559	2731.342	TOP
5246	9978721.991	781336.102	2731.344	TOP
5247	9978722.212	781335.679	2731.335	TOP
5248	9978722.519	781335.286	2731.313	TOP
5249	9978722.684	781334.831	2731.313	TOP
5250	9978722.828	781334.383	2731.315	TOP
5251	9978722.962	781333.917	2731.319	TOP
5252	9978723.089	781333.460	2731.323	TOP
5253	9978723.290	781333.038	2731.315	TOP
5254	9978723.504	781332.596	2731.307	TOP
5255	9978723.696	781332.164	2731.300	TOP
5256	9978723.841	781331.712	2731.301	TOP
5257	9978723.931	781331.247	2731.309	TOP
5258	9978723.979	781330.761	2731.324	TOP
5259	9978724.004	781330.268	2731.341	TOP
5260	9978724.166	781329.830	2731.338	TOP
5261	9978724.259	781329.349	2731.346	TOP
5262	9978724.353	781328.894	2731.352	TOP
5263	9978724.452	781328.436	2731.357	TOP
5264	9978724.489	781327.947	2731.372	TOP
5265	9978724.445	781327.449	2731.397	TOP
5266	9978724.295	781326.898	2731.439	TOP
5267	9978724.425	781326.456	2731.439	TOP
5268	9978724.327	781325.936	2731.471	TOP
5269	9978724.570	781325.515	2731.455	TOP
5270	9978724.558	781325.027	2731.475	TOP
5271	9978724.649	781324.562	2731.480	TOP
5272	9978724.705	781324.076	2731.490	TOP
5273	9978724.691	781323.589	2731.509	TOP
5274	9978724.816	781323.144	2731.508	TOP
5275	9978724.741	781322.633	2731.536	TOP
5276	9978724.817	781322.157	2731.543	TOP
5277	9978724.860	781321.696	2731.553	TOP
5278	9978724.826	781321.191	2731.574	TOP
5279	9978724.877	781320.721	2731.583	TOP
5280	9978725.073	781320.292	2731.571	TOP
5281	9978725.229	781319.841	2731.565	TOP
5282	9978725.235	781319.352	2731.579	TOP
5283	9978725.372	781318.907	2731.575	TOP
5284	9978725.554	781318.468	2731.564	TOP
5285	9978725.621	781318.001	2731.569	TOP
5286	9978725.767	781317.558	2731.563	TOP
5287	9978725.724	781317.058	2731.583	TOP
5288	9978725.948	781316.621	2731.566	TOP
5289	9978725.809	781316.121	2731.599	TOP
5290	9978725.859	781315.661	2731.605	TOP
5291	9978725.554	781315.129	2731.662	TOP
5292	9978725.636	781314.665	2731.663	TOP
5293	9978725.531	781314.166	2731.691	TOP
5294	9978725.375	781313.652	2731.726	TOP
5295	9978725.639	781313.241	2731.700	TOP
5296	9978725.227	781312.698	2731.770	TOP
5297	9978725.274	781312.236	2731.776	TOP
5298	9978725.172	781311.740	2731.802	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5299	9978725.918	781311.282	2731.793	TOP
5300	9978724.823	781310.738	2731.874	TOP
5301	9978724.708	781310.248	2731.901	TOP
5302	9978724.443	781309.738	2731.949	TOP
5303	9978723.755	781309.155	2732.056	TOP
5304	9978723.703	781308.678	2732.073	TOP
5305	9978723.651	781308.205	2732.091	TOP
5306	9978723.566	781307.742	2732.112	TOP
5307	9978723.498	781307.272	2732.131	TOP
5308	9978723.627	781306.832	2732.122	TOP
5309	9978723.611	781306.360	2732.134	TOP
5310	9978723.449	781305.873	2732.165	TOP
5311	9978723.529	781305.426	2732.169	TOP
5312	9978723.565	781304.970	2732.166	TOP
5313	9978723.060	781302.173	2732.282	TOP
5314	9978723.110	781301.724	2732.282	TOP
5315	9978723.145	781301.272	2732.284	TOP
5316	9978723.158	781300.811	2732.289	TOP
5317	9978723.194	781300.375	2732.290	TOP
5318	9978723.018	781299.909	2732.320	TOP
5319	9978722.890	781299.442	2732.344	TOP
5320	9978722.812	781298.967	2732.361	TOP
5321	9978722.717	781298.522	2732.379	TOP
5322	9978722.558	781298.060	2732.406	TOP
5323	9978722.617	781297.625	2732.403	TOP
5324	9978722.857	781297.194	2732.375	TOP
5325	9978722.791	781296.724	2732.388	TOP
5326	9978722.784	781296.271	2732.394	TOP
5327	9978722.866	781295.813	2732.386	TOP
5328	9978723.018	781295.381	2732.369	TOP
5329	9978722.999	781294.937	2732.376	TOP
5330	9978723.002	781294.488	2732.375	TOP
5331	9978722.980	781294.021	2732.385	TOP
5332	9978722.964	781293.575	2732.390	TOP
5333	9978722.966	781293.123	2732.383	TOP
5334	9978723.077	781292.683	2732.380	TOP
5335	9978723.277	781292.242	2732.355	TOP
5336	9978723.705	781291.807	2732.298	TOP
5337	9978723.741	781291.339	2732.295	TOP
5338	9978723.713	781290.891	2732.301	TOP
5339	9978723.673	781290.442	2732.308	TOP
5340	9978723.656	781289.992	2732.312	TOP
5341	9978723.477	781289.535	2732.339	TOP
5342	9978723.390	781289.082	2732.351	TOP
5343	9978723.123	781288.623	2732.389	TOP
5344	9978723.074	781288.174	2732.396	TOP
5345	9978722.928	781287.735	2732.417	TOP
5346	9978722.724	781287.285	2732.445	TOP
5347	9978722.595	781286.835	2732.463	TOP
5348	9978722.434	781286.392	2732.485	TOP
5349	9978722.408	781285.953	2732.488	TOP
5350	9978722.327	781285.512	2732.499	TOP
5351	9978722.253	781285.064	2732.508	TOP
5352	9978722.285	781284.618	2732.503	TOP
5353	9978722.288	781284.173	2732.501	TOP
5354	9978722.368	781283.722	2732.489	TOP
5355	9978722.375	781283.280	2732.486	TOP
5356	9978722.352	781282.831	2732.487	TOP
5357	9978722.325	781282.389	2732.503	TOP
5358	9978722.216	781281.928	2732.502	TOP
5359	9978722.216	781281.482	2732.499	TOP
5360	9978722.216	781281.035	2732.496	TOP
5361	9978722.131	781280.566	2732.502	TOP
5362	9978722.062	781280.148	2732.512	TOP
5363	9978721.925	781279.707	2732.527	TOP
5364	9978721.800	781279.255	2732.541	TOP
5365	9978721.682	781278.828	2732.554	TOP
5366	9978721.687	781278.383	2732.552	TOP
5367	9978721.733	781277.933	2732.539	TOP
5368	9978721.691	781277.485	2732.540	TOP
5369	9978721.529	781277.048	2732.559	TOP
5370	9978721.444	781276.609	2732.565	TOP
5371	9978721.400	781276.167	2732.566	TOP
5372	9978721.454	781275.724	2732.554	TOP
5373	9978721.478	781275.269	2732.545	TOP
5374	9978721.706	781274.799	2732.508	TOP
5375	9978721.739	781274.345	2732.497	TOP
5376	9978722.061	781273.869	2732.446	TOP
5377	9978722.298	781273.405	2732.408	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5378	9978722.737	781272.909	2732.340	TOP
5379	9978722.853	781271.434	2732.317	TOP
5380	9978723.086	781271.958	2732.276	TOP
5381	9978723.144	781271.502	2732.269	TOP
5382	9978723.259	781271.037	2732.239	TOP
5383	9978723.187	781270.591	2732.242	TOP
5384	9978723.092	781270.144	2732.247	TOP
5385	9978723.036	781269.693	2732.247	TOP
5386	9978722.971	781269.239	2732.248	TOP
5387	9978722.931	781268.793	2732.245	TOP
5388	9978722.839	781268.356	2732.249	TOP
5389	9978722.657	781267.910	2732.266	TOP
5390	9978722.536	781267.471	2732.274	TOP
5391	9978722.432	781267.024	2732.279	TOP
5392	9978722.285	781266.594	2732.290	TOP
5393	9978722.266	781266.145	2732.283	TOP
5394	9978722.158	781265.712	2732.288	TOP
5395	9978722.055	781265.255	2732.292	TOP
5396	9978722.046	781264.801	2732.283	TOP
5397	9978721.971	781264.349	2732.283	TOP
5398	9978721.876	781263.884	2732.272	TOP
5399	9978721.996	781263.437	2732.258	TOP
5400	9978721.885	781262.988	2732.262	TOP
5401	9978721.827	781262.537	2732.259	TOP
5402	9978721.835	781262.076	2732.247	TOP
5403	9978721.831	781261.618	2732.235	TOP
5404	9978721.771	781261.171	2732.239	TOP
5405	9978721.588	781260.737	2732.245	TOP
5406	9978721.413	781260.319	2732.257	TOP
5407	9978721.320	781259.867	2732.258	TOP
5408	9978721.122	781259.454	2732.273	TOP
5409	9978720.937	781259.039	2732.286	TOP
5410	9978720.796	781258.602	2732.293	TOP
5411	9978720.653	781258.172	2732.299	TOP
5412	9978720.534	781257.741	2732.305	TOP
5413	9978720.451	781257.291	2732.300	TOP
5414	9978720.320	781256.859	2732.305	TOP
5415	9978720.331	781256.398	2732.289	TOP
5416	9978720.224	781255.953	2732.289	TOP
5417	9978720.083	781255.528	2732.295	TOP
5418	9978719.983	781255.082	2732.294	TOP
5419	9978719.844	781254.652	2732.298	TOP
5420	9978719.667	781254.232	2732.308	TOP
5421	9978719.549	781253.791	2732.309	TOP
5422	9978719.410	781253.355	2732.313	TOP
5423	9978719.327	781252.912	2732.308	TOP
5424	9978719.201	781252.480	2732.310	TOP
5425	9978719.086	781252.037	2732.310	TOP
5426	9978718.940	781251.614	2732.314	TOP
5427	9978718.811	781251.186	2732.315	TOP
5428	9978718.766	781250.723	2732.304	TOP
5429	9978718.814	781250.254	2732.280	TOP
5430	9978718.760	781249.787	2732.270	TOP
5431	9978718.670	781249.280	2732.236	TOP
5432	9978718.968	781248.787	2732.204	TOP
5433	9978718.914	781248.324	2732.193	TOP
5434	9978718.951	781247.837	2732.169	TOP
5435	9978718.885	781247.383	2732.159	TOP
5436	9978718.881	781246.916	2732.141	TOP
5437	9978718.855	781246.445	2732.125	TOP
5438	9978718.814	781245.981	2732.111	TOP
5439	9978718.704	781245.516	2732.107	TOP
5440	9978718.604	781245.091	2732.102	TOP
5441	9978718.559	781244.631	2732.089	TOP
5442	9978718.450	781244.190	2732.083	TOP
5443	9978718.323	781243.752	2732.081	TOP
5444	9978718.167	781243.318	2732.082	TOP
5445	9978717.911	781242.923	2732.098	TOP
5446	9978717.759	781242.502	2732.099	TOP
5447	9978717.549	781242.099	2732.108	TOP
5448	9978717.478	781241.625	2732.098	TOP
5449	9978717.344	781241.186	2732.093	TOP
5450	9978717.267	781240.719	2732.082	TOP
5451	9978717.128	781240.293	2732.080	TOP
5452	9978717.120	781239.806	2732.057	TOP
5453	9978716.908	781239.402	2732.066	TOP
5454	9978716.777	781238.958	2732.074	TOP
5455	9978716.526	781238.562	2732.074	TOP
5536	9978718.040	781242.573	2728.556	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5457	9978716.059	781237.772	2732.096	TOP
5458	9978715.789	781237.382	2732.111	TOP
5459	9978715.729	781236.910	2732.095	TOP
5460	9978715.647	781236.460	2732.083	TOP
5461	9978715.658	781235.943	2732.055	TOP
5462	9978715.387	781235.571	2732.070	TOP
5463	9978715.071	781235.212	2732.092	TOP
5464	9978714.740	781234.852	2732.116	TOP
5465	9978714.541	781234.440	2732.119	TOP
5466	9978714.101	781234.134	2732.159	TOP
5467	9978713.784	781233.769	2732.180	TOP
5468	9978713.676	781233.326	2732.169	TOP
5469	9978713.506	781232.917	2732.168	TOP
5470	9978713.324	781232.508	2732.169	TOP
5471	9978712.858	781232.204	2732.211	TOP
5472	9978712.696	781231.788	2732.209	TOP
5473	9978712.457	781231.396	2732.217	TOP
5474	9978712.183	781231.027	2732.230	TOP
5475	9978711.951	781230.633	2732.237	TOP
5476	9978711.765	781230.213	2732.236	TOP
5477	9978711.589	781229.797	2732.234	TOP
5478	9978711.068	781229.546	2732.285	TOP
5479	9978710.701	781229.214	2732.311	TOP
5480	9978710.381	781228.875	2732.331	TOP
5481	9978710.125	781228.500	2732.340	TOP
5482	9978709.442	781228.316	2732.415	TOP
5483	9978709.421	781227.825	2732.387	TOP
5484	9978709.299	781227.397	2732.377	TOP
5485	9978708.815	781227.126	2732.420	TOP
5486	9978708.551	781226.769	2732.431	TOP
5487	9978708.286	781226.398	2732.440	TOP
5488	9978708.061	781225.997	2732.443	TOP
5489	9978707.683	781225.692	2732.470	TOP
5490	9978706.312	781225.087	2732.190	TOP
5491	9978706.673	781225.410	2729.162	TOP
5492	9978707.021	781225.718	2729.134	TOP
5493	9978707.362	781226.043	2729.109	TOP
5494	9978707.607	781226.414	2729.101	TOP
5495	9978707.818	781226.816	2729.100	TOP
5496	9978707.999	781227.231	2729.104	TOP
5497	9978708.231	781227.608	2729.097	TOP
5498	9978708.417	781228.009	2729.099	TOP
5499	9978708.671	781228.384	2729.089	TOP
5500	9978708.996	781228.718	2729.065	TOP
5501	9978709.368	781229.047	2729.033	TOP
5502	9978709.743	781229.360	2729.000	TOP
5503	9978710.046	781229.715	2728.979	TOP
5504	9978710.339	781230.078	2728.961	TOP
5505	9978710.715	781230.398	2728.938	TOP
5506	9978710.991	781230.769	2728.912	TOP
5507	9978711.194	781231.184	2728.910	TOP
5508	9978711.354	781231.585	2728.913	TOP
5509	9978711.523	781232.001	2728.916	TOP
5510	9978711.863	781232.356	2728.888	TOP
5511	9978712.362	781232.616	2728.851	TOP
5512	9978712.531	781233.041	2728.831	TOP
5513	9978712.895	781233.371	2728.800	TOP
5514	9978713.228	781233.716	2728.772	TOP
5515	9978713.579	781234.042	2728.740	TOP
5516	9978713.947	781234.423	2728.724	TOP
5517	9978714.304	781234.815	2728.710	TOP
5518	9978714.522	781235.135	2728.666	TOP
5519	9978714.781	781235.506	2728.650	TOP
5520	9978715.066	781235.883	2728.627	TOP
5521	9978715.292	781236.292	2728.620	TOP
5522	9978715.518	781236.682	2728.607	TOP
5523	9978715.744	781237.092	2728.600	TOP
5524	9978716.000	781237.489	2728.585	TOP
5525	9978716.121	781237.930	2728.592	TOP
5526	9978716.318	781238.330	2728.581	TOP
5527	9978716.508	781238.764	2728.582	TOP
5528	9978716.675	781239.181	2728.580	TOP
5529	9978716.784	781239.636	2728.589	TOP
5530	9978716.915	781240.063	2728.593	TOP
5531	9978717.160	781240.454	2728.577	TOP
5532	9978717.306	781240.896	2728.579	TOP
5533	9978717.577	781241.287	2728.559	TOP
5534	9978717.767	781241.714	2728.553	TOP
5535	9978717.890	781242.158	2728.557	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5537	9978718.174	781243.020	2728.559	TOP
5538	9978718.378	781243.429	2728.549	TOP
5539	9978718.488	781243.886	2728.556	TOP
5540	9978718.632	781244.326	2728.556	TOP
5541	9978718.666	781244.777	2728.573	TOP
5542	9978718.764	781245.227	2728.581	TOP
5543	9978718.788	781245.704	2728.601	TOP
5544	9978718.808	781246.175	2728.621	TOP
5545	9978718.885	781246.617	2728.630	TOP
5546	9978718.978	781247.064	2728.638	TOP
5547	9978719.079	781247.523	2728.651	TOP
5548	9978719.017	781248.000	2728.676	TOP
5549	9978718.996	781248.482	2728.702	TOP
5550	9978719.014	781248.949	2728.720	TOP
5551	9978719.206	781249.368	2728.709	TOP
5552	9978719.270	781249.817	2728.719	TOP
5553	9978719.380	781250.253	2728.722	TOP
5554	9978719.504	781250.705	2728.722	TOP
5555	9978719.550	781251.155	2728.734	TOP
5556	9978719.644	781251.601	2728.738	TOP
5557	9978719.804	781252.026	2728.731	TOP
5558	9978719.942	781252.454	2728.727	TOP
5559	9978720.155	781252.870	2728.711	TOP
5560	9978720.261	781253.320	2728.712	TOP
5561	9978720.440	781253.750	2728.701	TOP
5562	9978720.500	781254.205	2728.710	TOP
5563	9978720.605	781254.635	2728.710	TOP
5564	9978720.703	781255.087	2728.712	TOP
5565	9978720.850	781255.524	2728.705	TOP
5566	9978721.011	781255.952	2728.694	TOP
5567	9978721.117	781256.399	2728.695	TOP
5568	9978721.208	781256.846	2728.697	TOP
5569	9978721.292	781257.278	2728.699	TOP
5570	9978721.360	781257.737	2728.705	TOP
5571	9978721.393	781258.197	2728.716	TOP
5572	9978721.507	781258.642	2728.713	TOP
5573	9978721.625	781259.065	2728.708	TOP
5574	9978721.719	781259.508	2728.708	TOP
5575	9978721.793	781259.959	2728.711	TOP
5576	9978721.931	781260.387	2728.703	TOP
5577	9978721.982	781260.844	2728.709	TOP
5578	9978722.142	781261.269	2728.697	TOP
5579	9978722.246	781261.710	2728.693	TOP
5580	9978722.364	781262.152	2728.688	TOP
5581	9978722.563	781262.583	2728.660	TOP
5582	9978722.748	781263.008	2728.651	TOP
5583	9978722.925	781263.444	2728.635	TOP
5584	9978723.061	781263.881	2728.625	TOP
5585	9978723.199	781264.353	2728.648	TOP
5586	9978723.349	781264.835	2728.669	TOP
5587	9978723.504	781265.298	2728.689	TOP
5588	9978723.635	781265.755	2728.696	TOP
5589	9978723.845	781266.227	2728.722	TOP
5590	9978723.862	781266.682	2728.731	TOP
5591	9978723.935	781267.143	2728.730	TOP
5592	9978723.954	781267.587	2728.738	TOP
5593	9978723.023	781268.047	2728.737	TOP
5594	9978723.085	781268.512	2728.754	TOP
5595	9978723.085	781268.957	2728.751	TOP
5596	9978723.093	781269.406	2728.716	TOP
5597	9978723.048	781269.878	2728.773	TOP
5598	9978723.969	781270.345	2728.796	TOP
5599	9978723.930	781270.804	2728.810	TOP
5600	9978723.932	781271.254	2728.820	TOP
5601	9978723.861	781271.713	2728.840	TOP
5602	9978723.805	781272.173	2728.857	TOP
5603	9978723.529	781272.654	2728.911	TOP
5604	9978723.497	781273.108	2728.904	TOP
5605	9978723.405	781273.558	2728.946	TOP
5606	9978723.236	781274.025	2728.982	TOP
5607	9978723.165	781274.478	2729.000	TOP
5608	9978723.960	781274.942	2729.041	TOP
5609	9978723.914	781275.404	2729.055	TOP
5610	9978723.656	781275.876	2729.104	TOP
5611	9978723.713	781276.310	2729.100	TOP
5612	9978723.730	781276.749	2729.103	TOP
5613	9978723.676	781277.216	2729.118	TOP
5614	9978723.653	781277.660	2729.127	TOP
5615	9978723.615	781278.117	2729.138	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5616	9978723.625	781278.558	2729.141	TOP
5617	9978723.648	781279.001	2729.142	TOP
5618	9978723.716	781279.455	2729.136	TOP
5619	9978723.822	781279.884	2729.122	TOP
5620	9978723.899	781280.339	2729.113	TOP
5621	9978723.886	781280.771	2729.119	TOP
5622	9978723.844	781281.228	2729.129	TOP
5623	9978723.875	781281.662	2729.127	TOP
5624	9978723.909	781282.112	2729.125	TOP
5625	9978723.949	781282.571	2729.121	TOP
5626	9978723.958	781283.016	2729.121	TOP
5627	9978723.995	781283.459	2729.118	TOP
5628	9978723.983	781283.901	2729.111	TOP
5629	9978723.072	781284.346	2729.108	TOP
5630	9978723.140	781284.800	2729.099	TOP
5631	9978723.201	781285.241	2729.090	TOP
5632	9978723.214	781285.683	2729.088	TOP
5633	9978723.208	781286.118	2729.090	TOP
5634	9978723.379	781286.564	2729.083	TOP
5635	9978723.515	781287.009	2729.040	TOP
5636	9978723.714	781287.461	2729.008	TOP
5637	9978723.787	781287.902	2729.995	TOP
5638	9978723.998	781288.347	2729.960	TOP
5639	9978723.048	781288.799	2729.951	TOP
5640	9978723.071	781289.247	2729.946	TOP
5641	9978723.099	781289.708	2729.940	TOP
5642	9978723.136	781290.602	2729.915	TOP
5643	9978723.301	781291.049	2729.902	TOP
5644	9978723.360	781291.510	2729.890	TOP
5645	9978723.004	781292.850	2729.940	TOP
5646	9978723.924	781293.302	2729.950	TOP
5647	9978723.893	781293.735	2729.952	TOP
5648	9978723.618	781294.177	2729.993	TOP
5649	9978723.563	781294.631	2729.998	TOP
5650	9978723.270	781295.064	2729.042	TOP
5651	9978723.201	781295.503	2729.049	TOP
5652	9978723.145	781295.956	2729.053	TOP
5653	9978723.139	781296.399	2729.049	TOP
5654	9978723.184	781296.866	2729.036	TOP
5655	9978723.287	781297.325	2729.014	TOP
5656	9978723.469	781297.777	2729.978	TOP
5657	9978723.489	781298.231	2729.969	TOP
5658	9978723.597	781298.686	2729.945	TOP
5659	9978723.575	781299.134	2729.942	TOP
5660	9978723.512	781299.585	2729.946	TOP
5661	9978723.508	781300.030	2729.940	TOP
5662	9978723.500	781300.475	2729.932	TOP
5663	9978723.672	781300.936	2729.898	TOP
5664	9978723.744	781301.404	2729.879	TOP
5665	9978723.854	781301.869	2729.852	TOP
5666	9978723.907	781302.331	2729.835	TOP
5667	9978723.913	781302.785	2729.826	TOP
5668	9978723.244	781303.151	2729.928	TOP
5669	9978723.022	781303.586	2729.955	TOP
5670	9978723.011	781304.029	2729.948	TOP
5671	9978723.978	781304.493	2729.944	TOP
5672	9978723.015	781304.940	2729.928	TOP
5673	9978723.972	781305.399	2729.925	TOP
5674	9978723.085	781305.857	2729.902	TOP
5675	9978723.110	781306.331	2729.886	TOP
5676	9978723.160	781306.773	2729.871	TOP
5677	9978723.260	781307.018	2729.874	TOP
5678	9978723.384	781307.145	2729.880	TOP
5679	9978723.576	781307.832	2729.867	TOP
5680	9978723.580	781308.428	2729.830	TOP
5681	9978723.580	781309.269	2729.864	TOP
5682	9978723.145	781310.744	2729.844	TOP
5683	9978723.873	781312.154	2729.874	TOP
5684	9978723.655	781313.579	2729.887	TOP
5685	9978723.871	781314.991	2729.841	TOP
5686	9978723.926	781316.478	2729.844	TOP
5687	9978723.539	781317.937	2729.872	TOP
5688	9978723.440	781319.387	2729.869	TOP
5689	9978723.468	781320.771	2729.846	TOP
5690	9978723.312	781321.706	2729.853	TOP
5691	9978723.324	781322.195	2729.831	TOP
5692	9978723.316	781322.662	2729.813	TOP
5693	9978723.365	781323.149	2729.885	TOP
5694	9978723.749	781324.219	2729.878	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5695	9978722.743	781324.712	2728.157	TOP
5696	9978722.488	781325.598	2728.158	TOP
5697	9978722.347	781326.039	2728.160	TOP
5698	9978722.535	781326.516	2728.140	TOP
5699	9978722.098	781326.937	2728.158	TOP
5700	9978721.950	781327.380	2728.160	TOP
5701	9978721.933	781327.853	2728.140	TOP
5702	9978722.069	781328.843	2728.022	TOP
5703	9978722.041	781330.928	2728.002	TOP
5704	9978721.928	781330.778	2727.997	TOP
5705	9978721.830	781331.237	2727.988	TOP
5706	9978721.906	781331.759	2727.950	TOP
5707	9978721.721	781332.188	2727.956	TOP
5708	9978721.058	781332.675	2727.940	TOP
5709	9978721.674	781333.162	2727.911	TOP
5710	9978721.609	781333.650	2727.895	TOP
5711	9978721.515	781334.110	2727.885	TOP
5712	9978721.452	781334.602	2727.868	TOP
5713	9978721.094	781335.188	2727.798	TOP
5714	9978721.579	781335.643	2727.790	TOP
5715	9978721.533	781336.128	2727.770	TOP
5716	9978721.292	781336.587	2727.766	TOP
5717	9978721.241	781337.038	2727.763	TOP
5718	9978720.848	781337.394	2727.803	TOP
5719	9978720.665	781337.899	2727.805	TOP
5720	9978720.408	781338.241	2727.820	TOP
5721	9978720.291	781338.693	2727.811	TOP
5722	9978720.094	781339.142	2727.814	TOP
5723	9978719.949	781339.594	2727.809	TOP
5724	9978719.789	781340.033	2727.807	TOP
5725	9978719.657	781340.495	2727.799	TOP
5726	9978719.490	781340.952	2727.797	TOP
5727	9978719.321	781341.376	2727.795	TOP
5728	9978719.085	781341.777	2727.805	TOP
5729	9978718.859	781342.200	2727.813	TOP
5730	9978718.720	781342.640	2727.805	TOP
5731	9978718.624	781343.121	2727.789	TOP
5732	9978718.481	781343.569	2727.781	TOP
5733	9978718.285	781344.005	2727.782	TOP
5734	9978718.130	781344.445	2727.777	TOP
5735	9978717.938	781344.879	2727.777	TOP
5736	9978717.777	781345.324	2727.771	TOP
5737	9978717.661	781345.785	2727.757	TOP
5738	9978717.497	781346.237	2727.751	TOP
5739	9978717.333	781346.693	2727.616	TOP
5740	9978717.941	781348.014	2727.542	TOP
5741	9978717.896	781348.519	2727.534	TOP
5742	9978717.951	781349.099	2727.480	TOP
5743	9978717.920	781349.604	2727.453	TOP
5744	9978718.305	781350.319	2727.345	TOP
5745	9978718.704	781351.058	2727.234	TOP
5746	9978720.153	781352.913	2726.929	TOP
5747	9978720.387	781352.962	2726.848	TOP
5748	9978720.716	781353.685	2726.746	TOP
5749	9978720.761	781354.280	2726.696	TOP
5750	9978722.346	781356.211	2726.310	TOP
5751	9978722.208	781356.704	2726.303	TOP
5752	9978722.020	781357.176	2726.295	TOP
5753	9978721.840	781357.648	2726.285	TOP
5754	9978721.730	781358.158	2726.281	TOP
5755	9978721.534	781358.631	2726.253	TOP
5756	9978721.248	781359.096	2726.263	TOP
5757	9978720.792	781359.931	2726.258	TOP
5758	9978720.499	781360.347	2726.268	TOP
5759	9978720.230	781360.776	2726.272	TOP
5760	9978719.618	781361.571	2726.295	TOP
5761	9978719.104	781362.445	2726.298	TOP
5762	9978718.898	781362.910	2726.289	TOP
5763	9978718.782	781363.763	2726.347	TOP
5764	9978718.519	781364.163	2726.350	TOP
5765	9978716.229	781366.598	2726.353	TOP
5766	9978715.923	781366.983	2726.362	TOP
5767	9978715.533	781367.355	2726.381	TOP
5768	9978715.201	781367.732	2726.397	TOP
5769	9978714.926	781368.149	2726.398	TOP
5770	9978713.365	781370.724	2726.381	TOP
5771	9978713.081	781371.126	2726.383	TOP
5772	9978712.197	781372.347	2726.381	TOP
5773	9978711.871	781372.712	2726.400	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5774	9978711.481	781373.044	2726.422	TOP
5775	9978711.167	781373.461	2726.425	TOP
5776	9978710.899	781373.877	2726.422	TOP
5777	9978710.608	781374.284	2726.422	TOP
5778	9978710.415	781374.759	2726.402	TOP
5779	9978710.161	781375.186	2726.395	TOP
5780	9978709.801	781375.561	2726.407	TOP
5781	9978709.401	781375.887	2726.428	TOP
5782	9978709.030	781376.238	2726.444	TOP
5783	9978707.927	781377.919	2726.423	TOP
5784	9978707.596	781378.923	2726.366	TOP
5785	9978707.351	781379.366	2726.354	TOP
5786	9978707.168	781379.871	2726.326	TOP
5787	9978706.935	781380.320	2726.311	TOP
5788	9978706.804	781380.879	2726.271	TOP
5789	9978706.586	781381.339	2726.253	TOP
5790	9978706.315	781381.774	2726.243	TOP
5791	9978706.194	781382.343	2726.201	TOP
5792	9978705.906	781382.738	2726.196	TOP
5793	9978705.020	781384.622	2726.111	TOP
5794	9978704.857	781385.145	2726.077	TOP
5795	9978704.569	781385.570	2726.068	TOP
5796	9978703.040	781388.960	2725.893	TOP
5797	9978702.759	781389.388	2725.881	TOP
5798	9978701.369	781392.297	2725.728	TOP
5799	9978701.051	781392.698	2725.722	TOP
5800	9978700.487	781393.593	2725.688	TOP
5801	9978699.029	781395.795	2725.610	TOP
5802	9978698.751	781396.234	2725.592	TOP
5803	9978698.523	781396.734	2725.581	TOP
5804	9978693.466	781406.644	2724.945	TOP
5805	9978693.231	781407.178	2724.905	TOP
5806	9978692.907	781407.596	2724.888	TOP
5807	9978692.564	781408.028	2724.871	TOP
5808	9978691.646	781409.438	2724.793	TOP
5809	9978691.279	781409.833	2724.781	TOP
5810	9978690.718	781409.979	2724.823	TOP
5811	9978690.358	781410.397	2724.808	TOP
5812	9978689.967	781410.771	2724.802	TOP
5813	9978689.566	781411.127	2724.798	TOP
5814	9978689.297	781411.615	2724.764	TOP
5815	9978688.926	781412.021	2724.751	TOP
5816	9978688.573	781412.433	2724.734	TOP
5817	9978688.387	781413.037	2724.676	TOP
5818	9978688.102	781413.564	2724.637	TOP
5819	9978687.759	781413.979	2724.619	TOP
5820	9978687.647	781414.695	2724.538	TOP
5821	9978687.377	781415.218	2724.497	TOP
5822	9978687.126	781415.799	2724.447	TOP
5823	9978686.708	781416.321	2724.446	TOP
5824	9978686.348	781416.564	2724.424	TOP
5825	9978685.090	781417.112	2724.378	TOP
5826	9978685.550	781418.199	2724.288	TOP
5827	9978684.910	781419.180	2724.221	TOP
5828	9978684.522	781419.571	2724.207	TOP
5829	9978684.369	781420.294	2724.126	TOP
5830	9978683.985	781420.703	2724.108	TOP
5831	9978683.913	781421.542	2724.009	TOP
5832	9978683.495	781422.062	2723.963	TOP
5833	9978683.026	781422.563	2723.926	TOP
5834	9978682.954	781423.126	2723.876	TOP
5835	9978682.713	781423.683	2723.828	TOP
5836	9978682.643	781424.240	2723.873	TOP
5837	9978682.594	781424.663	2723.812	TOP
5838	9978682.378	781425.254	2723.688	TOP
5839	9978682.394	781425.994	2723.090	TOP
5840	9978682.736	781427.164	2723.261	TOP
5841	9978682.600	781428.851	2723.280	TOP
5842	9978682.652	781429.559	2723.258	TOP
5843	9978680.917	781430.004	2723.515	TOP
5844	9978681.228	781430.510	2723.358	TOP
5845	9978681.559	781430.028	2723.397	TOP
5846	9978683.093	781431.650	2723.746	TOP
5847	9978683.378	781433.137	2723.792	TOP
5848	9978683.473	781434.362	2723.899	TOP
5849	9978683.837	781435.979	2723.916	TOP
5850	9978684.188	781438.580	2723.937	TOP
5851	9978684.478	781441.073	2723.979	TOP
5852	9978684.799	781442.616	2723.011	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5853	9978685.118	781412.162	2721.042	TOP
5854	9978685.369	781411.631	2721.092	TOP
5855	9978685.615	781411.113	2721.141	TOP
5856	9978685.937	781410.674	2721.188	TOP
5857	9978686.284	781410.260	2721.189	TOP
5858	9978686.645	781409.885	2721.202	TOP
5859	9978686.960	781409.425	2721.232	TOP
5860	9978687.195	781408.899	2721.282	TOP
5861	9978688.898	781406.857	2721.375	TOP
5862	9978689.205	781406.410	2721.402	TOP
5863	9978689.795	781406.226	2721.363	TOP
5864	9978690.220	781405.981	2721.339	TOP
5865	9978690.445	781405.434	2721.390	TOP
5866	9978690.748	781405.002	2721.414	TOP
5867	9978691.058	781404.575	2721.436	TOP
5868	9978691.392	781404.158	2721.454	TOP
5869	9978691.715	781403.753	2721.471	TOP
5870	9978692.085	781403.355	2721.481	TOP
5871	9978692.463	781403.007	2721.482	TOP
5872	9978692.679	781402.468	2721.530	TOP
5873	9978692.938	781401.985	2721.565	TOP
5874	9978693.212	781401.521	2721.595	TOP
5875	9978693.416	781401.070	2721.646	TOP
5876	9978693.953	781400.032	2721.707	TOP
5877	9978694.262	781399.632	2721.722	TOP
5878	9978694.498	781399.135	2721.780	TOP
5879	9978694.795	781398.447	2721.783	TOP
5880	9978694.914	781398.076	2721.851	TOP
5881	9978695.187	781397.618	2721.877	TOP
5882	9978695.461	781397.184	2721.900	TOP
5883	9978695.746	781396.750	2721.921	TOP
5884	9978695.899	781396.179	2721.978	TOP
5885	9978696.189	781395.728	2722.000	TOP
5886	9978696.453	781395.284	2722.024	TOP
5887	9978696.731	781394.838	2722.047	TOP
5888	9978697.094	781394.478	2722.046	TOP
5889	9978699.145	781390.809	2722.247	TOP
5890	9978699.441	781390.389	2722.261	TOP
5891	9978699.717	781389.964	2722.277	TOP
5892	9978700.037	781389.569	2722.283	TOP
5893	9978700.617	781388.730	2722.309	TOP
5894	9978700.860	781388.258	2722.334	TOP
5895	9978701.076	781387.767	2722.366	TOP
5896	9978701.309	781387.312	2722.390	TOP
5897	9978701.465	781386.771	2722.436	TOP
5898	9978701.671	781386.290	2722.467	TOP
5899	9978702.127	781385.352	2722.518	TOP
5900	9978703.849	781382.905	2722.568	TOP
5901	9978704.043	781382.414	2722.590	TOP
5902	9978704.159	781381.856	2722.650	TOP
5903	9978704.402	781381.422	2722.666	TOP
5904	9978704.782	781381.081	2722.650	TOP
5905	9978705.021	781380.630	2722.669	TOP
5906	9978705.368	781380.267	2722.640	TOP
5907	9978705.823	781379.889	2722.625	TOP
5908	9978706.247	781379.684	2722.597	TOP
5909	9978706.405	781379.175	2722.634	TOP
5910	9978706.652	781378.723	2722.649	TOP
5911	9978706.797	781378.221	2722.685	TOP
5912	9978706.958	781377.710	2722.720	TOP
5913	9978707.218	781377.281	2722.730	TOP
5914	9978707.403	781376.794	2722.758	TOP
5915	9978707.691	781376.382	2722.761	TOP
5916	9978707.922	781375.933	2722.777	TOP
5917	9978708.186	781375.517	2722.783	TOP
5918	9978708.430	781375.086	2722.794	TOP
5919	9978708.675	781374.626	2722.808	TOP
5920	9978708.926	781374.210	2722.816	TOP
5921	9978709.179	781373.767	2722.826	TOP
5922	9978709.462	781373.365	2722.827	TOP
5923	9978709.713	781372.933	2722.835	TOP
5924	9978710.006	781372.531	2722.834	TOP
5925	9978710.269	781372.107	2722.839	TOP
5926	9978710.572	781371.725	2722.833	TOP
5927	9978710.899	781371.363	2722.821	TOP
5928	9978711.299	781371.042	2722.793	TOP
5929	9978711.619	781370.653	2722.784	TOP
5930	9978711.818	781370.198	2722.801	TOP
5931	9978712.080	781369.766	2722.805	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
5932	9978712.317	781369.325	2722.814	TOP
5933	9978712.549	781368.890	2722.823	TOP
5934	9978712.802	781368.478	2722.826	TOP
5935	9978713.059	781368.099	2722.830	TOP
5936	9978713.325	781367.622	2722.831	TOP
5937	9978713.597	781367.201	2722.830	TOP
5938	9978713.880	781366.786	2722.827	TOP
5939	9978714.145	781366.378	2722.826	TOP
5940	9978714.528	781366.026	2722.800	TOP
5941	9978714.764	781365.590	2722.806	TOP
5942	9978714.866	781365.068	2722.841	TOP
5943	9978715.091	781364.628	2722.848	TOP
5944	9978715.301	781364.168	2722.860	TOP
5945	9978715.561	781363.749	2722.859	TOP
5946	9978715.841	781363.324	2722.855	TOP
5947	9978716.047	781362.880	2722.864	TOP
5948	9978716.287	781362.446	2722.867	TOP
5949	9978716.565	781362.027	2722.861	TOP
5950	9978716.819	781361.612	2722.859	TOP
5951	9978717.070	781361.187	2722.858	TOP
5952	9978717.362	781360.773	2722.849	TOP
5953	9978717.597	781360.327	2722.852	TOP
5954	9978717.886	781359.940	2722.841	TOP
5955	9978718.196	781359.546	2722.826	TOP
5956	9978718.562	781359.179	2722.799	TOP
5957	9978718.782	781358.740	2722.802	TOP
5958	9978719.065	781358.311	2722.794	TOP
5959	9978719.332	781357.909	2722.786	TOP
5960	9978719.601	781357.504	2722.777	TOP
5961	9978719.618	781356.999	2722.826	TOP
5962	9978719.751	781356.448	2722.846	TOP
5963	9978719.756	781355.889	2722.895	TOP
5964	9978719.754	781355.329	2722.945	TOP
5965	9978719.807	781354.810	2722.981	TOP
5966	9978719.813	781354.258	2723.027	TOP
5967	9978719.815	781353.703	2723.074	TOP
5968	9978719.546	781353.006	2723.180	TOP
5969	9978719.355	781352.365	2723.267	TOP
5970	9978718.344	781351.332	2723.526	TOP
5971	9978718.014	781350.626	2723.641	TOP
5972	9978717.478	781349.832	2723.799	TOP
5973	9978717.361	781349.243	2723.867	TOP
5974	9978717.174	781348.626	2723.950	TOP
5975	9978717.322	781348.163	2723.962	TOP
5976	9978717.210	781347.591	2724.028	TOP
5977	9978717.010	781346.980	2724.111	TOP
5978	9978717.186	781346.541	2724.116	TOP
5979	9978717.367	781346.087	2724.120	TOP
5980	9978717.557	781345.658	2724.121	TOP
5981	9978717.677	781345.197	2724.136	TOP
5982	9978717.808	781344.735	2724.150	TOP
5983	9978717.931	781344.282	2724.163	TOP
5984	9978718.017	781343.795	2724.185	TOP
5985	9978718.194	781343.356	2724.188	TOP
5986	9978718.329	781342.905	2724.198	TOP
5987	9978718.539	781342.490	2724.192	TOP
5988	9978718.803	781342.099	2724.175	TOP
5989	9978719.068	781341.688	2724.159	TOP
5990	9978719.219	781341.245	2724.164	TOP
5991	9978719.447	781340.829	2724.155	TOP
5992	9978719.667	781340.398	2724.150	TOP
5993	9978719.845	781340.024	2724.125	TOP
5994	9978720.002	781339.540	2724.148	TOP
5995	9978719.758	781338.902	2724.244	TOP
5996	9978719.758	781338.017	2724.366	TOP
5997	9978719.758	781337.222	2724.439	TOP
5998	9978719.758	781336.697	2724.484	TOP
5999	9978719.758	781336.215	2724.506	TOP
6000	9978719.231	781335.698	2724.547	TOP
6001	9978719.231	781335.146	2724.611	TOP
6002	9978719.275	781334.733	2724.602	TOP
6003	9978719.397	781334.278	2724.609	TOP
6004	9978719.384	781333.785	2724.641	TOP
6005	9978719.229	781333.222	2724.707	TOP
6006	9978719.396	781332.796	2724.704	TOP
6007	9978719.476	781332.328	2724.718	TOP
6008	9978719.431	781331.830	2724.757	TOP
6009	9978719.529	781331.369	2724.767	TOP
6010	9978719.521	781330.885	2724.798	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6011	9978719.541	781330.401	2724.823	TOP
6012	9978719.460	781329.891	2724.868	TOP
6013	9978719.667	781329.487	2724.854	TOP
6014	9978719.703	781329.006	2724.876	TOP
6015	9978719.576	781328.489	2724.928	TOP
6016	9978719.584	781328.013	2724.954	TOP
6017	9978719.657	781327.550	2724.967	TOP
6018	9978719.782	781327.124	2724.968	TOP
6019	9978720.017	781326.722	2724.947	TOP
6020	9978720.189	781326.300	2724.939	TOP
6021	9978720.317	781325.846	2724.940	TOP
6022	9978720.533	781325.436	2724.922	TOP
6023	9978720.763	781325.026	2724.902	TOP
6024	9978720.871	781324.584	2724.905	TOP
6025	9978721.010	781324.148	2724.902	TOP
6026	9978720.925	781323.156	2724.967	TOP
6027	9978720.822	781322.658	2725.011	TOP
6028	9978720.918	781322.212	2725.015	TOP
6029	9978720.847	781321.722	2725.052	TOP
6030	9978720.815	781321.254	2725.080	TOP
6031	9978720.907	781320.791	2725.085	TOP
6032	9978721.016	781320.354	2725.085	TOP
6033	9978721.134	781319.910	2725.084	TOP
6034	9978720.978	781319.402	2725.135	TOP
6035	9978721.028	781318.954	2725.146	TOP
6036	9978720.846	781318.427	2725.205	TOP
6037	9978720.781	781317.948	2725.236	TOP
6038	9978720.768	781317.474	2725.258	TOP
6039	9978720.824	781317.027	2725.267	TOP
6040	9978720.912	781316.588	2725.268	TOP
6041	9978720.778	781316.089	2725.314	TOP
6042	9978720.754	781315.620	2725.337	TOP
6043	9978720.943	781315.202	2725.319	TOP
6044	9978721.071	781314.766	2725.312	TOP
6045	9978721.036	781314.305	2725.336	TOP
6046	9978720.790	781313.803	2725.401	TOP
6047	9978720.946	781313.369	2725.388	TOP
6048	9978721.360	781312.989	2725.325	TOP
6049	9978721.596	781312.585	2725.295	TOP
6050	9978721.743	781312.147	2725.283	TOP
6051	9978721.709	781311.682	2725.306	TOP
6052	9978721.780	781311.234	2725.308	TOP
6053	9978721.738	781310.771	2725.331	TOP
6054	9978721.930	781310.338	2725.309	TOP
6055	9978722.050	781309.901	2725.301	TOP
6056	9978722.116	781309.458	2725.305	TOP
6057	9978721.958	781308.969	2725.347	TOP
6058	9978721.922	781308.497	2725.368	TOP
6059	9978721.883	781308.040	2725.389	TOP
6060	9978721.949	781307.598	2725.390	TOP
6061	9978721.945	781307.140	2725.403	TOP
6062	9978722.012	781306.693	2725.403	TOP
6063	9978721.940	781306.232	2725.429	TOP
6064	9978721.881	781305.757	2725.453	TOP
6065	9978721.922	781305.310	2725.457	TOP
6066	9978721.899	781304.859	2725.473	TOP
6067	9978721.931	781304.414	2725.477	TOP
6068	9978721.904	781303.944	2725.494	TOP
6069	9978721.920	781303.494	2725.501	TOP
6070	9978722.007	781303.061	2725.495	TOP
6071	9978722.055	781302.612	2725.496	TOP
6072	9978722.155	781302.170	2725.486	TOP
6073	9978722.299	781301.736	2725.468	TOP
6074	9978722.324	781301.284	2725.473	TOP
6075	9978722.273	781300.833	2725.491	TOP
6076	9978722.327	781300.388	2725.490	TOP
6077	9978722.290	781299.935	2725.505	TOP
6078	9978722.305	781299.489	2725.511	TOP
6079	9978722.339	781299.050	2725.539	TOP
6080	9978722.403	781298.603	2725.533	TOP
6081	9978722.452	781298.149	2725.530	TOP
6082	9978722.499	781297.698	2725.527	TOP
6083	9978722.550	781297.245	2725.522	TOP
6084	9978722.601	781296.791	2725.518	TOP
6085	9978722.643	781296.333	2725.515	TOP
6086	9978722.654	781295.876	2725.517	TOP
6087	9978722.647	781295.418	2725.523	TOP
6088	9978722.645	781294.959	2725.527	TOP
6089	9978722.652	781294.500	2725.530	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6090	9978722.765	781294.021	2725.512	TOP
6091	9978722.838	781293.575	2725.501	TOP
6092	9978722.951	781293.122	2725.482	TOP
6093	9978723.022	781292.672	2725.471	TOP
6094	9978723.005	781292.221	2725.477	TOP
6095	9978722.996	781291.768	2725.481	TOP
6096	9978722.897	781289.619	2725.501	TOP
6097	9978722.869	781289.172	2725.508	TOP
6098	9978722.761	781288.727	2725.530	TOP
6099	9978722.708	781288.276	2725.541	TOP
6100	9978722.639	781287.832	2725.554	TOP
6101	9978722.624	781287.386	2725.557	TOP
6102	9978722.603	781286.939	2725.562	TOP
6103	9978722.561	781286.486	2725.569	TOP
6104	9978722.546	781286.050	2725.572	TOP
6105	9978722.496	781285.614	2725.580	TOP
6106	9978722.464	781285.168	2725.585	TOP
6107	9978722.401	781284.714	2725.596	TOP
6108	9978722.425	781284.271	2725.590	TOP
6109	9978722.453	781283.814	2725.582	TOP
6110	9978722.519	781283.366	2725.567	TOP
6111	9978722.523	781282.926	2725.565	TOP
6112	9978722.468	781282.475	2725.572	TOP
6113	9978722.437	781282.023	2725.575	TOP
6114	9978722.510	781281.567	2725.557	TOP
6115	9978722.478	781281.132	2725.560	TOP
6116	9978722.526	781280.672	2725.547	TOP
6117	9978722.514	781280.236	2725.545	TOP
6118	9978722.521	781279.769	2725.539	TOP
6119	9978722.581	781279.310	2725.523	TOP
6120	9978722.577	781278.870	2725.519	TOP
6121	9978722.563	781278.426	2725.516	TOP
6122	9978722.563	781277.981	2725.510	TOP
6123	9978722.594	781277.524	2725.498	TOP
6124	9978722.552	781277.069	2725.500	TOP
6125	9978722.519	781276.619	2725.500	TOP
6126	9978722.505	781276.178	2725.496	TOP
6127	9978722.477	781275.729	2725.494	TOP
6128	9978722.599	781275.275	2725.464	TOP
6129	9978722.588	781274.818	2725.456	TOP
6130	9978722.536	781274.364	2725.460	TOP
6131	9978722.481	781273.929	2725.462	TOP
6132	9978722.510	781273.482	2725.449	TOP
6133	9978722.758	781273.009	2725.392	TOP
6134	9978722.821	781272.543	2725.371	TOP
6135	9978722.926	781272.079	2725.342	TOP
6136	9978722.981	781271.620	2725.322	TOP
6137	9978722.954	781271.172	2725.317	TOP
6138	9978722.921	781270.726	2725.313	TOP
6139	9978722.980	781270.265	2725.291	TOP
6140	9978722.145	781269.782	2725.248	TOP
6141	9978722.199	781269.319	2725.227	TOP
6142	9978722.274	781268.856	2725.201	TOP
6143	9978722.359	781268.377	2725.173	TOP
6144	9978722.406	781267.916	2725.152	TOP
6145	9978722.417	781267.446	2725.137	TOP
6146	9978722.415	781266.991	2725.125	TOP
6147	9978722.353	781266.504	2725.085	TOP
6148	9978722.306	781266.061	2725.081	TOP
6149	9978722.492	781265.593	2725.070	TOP
6150	9978722.486	781265.133	2725.057	TOP
6151	9978722.467	781264.664	2725.047	TOP
6152	9978722.421	781264.213	2725.048	TOP
6153	9978722.822	781263.761	2725.044	TOP
6154	9978722.352	781263.298	2725.024	TOP
6155	9978722.406	781262.836	2725.018	TOP
6156	9978722.396	781262.365	2724.993	TOP
6157	9978722.299	781261.907	2724.987	TOP
6158	9978722.232	781261.455	2724.984	TOP
6159	9978722.190	781261.004	2724.981	TOP
6160	9978722.102	781260.553	2724.976	TOP
6161	9978722.970	781260.108	2724.984	TOP
6162	9978722.972	781259.672	2724.991	TOP
6163	9978722.519	781259.269	2725.036	TOP
6164	9978722.370	781258.828	2725.046	TOP
6165	9978722.553	781258.333	2724.993	TOP
6166	9978722.442	781257.890	2724.996	TOP
6167	9978722.382	781257.429	2724.988	TOP
6168	9978722.158	781257.009	2725.012	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6169	9978722.010	781256.581	2725.022	TOP
6170	9978721.789	781256.172	2725.045	TOP
6171	9978721.644	781255.734	2725.058	TOP
6172	9978721.459	781255.301	2725.068	TOP
6173	9978721.356	781254.847	2725.067	TOP
6174	9978721.278	781254.400	2725.061	TOP
6175	9978721.076	781253.986	2725.080	TOP
6176	9978720.934	781253.546	2725.088	TOP
6177	9978720.808	781253.108	2725.088	TOP
6178	9978720.625	781252.677	2725.101	TOP
6179	9978720.601	781252.213	2725.083	TOP
6180	9978720.564	781251.758	2725.084	TOP
6181	9978720.394	781251.330	2725.078	TOP
6182	9978720.181	781250.917	2725.097	TOP
6183	9978720.007	781250.488	2725.108	TOP
6184	9978719.946	781250.018	2725.094	TOP
6185	9978719.945	781249.549	2725.070	TOP
6186	9978719.874	781249.106	2725.060	TOP
6187	9978719.769	781248.659	2725.055	TOP
6188	9978719.616	781248.223	2725.060	TOP
6189	9978719.425	781247.805	2725.072	TOP
6190	9978719.393	781247.333	2725.052	TOP
6191	9978719.269	781246.901	2725.050	TOP
6192	9978719.104	781246.480	2725.057	TOP
6193	9978719.176	781245.983	2725.016	TOP
6194	9978719.136	781245.507	2724.996	TOP
6195	9978719.052	781245.052	2724.985	TOP
6196	9978719.051	781244.579	2724.957	TOP
6197	9978718.870	781244.161	2724.965	TOP
6198	9978718.764	781243.715	2724.958	TOP
6199	9978718.628	781243.275	2724.955	TOP
6200	9978718.574	781242.811	2724.937	TOP
6201	9978718.420	781242.390	2724.939	TOP
6202	9978718.285	781241.946	2724.936	TOP
6203	9978718.110	781241.506	2724.939	TOP
6204	9978717.921	781241.094	2724.947	TOP
6205	9978717.684	781240.683	2724.963	TOP
6206	9978717.448	781240.279	2724.980	TOP
6207	9978717.263	781239.861	2724.985	TOP
6208	9978717.107	781239.446	2724.986	TOP
6209	9978716.955	781239.009	2724.985	TOP
6210	9978716.590	781238.555	2725.025	TOP
6211	9978716.269	781238.283	2725.057	TOP
6212	9978715.929	781237.926	2725.093	TOP
6213	9978715.352	781237.666	2725.178	TOP
6214	9978714.810	781237.381	2725.254	TOP
6215	9978714.420	781237.047	2725.269	TOP
6216	9978714.045	781236.707	2725.342	TOP
6217	9978713.764	781236.328	2725.364	TOP
6218	9978713.605	781235.914	2725.363	TOP
6219	9978713.256	781235.579	2725.400	TOP
6220	9978712.974	781235.203	2725.422	TOP
6221	9978712.619	781234.860	2725.460	TOP
6222	9978712.339	781234.496	2725.481	TOP
6223	9978711.921	781234.196	2725.532	TOP
6224	9978711.662	781233.817	2725.548	TOP
6225	9978711.249	781233.528	2725.599	TOP
6226	9978710.992	781233.146	2725.614	TOP
6227	9978710.617	781232.815	2725.654	TOP
6228	9978710.450	781232.406	2725.651	TOP
6229	9978710.295	781232.010	2725.654	TOP
6230	9978710.112	781231.587	2725.646	TOP
6231	9978709.908	781231.190	2725.650	TOP
6232	9978709.700	781230.785	2725.653	TOP
6233	9978709.512	781230.375	2725.654	TOP
6234	9978709.320	781230.028	2725.675	TOP
6235	9978708.978	781229.659	2725.686	TOP
6236	9978708.739	781229.277	2725.696	TOP
6237	9978708.466	781228.901	2725.712	TOP
6238	9978708.212	781228.536	2725.725	TOP
6239	9978707.955	781228.164	2725.738	TOP
6240	9978707.723	781227.781	2725.745	TOP
6241	9978707.433	781227.438	2725.765	TOP
6242	9978707.227	781227.034	2725.766	TOP
6243	9978706.957	781226.679	2725.781	TOP
6244	9978706.533	781226.395	2725.828	TOP
6245	9978706.288	781226.021	2725.837	TOP
6246	9978705.943	781225.704	2725.867	TOP
6247	9978705.647	781225.364	2725.887	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6248	9978705.034	781225.175	2725.973	TOP
6249	9978704.751	781224.837	2725.991	TOP
6250	9978704.515	781224.460	2725.997	TOP
6251	9978704.258	781224.110	2726.008	TOP
6252	9978702.886	781223.867	2722.806	TOP
6253	9978703.196	781224.201	2722.782	TOP
6254	9978703.563	781224.494	2722.743	TOP
6255	9978704.865	781224.826	2722.719	TOP
6256	9978704.346	781225.064	2722.652	TOP
6257	9978704.672	781225.383	2722.622	TOP
6258	9978704.993	781225.718	2722.595	TOP
6259	9978705.381	781226.011	2722.550	TOP
6260	9978705.611	781226.380	2722.544	TOP
6261	9978705.834	781226.761	2722.538	TOP
6262	9978706.111	781227.113	2722.519	TOP
6263	9978706.400	781227.470	2722.498	TOP
6264	9978706.723	781227.804	2722.468	TOP
6265	9978707.115	781228.104	2722.431	TOP
6266	9978707.355	781228.467	2722.410	TOP
6267	9978707.569	781228.857	2722.405	TOP
6268	9978707.829	781229.225	2722.390	TOP
6269	9978708.001	781229.630	2722.395	TOP
6270	9978708.480	781229.895	2722.335	TOP
6271	9978708.830	781230.227	2722.288	TOP
6272	9978709.019	781230.631	2722.288	TOP
6273	9978709.110	781231.070	2722.310	TOP
6274	9978709.320	781231.471	2722.305	TOP
6275	9978709.515	781231.879	2722.304	TOP
6276	9978709.737	781232.258	2722.294	TOP
6277	9978709.872	781232.679	2722.304	TOP
6278	9978710.054	781233.078	2722.303	TOP
6279	9978710.151	781233.530	2722.323	TOP
6280	9978710.288	781233.950	2722.333	TOP
6281	9978710.504	781234.341	2722.324	TOP
6282	9978710.852	781234.663	2722.282	TOP
6283	9978711.135	781235.024	2722.256	TOP
6284	9978711.456	781235.365	2722.221	TOP
6285	9978711.715	781235.741	2722.201	TOP
6286	9978711.954	781236.129	2722.185	TOP
6287	9978712.316	781236.458	2722.140	TOP
6288	9978712.576	781236.826	2722.118	TOP
6289	9978713.067	781237.115	2722.043	TOP
6290	9978713.361	781237.487	2722.014	TOP
6291	9978713.625	781237.778	2721.944	TOP
6292	9978714.163	781238.138	2721.904	TOP
6293	9978714.500	781238.483	2721.803	TOP
6294	9978714.984	781238.780	2721.788	TOP
6295	9978715.283	781239.147	2721.756	TOP
6296	9978715.674	781239.498	2721.704	TOP
6297	9978716.039	781239.848	2721.656	TOP
6298	9978716.746	781240.060	2721.529	TOP
6299	9978717.081	781240.433	2721.488	TOP
6300	9978717.363	781240.809	2721.459	TOP
6301	9978717.856	781241.128	2721.381	TOP
6302	9978718.143	781241.515	2721.351	TOP
6303	9978718.363	781241.920	2721.385	TOP
6304	9978718.678	781242.305	2721.298	TOP
6305	9978718.911	781242.713	2721.278	TOP
6306	9978719.224	781243.092	2721.241	TOP
6307	9978719.467	781243.492	2721.218	TOP
6308	9978719.674	781243.953	2721.233	TOP
6309	9978719.674	781244.396	2721.236	TOP
6310	9978719.769	781244.839	2721.246	TOP
6311	9978719.888	781245.295	2721.259	TOP
6312	9978719.849	781245.781	2721.293	TOP
6313	9978719.765	781246.239	2721.303	TOP
6314	9978719.697	781246.696	2721.322	TOP
6315	9978720.000	781247.170	2721.352	TOP
6316	9978720.076	781247.621	2721.361	TOP
6317	9978720.393	781248.091	2721.381	TOP
6318	9978720.219	781248.535	2721.388	TOP
6319	9978720.377	781248.975	2721.381	TOP
6320	9978719.927	781249.579	2721.510	TOP
6321	9978719.993	781250.043	2721.537	TOP
6322	9978719.799	781250.554	2721.594	TOP
6323	9978719.924	781251.004	2721.594	TOP
6324	9978721.123	781251.150	2721.353	TOP
6325	9978721.215	781251.589	2721.358	TOP
6326	9978721.406	781252.021	2721.342	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6327	9978721.500	781252.459	2721.346	TOP
6328	9978721.601	781252.919	2721.350	TOP
6329	9978721.821	781253.339	2721.326	TOP
6330	9978721.929	781253.776	2721.327	TOP
6331	9978722.018	781254.213	2721.332	TOP
6332	9978722.133	781254.683	2721.331	TOP
6333	9978722.306	781255.108	2721.316	TOP
6334	9978722.471	781255.553	2721.303	TOP
6335	9978722.631	781255.990	2721.291	TOP
6336	9978722.802	781256.404	2721.269	TOP
6337	9978723.016	781256.838	2721.242	TOP
6338	9978723.392	781257.224	2721.190	TOP
6339	9978723.625	781257.657	2721.161	TOP
6340	9978723.865	781258.076	2721.129	TOP
6341	9978723.971	781258.511	2721.126	TOP
6342	9978724.007	781258.970	2721.139	TOP
6343	9978724.067	781259.439	2721.146	TOP
6344	9978724.101	781259.891	2721.159	TOP
6345	9978723.910	781260.409	2721.221	TOP
6346	9978723.891	781260.876	2721.244	TOP
6347	9978723.826	781261.353	2721.277	TOP
6348	9978723.837	781261.813	2721.299	TOP
6349	9978723.797	781262.303	2721.321	TOP
6350	9978723.875	781262.751	2721.322	TOP
6351	9978723.918	781263.215	2721.330	TOP
6352	9978724.018	781263.659	2721.325	TOP
6353	9978724.068	781264.115	2721.331	TOP
6354	9978724.011	781264.598	2721.360	TOP
6355	9978723.979	781265.063	2721.384	TOP
6356	9978723.843	781265.550	2721.429	TOP
6357	9978723.811	781266.024	2721.452	TOP
6358	9978723.801	781266.489	2721.469	TOP
6359	9978723.721	781266.962	2721.502	TOP
6360	9978723.786	781267.419	2721.502	TOP
6361	9978723.579	781267.908	2721.561	TOP
6362	9978723.493	781268.381	2721.594	TOP
6363	9978723.265	781268.870	2721.657	TOP
6364	9978723.177	781269.338	2721.689	TOP
6365	9978723.069	781269.812	2721.725	TOP
6366	9978722.972	781270.285	2721.759	TOP
6367	9978722.980	781270.745	2721.769	TOP
6368	9978722.837	781271.209	2721.812	TOP
6369	9978722.725	781271.669	2721.847	TOP
6370	9978722.740	781272.127	2721.855	TOP
6371	9978722.805	781272.568	2721.852	TOP
6372	9978722.815	781273.022	2721.860	TOP
6373	9978722.820	781273.468	2721.869	TOP
6374	9978722.790	781273.922	2721.885	TOP
6375	9978722.775	781274.362	2721.897	TOP
6376	9978722.823	781274.810	2721.896	TOP
6377	9978722.837	781275.271	2721.903	TOP
6378	9978722.894	781275.709	2721.898	TOP
6379	9978722.968	781276.153	2721.890	TOP
6380	9978722.975	781276.610	2721.896	TOP
6381	9978723.025	781277.056	2721.892	TOP
6382	9978722.979	781277.506	2721.909	TOP
6383	9978722.973	781277.970	2721.918	TOP
6384	9978722.888	781278.418	2721.942	TOP
6385	9978722.852	781278.860	2721.956	TOP
6386	9978722.732	781279.325	2721.988	TOP
6387	9978722.681	781279.796	2722.004	TOP
6388	9978721.650	781280.238	2722.019	TOP
6389	9978722.716	781280.682	2722.005	TOP
6390	9978722.716	781281.131	2722.011	TOP
6391	9978722.633	781281.575	2722.033	TOP
6392	9978722.667	781282.030	2722.030	TOP
6393	9978722.608	781282.493	2722.048	TOP
6394	9978722.635	781282.933	2722.043	TOP
6395	9978722.577	781283.384	2722.059	TOP
6396	9978722.004	781283.841	2722.185	TOP
6397	9978721.978	781284.287	2722.193	TOP
6398	9978722.034	781285.191	2722.184	TOP
6399	9978721.891	781285.625	2722.216	TOP
6400	9978721.984	781286.506	2722.198	TOP
6401	9978721.904	781286.960	2722.213	TOP
6402	9978721.900	781287.848	2722.215	TOP
6403	9978721.932	781288.282	2722.208	TOP
6404	9978721.929	781288.736	2722.208	TOP
6405	9978722.315	781289.635	2722.121	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6406	9978722.205	781290.081	2722.143	TOP
6407	9978722.673	781292.340	2722.027	TOP
6408	9978722.812	781292.788	2722.037	TOP
6409	9978722.704	781293.674	2722.068	TOP
6410	9978722.700	781294.137	2722.004	TOP
6411	9978722.745	781294.591	2721.989	TOP
6412	9978722.711	781295.031	2721.991	TOP
6413	9978722.756	781295.489	2721.975	TOP
6414	9978722.719	781295.935	2721.977	TOP
6415	9978722.691	781296.392	2721.976	TOP
6416	9978722.690	781296.834	2721.970	TOP
6417	9978722.607	781297.294	2721.980	TOP
6418	9978722.542	781297.724	2721.987	TOP
6419	9978722.514	781298.184	2721.985	TOP
6420	9978722.311	781298.609	2722.021	TOP
6421	9978722.181	781299.499	2722.030	TOP
6422	9978722.300	781299.945	2722.040	TOP
6423	9978721.376	781302.553	2722.136	TOP
6424	9978721.334	781302.991	2722.134	TOP
6425	9978721.263	781303.440	2722.138	TOP
6426	9978721.178	781303.872	2722.145	TOP
6427	9978721.031	781304.304	2722.164	TOP
6428	9978719.651	781312.220	2722.188	TOP
6429	9978719.664	781313.589	2722.129	TOP
6430	9978719.595	781314.033	2722.124	TOP
6431	9978719.274	781314.415	2722.175	TOP
6432	9978719.351	781314.879	2722.138	TOP
6433	9978719.499	781315.357	2722.098	TOP
6434	9978719.312	781317.167	2722.040	TOP
6435	9978719.562	781318.622	2721.916	TOP
6436	9978719.618	781319.088	2721.881	TOP
6437	9978719.663	781320.032	2721.822	TOP
6438	9978719.583	781320.469	2721.816	TOP
6439	9978719.221	781320.848	2721.871	TOP
6440	9978719.266	781321.340	2721.836	TOP
6441	9978719.469	781321.853	2721.765	TOP
6442	9978719.354	781322.286	2721.765	TOP
6443	9978719.172	781322.710	2721.779	TOP
6444	9978719.080	781323.163	2721.772	TOP
6445	9978719.000	781323.598	2721.764	TOP
6446	9978718.930	781324.060	2721.751	TOP
6447	9978718.823	781324.492	2721.748	TOP
6448	9978718.767	781324.946	2721.733	TOP
6449	9978718.693	781325.394	2721.721	TOP
6450	9978718.589	781325.842	2721.715	TOP
6451	9978718.513	781326.290	2721.703	TOP
6452	9978718.421	781326.725	2721.695	TOP
6453	9978718.290	781327.143	2721.695	TOP
6454	9978718.160	781327.597	2721.693	TOP
6455	9978718.044	781328.020	2721.690	TOP
6456	9978717.958	781328.475	2721.678	TOP
6457	9978717.867	781328.920	2721.667	TOP
6458	9978717.750	781329.365	2721.662	TOP
6459	9978717.680	781329.791	2721.651	TOP
6460	9978717.582	781330.260	2721.636	TOP
6461	9978717.546	781330.729	2721.611	TOP
6462	9978717.534	781331.204	2721.580	TOP
6463	9978717.594	781331.705	2721.533	TOP
6464	9978717.517	781332.174	2721.509	TOP
6465	9978717.417	781332.707	2721.440	TOP
6466	9978717.596	781333.166	2721.428	TOP
6467	9978717.404	781333.578	2721.437	TOP
6468	9978717.295	781333.999	2721.441	TOP
6469	9978717.143	781334.451	2721.426	TOP
6470	9978717.081	781334.917	2721.405	TOP
6471	9978717.017	781335.378	2721.389	TOP
6472	9978716.917	781335.906	2721.332	TOP
6473	9978717.041	781336.394	2721.396	TOP
6474	9978717.011	781336.867	2721.255	TOP
6475	9978716.952	781337.347	2721.283	TOP
6476	9978717.345	781337.984	2721.114	TOP
6477	9978717.390	781338.516	2721.063	TOP
6478	9978718.983	781340.162	2720.511	TOP
6479	9978718.936	781340.631	2720.582	TOP
6480	9978718.790	781341.097	2720.573	TOP
6481	9978718.660	781341.540	2720.563	TOP
6482	9978718.442	781341.969	2720.570	TOP
6483	9978718.186	781342.359	2720.588	TOP
6484	9978717.985	781342.787	2720.592	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6485	9978717.802	781343.199	2720.593	TOP
6486	9978717.641	781343.663	2720.585	TOP
6487	9978717.520	781344.548	2720.571	TOP
6488	9978717.194	781344.998	2720.557	TOP
6489	9978717.118	781345.475	2720.529	TOP
6490	9978717.016	781346.475	2720.459	TOP
6491	9978716.904	781346.946	2720.459	TOP
6492	9978716.892	781347.457	2720.394	TOP
6493	9978716.842	781347.959	2720.358	TOP
6494	9978717.051	781348.590	2720.259	TOP
6495	9978717.096	781349.135	2720.199	TOP
6496	9978717.245	781349.747	2720.113	TOP
6497	9978717.184	781350.258	2720.076	TOP
6498	9978717.193	781350.783	2720.025	TOP
6499	9978717.096	781351.265	2719.997	TOP
6500	9978718.505	781353.607	2719.488	TOP
6501	9978718.263	781354.036	2719.502	TOP
6502	9978717.914	781354.589	2719.534	TOP
6503	9978717.664	781354.835	2719.517	TOP
6504	9978717.629	781355.337	2719.494	TOP
6505	9978717.516	781355.859	2719.463	TOP
6506	9978717.180	781356.223	2719.490	TOP
6507	9978716.831	781356.591	2719.519	TOP
6508	9978716.585	781356.998	2719.523	TOP
6509	9978716.261	781357.381	2719.545	TOP
6510	9978716.003	781357.789	2719.551	TOP
6511	9978713.579	781358.105	2719.599	TOP
6512	9978715.260	781358.472	2719.620	TOP
6513	9978715.005	781358.893	2719.623	TOP
6514	9978714.711	781359.274	2719.637	TOP
6515	9978714.378	781359.657	2719.659	TOP
6516	9978713.994	781359.992	2719.694	TOP
6517	9978713.708	781360.380	2719.706	TOP
6518	9978712.080	781366.842	2719.276	TOP
6519	9978711.783	781367.241	2719.283	TOP
6520	9978711.485	781367.626	2719.291	TOP
6521	9978711.225	781368.036	2719.290	TOP
6522	9978710.960	781368.460	2719.287	TOP
6523	9978710.726	781368.875	2719.280	TOP
6524	9978710.462	781369.304	2719.275	TOP
6525	9978710.250	781369.751	2719.260	TOP
6526	9978710.051	781370.198	2719.244	TOP
6527	9978709.854	781370.654	2719.220	TOP
6528	9978709.619	781371.083	2719.210	TOP
6529	9978709.343	781371.481	2719.210	TOP
6530	9978709.053	781371.897	2719.209	TOP
6531	9978708.794	781372.268	2719.219	TOP
6532	9978708.456	781372.672	2719.218	TOP
6533	9978708.203	781373.085	2719.211	TOP
6534	9978707.911	781373.491	2719.211	TOP
6535	9978707.367	781374.321	2719.200	TOP
6536	9978707.152	781374.716	2719.180	TOP
6537	9978707.018	781375.283	2719.138	TOP
6538	9978706.716	781375.680	2719.139	TOP
6539	9978705.709	781377.399	2719.088	TOP
6540	9978705.331	781377.725	2719.109	TOP
6541	9978704.855	781378.625	2719.072	TOP
6542	9978704.487	781378.974	2719.087	TOP
6543	9978704.218	781379.374	2719.077	TOP
6544	9978703.909	781379.768	2719.078	TOP
6545	9978703.440	781380.017	2719.123	TOP
6546	9978703.142	781380.409	2719.120	TOP
6547	9978702.741	781380.790	2719.144	TOP
6548	9978702.293	781381.002	2719.181	TOP
6549	9978702.013	781381.390	2719.174	TOP
6550	9978701.703	781381.778	2719.172	TOP
6551	9978701.451	781382.209	2719.154	TOP
6552	9978701.141	781382.579	2719.154	TOP
6553	9978700.888	781383.028	2719.133	TOP
6554	9978700.633	781383.448	2719.116	TOP
6555	9978700.477	781383.953	2719.070	TOP
6556	9978700.290	781384.443	2719.032	TOP
6557	9978700.071	781384.915	2719.000	TOP
6558	9978699.852	781385.380	2718.970	TOP
6559	9978699.560	781385.781	2718.960	TOP
6560	9978699.167	781386.281	2718.919	TOP
6561	9978699.173	781386.763	2718.881	TOP
6562	9978698.144	781389.888	2718.589	TOP
6563	9978697.801	781390.262	2718.588	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6564	9978697.473	781390.649	2718.582	TOP
6565	9978697.184	781391.054	2718.567	TOP
6566	9978696.883	781391.480	2718.550	TOP
6567	9978696.593	781391.885	2718.535	TOP
6568	9978696.324	781392.332	2718.509	TOP
6569	9978696.210	781392.927	2718.437	TOP
6570	9978695.922	781393.363	2718.415	TOP
6571	9978695.666	781393.802	2718.388	TOP
6572	9978695.464	781394.311	2718.341	TOP
6573	9978695.235	781394.709	2718.331	TOP
6574	9978694.873	781395.151	2718.308	TOP
6575	9978693.493	781398.096	2718.053	TOP
6576	9978693.173	781398.493	2718.038	TOP
6577	9978692.884	781398.928	2718.013	TOP
6578	9978692.581	781399.340	2717.992	TOP
6579	9978692.218	781399.696	2717.989	TOP
6580	9978691.733	781399.947	2718.020	TOP
6581	9978691.422	781400.356	2718.000	TOP
6582	9978691.151	781400.815	2717.966	TOP
6583	9978690.457	781401.572	2717.945	TOP
6584	9978690.179	781402.034	2717.910	TOP
6585	9978689.789	781402.362	2717.913	TOP
6586	9978689.432	781402.734	2717.904	TOP
6587	9978687.259	781405.735	2717.716	TOP
6588	9978686.859	781406.062	2717.717	TOP
6589	9978686.386	781407.122	2717.606	TOP
6590	9978686.115	781407.612	2717.561	TOP
6591	9978685.754	781407.956	2717.552	TOP
6592	9978685.469	781408.443	2717.509	TOP
6593	9978685.130	781408.834	2717.488	TOP
6594	9978684.788	781409.235	2717.469	TOP
6595	9978684.408	781409.606	2717.454	TOP
6596	9978684.091	781410.036	2717.423	TOP
6597	9978683.886	781410.604	2717.354	TOP
6598	9978683.512	781410.973	2717.340	TOP
6599	9978680.257	781415.378	2716.996	TOP
6600	9978679.829	781415.701	2716.993	TOP
6601	9978679.375	781415.980	2717.000	TOP
6602	9978679.009	781416.372	2716.977	TOP
6603	9978678.639	781416.745	2716.957	TOP
6604	9978678.362	781417.280	2716.896	TOP
6605	9978678.207	781417.989	2716.789	TOP
6606	9978678.063	781418.741	2716.673	TOP
6607	9978677.659	781419.083	2716.661	TOP
6608	9978677.519	781419.814	2716.547	TOP
6609	9978677.152	781420.230	2716.517	TOP
6610	9978676.833	781420.711	2716.468	TOP
6611	9978676.008	781423.368	2716.086	TOP
6612	9978675.703	781423.868	2716.031	TOP
6613	9978675.524	781424.615	2715.915	TOP
6614	9978675.826	781426.102	2715.609	TOP
6615	9978675.540	781426.680	2715.537	TOP
6616	9978675.406	781427.486	2715.404	TOP
6617	9978674.957	781427.804	2715.397	TOP
6618	9978675.552	781430.921	2714.756	TOP
6619	9978673.081	781426.434	2711.565	TOP
6620	9978673.509	781424.191	2711.962	TOP
6621	9978673.874	781423.620	2712.044	TOP
6622	9978675.946	781418.979	2712.687	TOP
6623	9978675.946	781416.980	2713.132	TOP
6624	9978676.271	781416.683	2713.132	TOP
6625	9978676.551	781416.169	2713.196	TOP
6626	9978675.589	781415.699	2713.248	TOP
6627	9978673.632	781415.158	2713.319	TOP
6628	9978673.719	781414.719	2713.360	TOP
6629	9978673.730	781414.969	2713.379	TOP
6630	9978673.730	781408.755	2713.675	TOP
6631	9978683.719	781408.399	2713.686	TOP
6632	9978683.998	781407.952	2713.726	TOP
6633	9978684.827	781407.526	2713.760	TOP
6634	9978684.765	781407.242	2713.748	TOP
6635	9978684.961	781406.689	2713.822	TOP
6636	9978685.207	781406.187	2713.879	TOP
6637	9978685.494	781405.722	2713.922	TOP
6638	9978685.652	781405.108	2714.012	TOP
6639	9978685.976	781404.708	2714.037	TOP
6640	9978689.397	781400.863	2714.203	TOP
6641	9978689.738	781400.479	2714.217	TOP
6642	9978690.035	781400.049	2714.246	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6643	9978690.346	781399.629	2714.272	TOP
6644	9978692.037	781398.488	2714.197	TOP
6645	9978692.385	781398.114	2714.206	TOP
6646	9978692.573	781397.567	2714.271	TOP
6647	9978692.857	781397.134	2714.300	TOP
6648	9978693.150	781396.720	2714.324	TOP
6649	9978693.514	781396.143	2714.397	TOP
6650	9978693.634	781395.771	2714.408	TOP
6651	9978693.882	781395.306	2714.446	TOP
6652	9978694.144	781394.850	2714.481	TOP
6653	9978694.923	781394.211	2714.458	TOP
6654	9978695.033	781393.606	2714.543	TOP
6655	9978695.170	781393.042	2714.616	TOP
6656	9978695.417	781392.594	2714.649	TOP
6657	9978695.572	781392.041	2714.718	TOP
6658	9978695.829	781391.582	2714.749	TOP
6659	9978695.916	781390.953	2714.840	TOP
6660	9978696.364	781390.012	2714.919	TOP
6661	9978696.623	781389.575	2714.947	TOP
6662	9978697.017	781388.573	2715.043	TOP
6663	9978697.264	781388.123	2715.073	TOP
6664	9978697.521	781387.703	2715.097	TOP
6665	9978697.435	781386.942	2715.237	TOP
6666	9978697.646	781386.470	2715.276	TOP
6667	9978697.784	781385.923	2715.340	TOP
6668	9978697.979	781385.446	2715.382	TOP
6669	9978698.208	781384.984	2715.415	TOP
6670	9978698.277	781384.401	2715.496	TOP
6671	9978698.468	781383.910	2715.540	TOP
6672	9978698.721	781383.490	2715.561	TOP
6673	9978698.966	781383.048	2715.587	TOP
6674	9978699.119	781382.528	2715.642	TOP
6675	9978699.465	781382.199	2715.629	TOP
6676	9978699.579	781381.663	2715.693	TOP
6677	9978699.914	781381.306	2715.686	TOP
6678	9978700.130	781380.863	2715.715	TOP
6679	9978700.360	781380.410	2715.743	TOP
6680	9978700.622	781379.999	2715.757	TOP
6681	9978701.101	781379.152	2715.798	TOP
6682	9978701.342	781378.707	2715.820	TOP
6683	9978704.615	781374.485	2715.824	TOP
6684	9978704.938	781374.123	2715.814	TOP
6685	9978705.244	781373.748	2715.809	TOP
6686	9978705.513	781373.340	2715.815	TOP
6687	9978706.131	781372.578	2715.803	TOP
6688	9978706.408	781372.158	2715.808	TOP
6689	9978706.644	781371.751	2715.819	TOP
6690	9978706.830	781371.289	2715.847	TOP
6691	9978707.082	781370.867	2715.856	TOP
6692	9978707.386	781370.495	2715.848	TOP
6693	9978707.686	781370.110	2715.841	TOP
6694	9978708.061	781369.782	2715.812	TOP
6695	9978708.375	781369.420	2715.799	TOP
6696	9978708.618	781369.021	2715.808	TOP
6697	9978708.810	781368.546	2715.831	TOP
6698	9978709.094	781368.146	2715.828	TOP
6699	9978709.394	781367.765	2715.819	TOP
6700	9978709.614	781367.395	2715.832	TOP
6701	9978709.853	781366.923	2715.839	TOP
6702	9978710.134	781366.517	2715.835	TOP
6703	9978710.362	781366.084	2715.846	TOP
6704	9978710.523	781365.605	2715.878	TOP
6705	9978710.323	781364.909	2716.008	TOP
6706	9978710.519	781364.469	2716.025	TOP
6707	9978710.728	781364.020	2716.040	TOP
6708	9978710.785	781363.457	2716.111	TOP
6709	9978710.955	781363.022	2716.121	TOP
6710	9978711.185	781362.596	2716.128	TOP
6711	9978711.436	781362.201	2716.128	TOP
6712	9978711.520	781361.682	2716.172	TOP
6713	9978711.740	781361.254	2716.181	TOP
6714	9978711.924	781360.798	2716.200	TOP
6715	9978712.097	781360.324	2716.222	TOP
6716	9978712.191	781359.904	2716.234	TOP
6717	9978712.471	781359.456	2716.250	TOP
6718	9978712.623	781358.993	2716.275	TOP
6719	9978712.700	781358.474	2716.322	TOP
6720	9978712.830	781358.001	2716.351	TOP
6721	9978713.032	781357.552	2716.382	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6722	9978713.238	781357.122	2716.370	TOP
6723	9978713.471	781356.692	2716.379	TOP
6724	9978713.772	781356.341	2716.348	TOP
6725	9978714.009	781355.928	2716.346	TOP
6726	9978714.193	781355.482	2716.359	TOP
6727	9978714.394	781355.053	2716.365	TOP
6728	9978714.574	781354.614	2716.377	TOP
6729	9978714.756	781354.168	2716.389	TOP
6730	9978714.959	781353.745	2716.393	TOP
6731	9978715.066	781353.249	2716.426	TOP
6732	9978715.267	781352.818	2716.431	TOP
6733	9978715.545	781352.431	2716.414	TOP
6734	9978715.778	781352.012	2716.410	TOP
6735	9978716.007	781351.587	2716.407	TOP
6736	9978716.253	781351.170	2716.399	TOP
6737	9978716.508	781350.759	2716.388	TOP
6738	9978716.439	781350.207	2716.462	TOP
6739	9978716.474	781349.692	2716.510	TOP
6740	9978716.434	781349.145	2716.576	TOP
6741	9978716.488	781348.635	2716.618	TOP
6742	9978716.594	781348.151	2716.645	TOP
6743	9978716.634	781347.659	2716.688	TOP
6744	9978716.785	781347.206	2716.701	TOP
6745	9978716.901	781346.751	2716.722	TOP
6746	9978717.076	781346.294	2716.730	TOP
6747	9978717.162	781345.812	2716.760	TOP
6748	9978717.298	781345.364	2716.774	TOP
6749	9978717.364	781344.875	2716.809	TOP
6750	9978717.465	781344.410	2716.832	TOP
6751	9978717.629	781343.958	2716.840	TOP
6752	9978717.689	781343.468	2716.874	TOP
6753	9978717.830	781343.026	2716.885	TOP
6754	9978717.652	781342.440	2716.981	TOP
6755	9978717.608	781341.924	2717.040	TOP
6756	9978717.766	781341.485	2717.046	TOP
6757	9978717.780	781340.988	2717.089	TOP
6758	9978717.034	781340.166	2717.332	TOP
6759	9978716.495	781339.454	2717.518	TOP
6760	9978716.505	781338.969	2717.560	TOP
6761	9978716.491	781338.457	2717.609	TOP
6762	9978716.429	781337.936	2717.670	TOP
6763	9978716.264	781337.371	2717.757	TOP
6764	9978716.259	781336.875	2717.802	TOP
6765	9978716.368	781336.433	2717.816	TOP
6766	9978716.177	781335.868	2717.908	TOP
6767	9978716.218	781335.394	2717.940	TOP
6768	9978716.190	781334.894	2717.989	TOP
6769	9978716.170	781334.386	2718.036	TOP
6770	9978716.169	781333.914	2718.076	TOP
6771	9978716.255	781333.467	2718.093	TOP
6772	9978716.323	781333.015	2718.115	TOP
6773	9978716.013	781332.418	2718.294	TOP
6774	9978715.979	781331.926	2718.281	TOP
6775	9978716.036	781331.455	2718.306	TOP
6776	9978716.144	781331.025	2718.315	TOP
6777	9978716.015	781330.500	2718.386	TOP
6778	9978715.981	781330.015	2718.451	TOP
6779	9978716.160	781329.582	2718.423	TOP
6780	9978716.279	781329.160	2718.428	TOP
6781	9978716.442	781328.747	2718.421	TOP
6782	9978716.456	781328.309	2718.430	TOP
6783	9978716.456	781327.893	2718.422	TOP
6784	9978716.997	781327.515	2718.384	TOP
6785	9978717.097	781327.067	2718.393	TOP
6786	9978717.088	781326.602	2718.428	TOP
6787	9978717.053	781326.145	2718.458	TOP
6788	9978717.088	781325.673	2718.495	TOP
6789	9978717.088	781325.178	2718.549	TOP
6790	9978717.088	781324.725	2718.571	TOP
6791	9978717.142	781324.295	2718.675	TOP
6792	9978717.174	781323.862	2718.573	TOP
6793	9978717.267	781323.404	2718.805	TOP
6794	9978717.035	781322.874	2718.694	TOP
6795	9978717.134	781322.428	2718.699	TOP
6796	9978717.004	781321.930	2718.761	TOP
6797	9978716.996	781321.476	2718.797	TOP
6798	9978716.898	781320.992	2718.845	TOP
6799	9978716.956	781320.557	2718.858	TOP
6800	9978716.970	781320.098	2718.882	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6801	9978716.938	781319.824	2718.918	TOP
6802	9978717.024	781319.191	2718.923	TOP
6803	9978717.038	781318.748	2718.946	TOP
6804	9978717.140	781318.309	2718.947	TOP
6805	9978717.170	781317.864	2718.965	TOP
6806	9978717.362	781317.449	2718.943	TOP
6807	9978717.421	781317.004	2718.954	TOP
6808	9978717.352	781316.536	2718.995	TOP
6809	9978717.472	781316.119	2718.969	TOP
6810	9978717.496	781315.671	2718.907	TOP
6811	9978717.586	781315.254	2718.909	TOP
6812	9978717.646	781314.790	2718.917	TOP
6813	9978717.743	781314.371	2718.915	TOP
6814	9978717.738	781313.921	2718.938	TOP
6815	9978717.837	781313.497	2718.936	TOP
6816	9978717.833	781313.048	2718.958	TOP
6817	9978717.834	781312.604	2718.979	TOP
6818	9978717.932	781312.179	2718.955	TOP
6819	9978717.862	781309.920	2718.991	TOP
6820	9978717.701	781309.455	2718.949	TOP
6821	9978717.856	781309.035	2718.929	TOP
6822	9978717.861	781308.590	2718.946	TOP
6823	9978717.928	781308.152	2718.947	TOP
6824	9978717.950	781307.714	2718.958	TOP
6825	9978718.003	781307.277	2718.962	TOP
6826	9978718.014	781306.844	2718.976	TOP
6827	9978718.097	781306.405	2718.972	TOP
6828	9978718.020	781305.960	2718.905	TOP
6829	9978718.072	781305.515	2718.908	TOP
6830	9978718.511	781305.147	2718.991	TOP
6831	9978718.876	781304.741	2718.941	TOP
6832	9978719.074	781304.332	2718.907	TOP
6833	9978719.556	781303.939	2718.903	TOP
6834	9978719.721	781303.523	2718.976	TOP
6835	9978720.009	781303.098	2718.920	TOP
6836	9978720.139	781302.676	2718.901	TOP
6837	9978720.157	781302.233	2718.909	TOP
6838	9978720.190	781301.797	2718.913	TOP
6839	9978720.414	781301.368	2718.870	TOP
6840	9978720.441	781300.936	2718.874	TOP
6841	9978720.574	781300.506	2718.853	TOP
6842	9978720.782	781300.076	2718.813	TOP
6843	9978720.883	781299.657	2718.795	TOP
6844	9978720.867	781299.205	2718.813	TOP
6845	9978720.867	781298.754	2718.822	TOP
6846	9978720.938	781298.313	2718.814	TOP
6847	9978720.941	781297.876	2718.822	TOP
6848	9978720.864	781297.433	2718.849	TOP
6849	9978720.810	781296.980	2718.871	TOP
6850	9978720.797	781296.529	2718.882	TOP
6851	9978720.722	781296.076	2718.908	TOP
6852	9978720.727	781295.633	2718.914	TOP
6853	9978720.736	781295.189	2718.918	TOP
6854	9978720.769	781294.746	2718.916	TOP
6855	9978720.781	781294.302	2718.919	TOP
6856	9978720.820	781293.859	2718.916	TOP
6857	9978720.857	781293.412	2718.912	TOP
6858	9978720.946	781292.979	2718.895	TOP
6859	9978721.031	781292.543	2718.879	TOP
6860	9978721.155	781292.100	2718.853	TOP
6861	9978721.166	781291.655	2718.855	TOP
6862	9978721.190	781291.204	2718.852	TOP
6863	9978721.164	781290.771	2718.862	TOP
6864	9978721.141	781290.328	2718.870	TOP
6865	9978721.155	781289.890	2718.869	TOP
6866	9978721.149	781289.435	2718.873	TOP
6867	9978721.075	781288.996	2718.892	TOP
6868	9978721.081	781288.542	2718.892	TOP
6869	9978720.995	781288.103	2718.914	TOP
6870	9978720.880	781287.671	2718.884	TOP
6871	9978720.735	781287.231	2718.978	TOP
6872	9978720.611	781286.788	2718.908	TOP
6873	9978720.526	781286.345	2718.928	TOP
6874	9978720.427	781285.913	2718.951	TOP
6875	9978720.337	781285.487	2718.972	TOP
6876	9978720.222	781285.041	2718.998	TOP
6877	9978720.147	781284.610	2718.915	TOP
6878	9978720.128	781284.169	2718.917	TOP
6879	9978720.241	781283.721	2718.987	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6880	9978720.867	781283.264	2718.933	TOP
6881	9978721.980	781282.784	2718.657	TOP
6882	9978722.433	781282.320	2718.546	TOP
6883	9978722.470	781281.872	2718.533	TOP
6884	9978722.518	781281.410	2718.517	TOP
6885	9978722.546	781280.962	2718.505	TOP
6886	9978722.826	781280.508	2718.432	TOP
6887	9978723.005	781280.054	2718.383	TOP
6888	9978722.979	781279.590	2718.384	TOP
6889	9978722.991	781279.133	2718.374	TOP
6890	9978723.000	781278.696	2718.366	TOP
6891	9978723.027	781278.248	2718.352	TOP
6892	9978723.013	781277.800	2718.348	TOP
6893	9978723.027	781277.322	2718.337	TOP
6894	9978723.065	781276.879	2718.320	TOP
6895	9978722.948	781276.432	2718.340	TOP
6896	9978722.972	781275.982	2718.325	TOP
6897	9978722.876	781275.565	2718.339	TOP
6898	9978722.809	781275.085	2718.346	TOP
6899	9978722.720	781274.649	2718.358	TOP
6900	9978722.668	781274.203	2718.360	TOP
6901	9978722.604	781273.766	2718.365	TOP
6902	9978722.546	781273.321	2718.368	TOP
6903	9978722.461	781272.876	2718.378	TOP
6904	9978722.388	781272.442	2718.384	TOP
6905	9978722.375	781271.986	2718.375	TOP
6906	9978722.390	781271.540	2718.359	TOP
6907	9978722.503	781271.074	2718.319	TOP
6908	9978722.462	781270.618	2718.315	TOP
6909	9978722.691	781270.146	2718.246	TOP
6910	9978722.670	781269.690	2718.237	TOP
6911	9978722.610	781269.230	2718.237	TOP
6912	9978722.700	781268.764	2718.200	TOP
6913	9978722.723	781268.316	2718.180	TOP
6914	9978723.074	781267.800	2718.078	TOP
6915	9978723.097	781267.333	2718.057	TOP
6916	9978723.239	781266.849	2718.006	TOP
6917	9978723.272	781266.396	2717.981	TOP
6918	9978723.424	781265.903	2717.927	TOP
6919	9978723.433	781265.451	2717.907	TOP
6920	9978723.517	781264.969	2717.869	TOP
6921	9978723.680	781264.467	2717.810	TOP
6922	9978723.629	781264.016	2717.804	TOP
6923	9978723.486	781263.575	2717.820	TOP
6924	9978723.413	781263.122	2717.818	TOP
6925	9978723.495	781262.633	2717.778	TOP
6926	9978723.495	781262.166	2717.758	TOP
6927	9978723.521	781261.696	2717.730	TOP
6928	9978723.570	781261.231	2717.698	TOP
6929	9978723.554	781260.761	2717.660	TOP
6930	9978723.621	781260.278	2717.643	TOP
6931	9978723.606	781259.813	2717.623	TOP
6932	9978723.745	781259.317	2717.566	TOP
6933	9978723.728	781258.857	2717.548	TOP
6934	9978723.627	781258.408	2717.540	TOP
6935	9978723.605	781257.953	2717.531	TOP
6936	9978723.548	781257.491	2717.521	TOP
6937	9978723.377	781257.048	2717.536	TOP
6938	9978723.328	781256.591	2717.526	TOP
6939	9978723.264	781256.127	2717.516	TOP
6940	9978723.190	781255.679	2717.510	TOP
6941	9978723.116	781255.218	2717.497	TOP
6942	9978723.029	781254.754	2717.490	TOP
6943	9978722.989	781254.314	2717.504	TOP
6944	9978722.750	781253.869	2717.511	TOP
6945	9978722.462	781253.434	2717.515	TOP
6946	9978722.330	781253.031	2717.561	TOP
6947	9978722.287	781252.646	2717.623	TOP
6948	9978722.116	781252.134	2717.755	TOP
6949	9978720.555	781252.057	2717.917	TOP
6950	9978720.270	781251.609	2717.959	TOP
6951	9978719.727	781251.346	2718.066	TOP
6952	9978719.658	781250.892	2718.053	TOP
6953	9978719.727	781250.393	2718.004	TOP
6954	9978719.718	781249.922	2717.970	TOP
6955	9978719.629	781249.477	2717.967	TOP
6956	9978719.673	781248.995	2717.924	TOP
6957	9978719.645	781248.523	2717.899	TOP
6958	9978719.670	781248.041	2717.860	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
6959	9978719.623	781247.582	2717.844	TOP
6960	9978719.620	781247.104	2717.806	TOP
6961	9978719.583	781246.641	2717.782	TOP
6962	9978719.464	781246.197	2717.778	TOP
6963	9978719.313	781245.762	2717.781	TOP
6964	9978719.298	781245.829	2717.775	TOP
6965	9978718.860	781244.948	2717.826	TOP
6966	9978718.443	781244.808	2717.896	TOP
6967	9978718.027	781244.274	2717.967	TOP
6968	9978717.776	781243.879	2717.994	TOP
6969	9978717.571	781243.459	2718.009	TOP
6970	9978717.188	781243.127	2718.082	TOP
6971	9978716.810	781242.758	2718.129	TOP
6972	9978716.413	781242.419	2718.193	TOP
6973	9978716.188	781242.023	2718.212	TOP
6974	9978715.819	781241.666	2718.268	TOP
6975	9978715.540	781241.291	2718.301	TOP
6976	9978715.316	781240.898	2718.319	TOP
6977	9978714.933	781240.550	2718.376	TOP
6978	9978714.695	781240.160	2718.399	TOP
6979	9978714.325	781239.820	2718.454	TOP
6980	9978714.210	781239.374	2718.442	TOP
6981	9978713.704	781239.089	2718.532	TOP
6982	9978713.509	781238.686	2718.541	TOP
6983	9978713.253	781238.310	2718.566	TOP
6984	9978712.728	781238.032	2718.660	TOP
6985	9978712.388	781237.685	2718.705	TOP
6986	9978711.849	781237.413	2718.802	TOP
6987	9978711.622	781237.038	2718.819	TOP
6988	9978711.365	781236.668	2718.843	TOP
6989	9978711.227	781236.240	2718.834	TOP
6990	9978711.224	781235.759	2718.790	TOP
6991	9978711.056	781235.342	2718.789	TOP
6992	9978710.921	781234.936	2718.781	TOP
6993	9978710.571	781234.608	2718.827	TOP
6994	9978710.308	781234.239	2718.850	TOP
6995	9978709.889	781233.941	2718.915	TOP
6996	9978709.635	781233.564	2718.934	TOP
6997	9978709.520	781233.229	2718.971	TOP
6998	9978708.872	781232.947	2719.042	TOP
6999	9978708.551	781232.610	2719.080	TOP
7000	9978708.175	781232.300	2719.131	TOP
7001	9978707.857	781231.967	2719.168	TOP
7002	9978707.535	781231.624	2719.203	TOP
7003	9978707.280	781231.258	2719.222	TOP
7004	9978706.993	781230.917	2719.250	TOP
7005	9978706.769	781230.530	2719.259	TOP
7006	9978706.483	781230.180	2719.284	TOP
7007	9978706.251	781229.812	2719.296	TOP
7008	9978706.276	781229.510	2719.298	TOP
7009	9978706.263	781229.822	2719.188	TOP
7010	9978706.154	781228.399	2719.166	TOP
7011	9978705.970	781227.991	2719.162	TOP
7012	9978705.608	781227.684	2719.207	TOP
7013	9978705.273	781227.346	2719.242	TOP
7014	9978705.035	781226.985	2719.253	TOP
7015	9978704.674	781226.691	2719.298	TOP
7016	9978704.362	781226.352	2719.328	TOP
7017	9978704.125	781225.978	2719.336	TOP
7018	9978702.481	781224.417	2719.507	TOP
7019	9978702.161	781224.090	2719.537	TOP
7020	9978701.736	781223.832	2719.597	TOP
7021	9978701.440	781223.503	2719.621	TOP
7022	9978701.002	781223.260	2719.684	TOP
7023	9978700.635	781222.973	2719.727	TOP
7024	9978700.270	781222.688	2719.770	TOP
7025	9978698.858	781222.445	2716.630	TOP
7026	9978699.438	781222.593	2716.512	TOP
7027	9978700.087	781222.724	2716.382	TOP
7028	9978700.456	781223.011	2716.335	TOP
7029	9978700.745	781223.326	2716.309	TOP
7030	9978701.078	781223.631	2716.268	TOP
7031	9978701.595	781223.843	2716.178	TOP
7032	9978701.980	781224.119	2716.123	TOP
7033	9978702.583	781224.273	2716.001	TOP
7034	9978702.882	781224.607	2715.974	TOP
7035	9978703.187	781224.940	2715.945	TOP
7036	9978703.315	781225.349	2715.967	TOP
7037	9978703.650	781226.171	2715.888	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7038	9978703.708	781226.622	2716.034	TOP
7039	9978703.771	781227.085	2716.076	TOP
7040	9978703.607	781227.650	2716.186	TOP
7041	9978703.720	781228.079	2716.211	TOP
7042	9978703.933	781228.464	2716.207	TOP
7043	9978704.184	781228.828	2716.190	TOP
7044	9978704.440	781229.178	2716.167	TOP
7045	9978704.711	781229.522	2716.147	TOP
7046	9978704.980	781229.874	2716.124	TOP
7047	9978705.352	781230.173	2716.066	TOP
7048	9978705.728	781230.472	2716.013	TOP
7049	9978706.017	781230.816	2715.981	TOP
7050	9978706.175	781231.131	2715.993	TOP
7051	9978706.503	781231.562	2715.961	TOP
7052	9978706.855	781231.864	2715.900	TOP
7053	9978707.114	781232.225	2715.877	TOP
7054	9978707.380	781232.605	2715.855	TOP
7055	9978707.603	781232.970	2715.841	TOP
7056	9978707.770	781233.375	2715.845	TOP
7057	9978707.993	781233.749	2715.831	TOP
7058	9978708.211	781234.122	2715.818	TOP
7059	9978708.451	781234.503	2715.801	TOP
7060	9978708.684	781234.880	2715.784	TOP
7061	9978709.143	781235.151	2715.699	TOP
7062	9978709.448	781235.489	2715.659	TOP
7063	9978709.711	781235.857	2715.633	TOP
7064	9978710.184	781236.134	2715.545	TOP
7065	9978710.446	781236.501	2715.514	TOP
7066	9978710.754	781236.850	2715.477	TOP
7067	9978711.001	781237.224	2715.453	TOP
7068	9978711.448	781237.508	2715.370	TOP
7069	9978711.717	781237.886	2715.341	TOP
7070	9978711.991	781238.266	2715.310	TOP
7071	9978712.687	781238.462	2715.150	TOP
7072	9978713.006	781238.818	2715.110	TOP
7073	9978713.298	781239.176	2715.072	TOP
7074	9978713.531	781239.569	2715.050	TOP
7075	9978713.902	781239.809	2714.990	TOP
7076	9978714.186	781240.290	2714.954	TOP
7077	9978714.434	781240.661	2714.923	TOP
7078	9978714.737	781241.035	2714.884	TOP
7079	9978714.856	781241.468	2714.894	TOP
7080	9978715.184	781241.830	2714.844	TOP
7081	9978715.482	781242.198	2714.799	TOP
7082	9978715.761	781242.583	2714.785	TOP
7083	9978715.941	781242.992	2714.755	TOP
7084	9978716.193	781243.390	2714.726	TOP
7085	9978716.644	781243.712	2714.639	TOP
7086	9978716.935	781244.086	2714.597	TOP
7087	9978717.360	781244.428	2714.517	TOP
7088	9978717.602	781244.824	2714.489	TOP
7089	9978717.755	781245.235	2714.484	TOP
7090	9978718.017	781245.640	2714.450	TOP
7091	9978718.249	781246.036	2714.423	TOP
7092	9978718.412	781246.466	2714.412	TOP
7093	9978718.620	781246.875	2714.395	TOP
7094	9978718.763	781247.295	2714.391	TOP
7095	9978718.926	781247.716	2714.382	TOP
7096	9978719.048	781248.160	2714.385	TOP
7097	9978719.178	781248.597	2714.385	TOP
7098	9978719.311	781249.030	2714.388	TOP
7099	9978719.444	781249.483	2714.393	TOP
7100	9978719.494	781249.925	2714.399	TOP
7101	9978719.577	781250.379	2714.414	TOP
7102	9978719.600	781250.820	2714.420	TOP
7103	9978719.649	781251.307	2714.460	TOP
7104	9978719.753	781251.753	2714.468	TOP
7105	9978719.816	781252.186	2714.472	TOP
7106	9978719.942	781252.606	2714.440	TOP
7107	9978720.523	781252.949	2714.347	TOP
7108	9978720.953	781253.347	2714.295	TOP
7109	9978721.142	781253.736	2714.238	TOP
7110	9978721.465	781254.132	2714.180	TOP
7111	9978721.618	781254.558	2714.167	TOP
7112	9978721.982	781254.946	2714.097	TOP
7113	9978722.078	781255.397	2714.096	TOP
7114	9978723.072	781255.633	2713.854	TOP
7115	9978723.181	781256.084	2713.853	TOP
7116	9978723.260	781256.537	2713.860	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7117	9978723.268	781257.013	2713.885	TOP
7118	9978723.387	781257.462	2713.880	TOP
7119	9978723.381	781257.933	2713.909	TOP
7120	9978723.470	781258.376	2713.910	TOP
7121	9978723.514	781258.841	2713.918	TOP
7122	9978723.614	781259.271	2713.922	TOP
7123	9978723.616	781259.752	2713.943	TOP
7124	9978723.428	781260.265	2714.020	TOP
7125	9978723.483	781260.703	2714.032	TOP
7126	9978723.459	781261.188	2714.063	TOP
7127	9978723.537	781261.624	2714.055	TOP
7128	9978723.498	781262.114	2714.098	TOP
7129	9978723.488	781262.570	2714.119	TOP
7130	9978723.591	781263.068	2714.169	TOP
7131	9978723.260	781263.547	2714.226	TOP
7132	9978723.217	781264.016	2714.259	TOP
7133	9978722.985	781264.529	2714.347	TOP
7134	9978722.995	781264.991	2714.361	TOP
7135	9978723.065	781265.440	2714.362	TOP
7136	9978723.130	781265.895	2714.367	TOP
7137	9978723.004	781266.364	2714.416	TOP
7138	9978722.732	781266.862	2714.509	TOP
7139	9978722.779	781267.312	2714.514	TOP
7140	9978722.803	781267.775	2714.529	TOP
7141	9978722.840	781268.236	2714.537	TOP
7142	9978722.819	781268.688	2714.559	TOP
7143	9978723.874	781269.140	2714.561	TOP
7144	9978722.877	781269.604	2714.576	TOP
7145	9978722.814	781270.066	2714.609	TOP
7146	9978722.874	781270.519	2714.608	TOP
7147	9978722.572	781271.003	2714.701	TOP
7148	9978722.513	781271.466	2714.734	TOP
7149	9978722.473	781271.912	2714.755	TOP
7150	9978722.516	781272.366	2714.757	TOP
7151	9978722.518	781272.820	2714.770	TOP
7152	9978722.527	781273.270	2714.780	TOP
7153	9978722.556	781273.701	2714.784	TOP
7154	9978723.373	781274.169	2714.845	TOP
7155	9978722.330	781274.623	2714.868	TOP
7156	9978722.293	781275.082	2714.889	TOP
7157	9978722.320	781275.525	2714.893	TOP
7158	9978722.340	781275.975	2714.897	TOP
7159	9978722.298	781276.427	2714.919	TOP
7160	9978722.220	781276.883	2714.950	TOP
7161	9978722.126	781277.342	2714.983	TOP
7162	9978722.158	781277.790	2714.987	TOP
7163	9978722.118	781278.243	2715.006	TOP
7164	9978722.093	781278.688	2715.020	TOP
7165	9978722.113	781279.146	2715.018	TOP
7166	9978722.208	781279.577	2715.004	TOP
7167	9978722.131	781280.038	2715.031	TOP
7168	9978722.011	781280.486	2715.069	TOP
7169	9978722.046	781280.930	2715.062	TOP
7170	9978721.917	781281.381	2715.102	TOP
7171	9978721.717	781281.834	2715.161	TOP
7172	9978721.115	781282.306	2715.331	TOP
7173	9978720.544	781282.770	2715.488	TOP
7174	9978719.960	781283.233	2715.649	TOP
7175	9978719.561	781283.688	2715.760	TOP
7176	9978719.513	781284.115	2715.766	TOP
7177	9978719.499	781284.559	2715.782	TOP
7178	9978719.542	781284.998	2715.789	TOP
7179	9978719.542	781285.434	2715.770	TOP
7180	9978719.716	781285.863	2715.726	TOP
7181	9978719.861	781286.297	2715.690	TOP
7182	9978720.117	781286.738	2715.619	TOP
7183	9978720.112	781287.172	2715.620	TOP
7184	9978720.105	781287.611	2715.622	TOP
7185	9978720.065	781288.042	2715.632	TOP
7186	9978720.691	781290.262	2715.458	TOP
7187	9978720.753	781290.695	2715.435	TOP
7188	9978720.840	781291.139	2715.408	TOP
7189	9978720.712	781291.581	2715.438	TOP
7190	9978720.681	781292.028	2715.446	TOP
7191	9978720.686	781292.471	2715.440	TOP
7192	9978720.732	781292.918	2715.419	TOP
7193	9978720.617	781293.341	2715.443	TOP
7194	9978720.554	781293.798	2715.459	TOP
7195	9978720.473	781294.224	2715.475	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7196	9978720.503	781294.679	2715.457	TOP
7197	9978720.494	781295.123	2715.456	TOP
7198	9978720.406	781295.558	2715.472	TOP
7199	9978720.360	781295.986	2715.473	TOP
7200	9978720.210	781296.439	2715.505	TOP
7201	9978720.157	781296.873	2715.515	TOP
7202	9978720.095	781297.309	2715.522	TOP
7203	9978719.995	781297.742	2715.540	TOP
7204	9978720.084	781298.193	2715.506	TOP
7205	9978720.072	781298.629	2715.496	TOP
7206	9978720.065	781299.067	2715.487	TOP
7207	9978720.048	781299.514	2715.481	TOP
7208	9978720.040	781299.952	2715.475	TOP
7209	9978719.922	781300.375	2715.495	TOP
7210	9978719.875	781300.815	2715.493	TOP
7211	9978719.730	781301.239	2715.519	TOP
7212	9978719.582	781301.663	2715.546	TOP
7213	9978719.447	781302.095	2715.573	TOP
7214	9978719.404	781302.531	2715.568	TOP
7215	9978719.440	781302.977	2715.544	TOP
7216	9978719.490	781303.429	2715.519	TOP
7217	9978719.483	781303.881	2715.506	TOP
7218	9978719.221	781304.286	2715.558	TOP
7219	9978718.831	781304.684	2715.648	TOP
7220	9978718.574	781305.087	2715.702	TOP
7221	9978718.367	781305.483	2715.799	TOP
7222	9978718.001	781305.891	2715.828	TOP
7223	9978717.648	781306.285	2715.906	TOP
7224	9978717.483	781306.692	2715.933	TOP
7225	9978717.266	781307.108	2715.971	TOP
7226	9978717.184	781307.525	2715.975	TOP
7227	9978717.049	781307.961	2715.966	TOP
7228	9978717.092	781308.405	2715.965	TOP
7229	9978717.074	781308.842	2715.951	TOP
7230	9978717.175	781309.309	2715.900	TOP
7231	9978717.170	781309.753	2715.884	TOP
7232	9978716.994	781310.153	2715.908	TOP
7233	9978717.050	781310.621	2715.874	TOP
7234	9978717.082	781311.070	2715.841	TOP
7235	9978717.030	781311.493	2715.834	TOP
7236	9978717.041	781311.942	2715.811	TOP
7237	9978717.037	781312.388	2715.790	TOP
7238	9978716.996	781312.812	2715.775	TOP
7239	9978716.996	781313.270	2715.751	TOP
7240	9978716.983	781313.706	2715.730	TOP
7241	9978716.882	781314.132	2715.733	TOP
7242	9978716.925	781314.578	2715.698	TOP
7243	9978716.743	781314.995	2715.722	TOP
7244	9978716.763	781315.904	2715.664	TOP
7245	9978716.506	781316.288	2715.709	TOP
7246	9978716.425	781316.718	2715.704	TOP
7247	9978716.370	781317.134	2715.719	TOP
7248	9978716.206	781317.575	2715.709	TOP
7249	9978716.100	781318.005	2715.710	TOP
7250	9978716.015	781318.423	2715.705	TOP
7251	9978715.931	781318.857	2715.702	TOP
7252	9978715.907	781319.301	2715.676	TOP
7253	9978715.878	781319.756	2715.654	TOP
7254	9978715.820	781320.189	2715.640	TOP
7255	9978715.790	781320.648	2715.620	TOP
7256	9978715.733	781321.078	2715.602	TOP
7257	9978715.655	781321.511	2715.590	TOP
7258	9978715.625	781321.963	2715.557	TOP
7259	9978715.628	781322.434	2715.537	TOP
7260	9978715.606	781322.866	2715.534	TOP
7261	9978715.455	781323.299	2715.521	TOP
7262	9978715.300	781323.745	2715.495	TOP
7263	9978715.416	781324.210	2715.459	TOP
7264	9978715.387	781324.645	2715.456	TOP
7265	9978715.175	781325.115	2715.403	TOP
7266	9978715.265	781325.545	2715.394	TOP
7267	9978715.163	781325.969	2715.391	TOP
7268	9978715.102	781326.394	2715.369	TOP
7269	9978714.993	781326.829	2715.363	TOP
7270	9978714.940	781327.279	2715.340	TOP
7271	9978714.830	781327.714	2715.332	TOP
7272	9978714.662	781328.091	2715.360	TOP
7273	9978714.428	781328.499	2715.370	TOP
7274	9978714.365	781328.951	2715.348	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO-NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7431	9978674.641	781416.018	2709.359	TOP
7434	9978677.085	781409.918	2706.241	TOP
7435	9978677.378	781409.479	2706.295	TOP
7436	9978677.755	781409.178	2706.295	TOP
7437	9978678.166	781408.814	2706.316	TOP
7438	9978678.872	781408.068	2706.369	TOP
7439	9978679.026	781407.645	2706.489	TOP
7440	9978679.347	781407.041	2706.526	TOP
7441	9978679.724	781406.711	2706.536	TOP
7442	9978680.018	781406.248	2706.592	TOP
7443	9978680.324	781405.828	2706.635	TOP
7444	9978680.458	781405.264	2706.735	TOP
7445	9978680.841	781404.894	2706.750	TOP
7446	9978681.030	781404.331	2706.854	TOP
7447	9978681.331	781403.913	2706.896	TOP
7448	9978681.537	781403.384	2706.985	TOP
7449	9978681.921	781402.274	2707.164	TOP
7450	9978682.321	781401.983	2707.156	TOP
7451	9978683.152	781401.423	2707.127	TOP
7452	9978683.413	781400.990	2707.172	TOP
7453	9978683.799	781400.653	2707.179	TOP
7454	9978684.139	781400.292	2707.196	TOP
7455	9978684.591	781400.057	2707.162	TOP
7456	9978684.843	781399.583	2707.220	TOP
7457	9978685.170	781399.198	2707.243	TOP
7458	9978685.423	781398.755	2707.293	TOP
7459	9978687.167	781398.471	2707.016	TOP
7460	9978687.609	781398.227	2706.982	TOP
7461	9978688.033	781396.099	2707.164	TOP
7462	9978688.493	781395.805	2707.122	TOP
7463	9978690.446	781394.729	2707.174	TOP
7464	9978690.697	781394.273	2707.221	TOP
7465	9978691.089	781393.959	2707.207	TOP
7466	9978691.453	781393.633	2707.202	TOP
7467	9978691.765	781393.257	2707.217	TOP
7468	9978692.095	781392.890	2707.226	TOP
7469	9978692.357	781392.459	2707.263	TOP
7470	9978692.937	781391.634	2707.315	TOP
7471	9978693.184	781391.201	2707.353	TOP
7472	9978693.513	781390.831	2707.361	TOP
7473	9978693.685	781389.609	2707.578	TOP
7474	9978693.780	781389.025	2707.678	TOP
7475	9978693.926	781388.477	2707.758	TOP
7476	9978694.183	781388.050	2707.791	TOP
7477	9978694.431	781387.630	2707.823	TOP
7478	9978694.585	781387.178	2707.860	TOP
7479	9978694.956	781386.767	2707.885	TOP
7480	9978695.051	781386.189	2707.981	TOP
7481	9978695.373	781385.177	2708.113	TOP
7482	9978695.448	781384.589	2708.214	TOP
7483	9978695.697	781383.500	2708.375	TOP
7484	9978695.926	781383.066	2708.410	TOP
7485	9978696.448	781382.240	2708.457	TOP
7486	9978696.677	781381.804	2708.491	TOP
7487	9978696.947	781381.396	2708.512	TOP
7488	9978697.089	781380.893	2708.575	TOP
7489	9978697.310	781380.468	2708.607	TOP
7490	9978697.475	781379.972	2708.663	TOP
7491	9978697.636	781379.499	2708.719	TOP
7492	9978697.748	781378.953	2708.798	TOP
7493	9978697.945	781378.500	2708.839	TOP
7494	9978698.156	781378.067	2708.873	TOP
7495	9978698.459	781377.708	2708.871	TOP
7496	9978698.785	781377.362	2708.862	TOP
7497	9978699.044	781376.957	2708.878	TOP
7498	9978700.090	781374.733	2709.046	TOP
7499	9978700.345	781374.341	2709.058	TOP
7500	9978700.653	781373.979	2709.051	TOP
7501	9978700.950	781373.608	2709.045	TOP
7502	9978701.265	781373.163	2709.037	TOP
7503	9978701.494	781372.849	2709.057	TOP
7504	9978701.772	781372.442	2709.063	TOP
7505	9978702.033	781372.061	2709.069	TOP
7506	9978702.089	781371.502	2709.155	TOP
7507	9978702.488	781371.200	2709.109	TOP
7508	9978702.779	781370.893	2709.108	TOP
7509	9978703.002	781370.407	2709.128	TOP
7510	9978703.234	781369.981	2709.147	TOP
7511	9978703.585	781369.658	2709.118	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7512	9978703.897	781369.509	2709.103	TOP
7513	9978704.250	781368.978	2709.074	TOP
7514	9978704.463	781368.551	2709.095	TOP
7515	9978704.672	781368.114	2709.118	TOP
7516	9978704.761	781367.598	2709.184	TOP
7517	9978704.822	781367.143	2709.221	TOP
7518	9978705.256	781366.242	2709.289	TOP
7519	9978705.385	781365.755	2709.338	TOP
7520	9978705.554	781365.300	2709.371	TOP
7521	9978705.673	781364.825	2709.420	TOP
7522	9978705.943	781364.451	2709.414	TOP
7523	9978706.202	781364.066	2709.412	TOP
7524	9978706.441	781363.634	2709.412	TOP
7525	9978706.484	781363.111	2709.495	TOP
7526	9978706.713	781362.699	2709.504	TOP
7527	9978706.985	781362.318	2709.496	TOP
7528	9978707.157	781361.875	2709.524	TOP
7529	9978707.436	781361.495	2709.513	TOP
7530	9978707.694	781361.097	2709.511	TOP
7531	9978707.989	781360.184	2709.578	TOP
7532	9978708.137	781359.734	2709.609	TOP
7533	9978708.294	781359.272	2709.640	TOP
7534	9978708.292	781358.730	2709.723	TOP
7535	9978708.482	781358.287	2709.742	TOP
7536	9978708.635	781357.847	2709.769	TOP
7537	9978708.862	781357.437	2709.772	TOP
7538	9978709.093	781357.040	2709.772	TOP
7539	9978709.273	781356.596	2709.791	TOP
7540	9978709.343	781356.106	2709.846	TOP
7541	9978709.503	781355.653	2709.870	TOP
7542	9978709.686	781355.229	2709.885	TOP
7543	9978709.738	781354.733	2709.943	TOP
7544	9978709.983	781354.341	2709.935	TOP
7545	9978710.148	781353.892	2709.957	TOP
7546	9978710.429	781353.538	2709.934	TOP
7547	9978710.659	781353.127	2709.932	TOP
7548	9978710.803	781352.695	2709.955	TOP
7549	9978710.985	781352.285	2709.967	TOP
7550	9978711.256	781351.878	2709.950	TOP
7551	9978711.429	781351.444	2709.964	TOP
7552	9978711.611	781351.018	2709.974	TOP
7553	9978711.820	781350.610	2709.975	TOP
7554	9978711.899	781350.125	2710.019	TOP
7555	9978712.050	781349.681	2710.039	TOP
7556	9978712.231	781349.252	2710.048	TOP
7557	9978712.578	781348.800	2710.069	TOP
7558	9978712.565	781348.387	2710.074	TOP
7559	9978712.788	781347.979	2710.068	TOP
7560	9978713.085	781347.615	2710.036	TOP
7561	9978713.199	781347.147	2710.065	TOP
7562	9978713.405	781346.721	2710.065	TOP
7563	9978713.608	781346.318	2710.062	TOP
7564	9978713.734	781345.876	2710.083	TOP
7565	9978713.998	781345.483	2710.062	TOP
7566	9978714.198	781345.065	2710.080	TOP
7567	9978714.523	781344.703	2710.017	TOP
7568	9978714.759	781344.300	2710.003	TOP
7569	9978714.855	781343.836	2710.052	TOP
7570	9978714.820	781343.325	2710.004	TOP
7571	9978714.959	781342.902	2710.007	TOP
7572	9978714.959	781342.378	2710.197	TOP
7573	9978714.873	781341.823	2710.268	TOP
7574	9978714.704	781341.350	2710.323	TOP
7575	9978714.777	781340.808	2710.412	TOP
7576	9978714.820	781340.320	2710.457	TOP
7577	9978714.959	781339.731	2710.593	TOP
7578	9978714.959	781339.224	2710.654	TOP
7579	9978714.484	781338.712	2710.731	TOP
7580	9978714.240	781338.120	2710.863	TOP
7581	9978714.216	781337.636	2710.929	TOP
7582	9978713.916	781337.070	2711.073	TOP
7583	9978713.996	781336.570	2711.100	TOP
7584	9978713.941	781336.052	2711.134	TOP
7585	9978713.891	781335.564	2711.257	TOP
7586	9978713.666	781334.998	2711.359	TOP
7587	9978713.214	781334.340	2711.553	TOP
7588	9978713.108	781333.820	2711.636	TOP
7589	9978712.951	781333.289	2711.735	TOP
7590	9978713.007	781332.833	2711.766	TOP



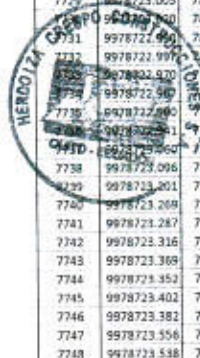
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7591	9978713.001	781332.372	2711.814	TOP
7592	9978713.043	781331.911	2711.849	TOP
7593	9978713.104	781331.462	2711.877	TOP
7594	9978713.192	781331.020	2711.896	TOP
7595	9978713.026	781328.630	2712.171	TOP
7596	9978713.056	781328.179	2712.204	TOP
7597	9978713.129	781327.751	2712.223	TOP
7598	9978713.241	781327.331	2712.230	TOP
7599	9978713.320	781326.899	2712.246	TOP
7600	9978713.460	781326.476	2712.245	TOP
7601	9978713.602	781326.060	2712.241	TOP
7602	9978713.640	781325.624	2712.267	TOP
7603	9978713.771	781325.216	2712.267	TOP
7604	9978713.866	781324.790	2712.276	TOP
7605	9978713.919	781324.348	2712.299	TOP
7606	9978713.997	781323.911	2712.313	TOP
7607	9978713.985	781323.461	2712.354	TOP
7608	9978714.071	781323.029	2712.364	TOP
7609	9978714.209	781322.627	2712.357	TOP
7610	9978714.347	781322.207	2712.352	TOP
7611	9978714.460	781321.788	2712.352	TOP
7612	9978714.609	781321.367	2712.343	TOP
7613	9978714.752	781320.945	2712.334	TOP
7614	9978714.855	781320.529	2712.336	TOP
7615	9978714.980	781320.116	2712.332	TOP
7616	9978714.970	781319.651	2712.369	TOP
7617	9978714.977	781319.208	2712.399	TOP
7618	9978715.056	781318.776	2712.408	TOP
7619	9978715.104	781318.341	2712.425	TOP
7620	9978715.172	781317.911	2712.436	TOP
7621	9978715.414	781317.525	2712.393	TOP
7622	9978715.399	781317.057	2712.429	TOP
7623	9978715.412	781316.614	2712.455	TOP
7624	9978715.488	781316.196	2712.461	TOP
7625	9978715.594	781315.773	2712.458	TOP
7626	9978715.701	781315.342	2712.455	TOP
7627	9978715.855	781314.932	2712.436	TOP
7628	9978716.023	781314.524	2712.414	TOP
7629	9978716.157	781314.118	2712.388	TOP
7630	9978716.228	781313.680	2712.406	TOP
7631	9978716.241	781313.242	2712.428	TOP
7632	9978716.190	781312.789	2712.469	TOP
7633	9978716.971	781312.311	2712.560	TOP
7634	9978716.234	781311.919	2712.506	TOP
7635	9978716.279	781311.483	2712.518	TOP
7636	9978716.308	781311.054	2712.543	TOP
7637	9978716.245	781310.602	2712.575	TOP
7638	9978716.198	781310.155	2712.613	TOP
7639	9978716.102	781309.686	2712.605	TOP
7640	9978716.170	781309.258	2712.667	TOP
7641	9978716.206	781308.830	2712.678	TOP
7642	9978716.190	781308.390	2712.704	TOP
7643	9978716.255	781307.947	2712.706	TOP
7644	9978716.212	781307.514	2712.739	TOP
7645	9978716.358	781307.098	2712.716	TOP
7646	9978716.604	781306.690	2712.662	TOP
7647	9978716.724	781306.284	2712.645	TOP
7648	9978716.996	781305.879	2712.583	TOP
7649	9978717.299	781305.476	2712.511	TOP
7650	9978717.371	781305.055	2712.507	TOP
7651	9978717.427	781304.622	2712.509	TOP
7652	9978717.274	781304.182	2712.572	TOP
7653	9978716.710	781303.654	2712.753	TOP
7654	9978716.608	781302.764	2712.819	TOP
7655	9978716.667	781301.483	2712.840	TOP
7656	9978716.888	781301.070	2712.794	TOP
7657	9978717.012	781300.651	2712.771	TOP
7658	9978717.958	781300.308	2712.503	TOP
7659	9978718.621	781299.938	2712.319	TOP
7660	9978719.007	781299.550	2712.216	TOP
7661	9978719.143	781299.124	2712.188	TOP
7662	9978719.279	781298.695	2712.159	TOP
7663	9978719.461	781298.259	2712.117	TOP
7664	9978719.493	781297.832	2712.118	TOP
7665	9978719.735	781297.412	2712.056	TOP
7666	9978719.841	781296.981	2712.035	TOP
7667	9978719.985	781296.546	2712.002	TOP
7668	9978720.034	781296.109	2711.996	TOP
7669	9978719.991	781295.656	2712.018	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7670	9978720.070	781295.229	2712.001	TOP
7671	9978720.138	781294.787	2711.990	TOP
7672	9978720.198	781294.347	2711.980	TOP
7673	9978720.238	781293.904	2711.975	TOP
7674	9978720.318	781293.461	2711.958	TOP
7675	9978720.328	781293.034	2711.962	TOP
7676	9978720.253	781292.585	2711.989	TOP
7677	9978720.287	781292.144	2711.984	TOP
7678	9978720.296	781291.712	2711.986	TOP
7679	9978720.250	781291.255	2712.004	TOP
7680	9978720.281	781290.810	2711.998	TOP
7681	9978720.330	781290.380	2711.988	TOP
7682	9978720.382	781289.945	2711.975	TOP
7683	9978720.328	781289.495	2711.994	TOP
7684	9978720.236	781289.054	2712.023	TOP
7685	9978720.294	781288.613	2712.008	TOP
7686	9978720.370	781288.178	2711.987	TOP
7687	9978720.344	781287.752	2711.995	TOP
7688	9978720.238	781287.307	2712.027	TOP
7689	9978720.137	781286.868	2712.057	TOP
7690	9978720.092	781286.421	2712.066	TOP
7691	9978719.941	781285.996	2712.113	TOP
7692	9978719.867	781285.564	2712.134	TOP
7693	9978719.781	781285.124	2712.157	TOP
7694	9978719.768	781284.681	2712.153	TOP
7695	9978719.657	781284.253	2712.190	TOP
7696	9978719.521	781283.773	2712.223	TOP
7697	9978719.603	781283.341	2712.195	TOP
7698	9978720.441	781282.475	2711.943	TOP
7699	9978720.841	781282.006	2711.820	TOP
7700	9978721.461	781281.530	2711.681	TOP
7701	9978721.465	781281.099	2711.624	TOP
7702	9978721.494	781280.651	2711.609	TOP
7703	9978721.492	781280.207	2711.603	TOP
7704	9978721.523	781279.752	2711.587	TOP
7705	9978721.674	781279.295	2711.585	TOP
7706	9978721.768	781278.842	2711.499	TOP
7707	9978721.786	781278.395	2711.485	TOP
7708	9978721.852	781277.945	2711.457	TOP
7709	9978721.871	781277.488	2711.442	TOP
7710	9978721.992	781277.043	2711.398	TOP
7711	9978722.027	781276.583	2711.376	TOP
7712	9978722.179	781276.120	2711.322	TOP
7713	9978722.246	781275.673	2711.285	TOP
7714	9978722.400	781275.203	2711.232	TOP
7715	9978722.440	781274.757	2711.208	TOP
7716	9978722.467	781274.291	2711.187	TOP
7717	9978722.642	781273.841	2711.123	TOP
7718	9978722.860	781273.361	2711.045	TOP
7719	9978722.828	781272.926	2711.041	TOP
7720	9978722.786	781272.472	2711.039	TOP
7721	9978722.731	781272.025	2711.040	TOP
7722	9978722.719	781271.571	2711.029	TOP
7723	9978722.720	781271.121	2711.013	TOP
7724	9978722.899	781270.646	2710.944	TOP
7725	9978722.965	781270.183	2710.907	TOP
7726	9978722.888	781269.738	2710.914	TOP
7727	9978722.955	781269.265	2710.876	TOP
7728	9978722.890	781268.824	2710.877	TOP
7729	9978722.005	781267.889	2710.865	TOP
7730	9978722.000	781267.424	2710.782	TOP
7731	9978722.000	781266.964	2710.770	TOP
7732	9978722.999	781266.501	2710.748	TOP
7733	9978722.970	781266.061	2710.736	TOP
7734	9978722.969	781265.602	2710.716	TOP
7735	9978722.960	781265.135	2710.711	TOP
7736	9978722.951	781264.671	2710.699	TOP
7737	9978722.940	781264.217	2710.557	TOP
7738	9978722.906	781263.265	2710.563	TOP
7739	9978723.201	781262.768	2710.507	TOP
7740	9978723.269	781262.296	2710.462	TOP
7741	9978723.287	781261.818	2710.431	TOP
7742	9978723.316	781261.350	2710.397	TOP
7743	9978723.369	781260.875	2710.352	TOP
7744	9978723.352	781260.409	2710.334	TOP
7745	9978723.402	781259.936	2710.292	TOP
7746	9978723.382	781259.476	2710.271	TOP
7747	9978723.556	781258.968	2710.190	TOP
7748	9978723.538	781258.507	2710.167	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7749	9978723.485	781258.051	2710.154	TOP
7750	9978722.967	781256.755	2710.227	TOP
7751	9978722.825	781256.316	2710.234	TOP
7752	9978722.536	781255.913	2710.250	TOP
7753	9978721.689	781255.635	2710.515	TOP
7754	9978721.253	781255.261	2710.615	TOP
7755	9978720.928	781254.873	2710.682	TOP
7756	9978720.577	781254.481	2710.755	TOP
7757	9978720.338	781254.085	2710.796	TOP
7758	9978719.853	781253.741	2710.910	TOP
7759	9978719.601	781253.333	2710.952	TOP
7760	9978719.330	781252.935	2711.000	TOP
7761	9978719.270	781252.475	2710.983	TOP
7762	9978719.229	781252.027	2710.961	TOP
7763	9978719.041	781251.615	2710.982	TOP
7764	9978718.921	781251.180	2710.983	TOP
7765	9978718.829	781250.725	2710.973	TOP
7766	9978718.730	781250.275	2710.966	TOP
7767	9978718.678	781249.839	2710.945	TOP
7768	9978718.637	781249.368	2710.918	TOP
7769	9978718.636	781248.898	2710.879	TOP
7770	9978718.495	781248.462	2710.883	TOP
7771	9978718.262	781248.057	2710.915	TOP
7772	9978717.919	781247.697	2710.981	TOP
7773	9978717.679	781247.307	2711.016	TOP
7774	9978717.261	781246.965	2711.104	TOP
7775	9978716.977	781246.581	2711.150	TOP
7776	9978716.626	781246.222	2711.217	TOP
7777	9978716.184	781245.891	2711.311	TOP
7778	9978715.948	781245.501	2711.342	TOP
7779	9978715.809	781245.157	2711.406	TOP
7780	9978715.040	781244.394	2711.494	TOP
7781	9978714.806	781243.998	2711.522	TOP
7782	9978714.655	781243.581	2711.524	TOP
7783	9978714.474	781243.176	2711.536	TOP
7784	9978713.317	781242.225	2711.664	TOP
7785	9978712.976	781240.877	2711.723	TOP
7786	9978712.418	781240.140	2711.801	TOP
7787	9978712.227	781239.730	2711.811	TOP
7788	9978711.963	781239.363	2711.845	TOP
7789	9978711.645	781239.018	2711.896	TOP
7790	9978711.442	781238.618	2711.909	TOP
7791	9978711.095	781238.275	2711.967	TOP
7792	9978710.827	781237.902	2712.000	TOP
7793	9978710.419	781237.598	2712.078	TOP
7794	9978710.196	781237.220	2712.097	TOP
7795	9978709.894	781236.867	2712.139	TOP
7796	9978709.450	781236.582	2712.229	TOP
7797	9978708.583	781235.960	2712.366	TOP
7798	9978708.031	781235.305	2712.467	TOP
7799	9978707.815	781234.926	2712.481	TOP
7800	9978707.506	781234.592	2712.525	TOP
7801	9978707.175	781234.262	2712.575	TOP
7802	9978706.973	781233.875	2712.583	TOP
7803	9978706.660	781233.546	2712.628	TOP
7804	9978706.143	781233.307	2712.737	TOP
7805	9978705.840	781232.966	2712.777	TOP
7806	9978705.661	781232.571	2712.776	TOP
7807	9978705.619	781232.130	2712.731	TOP
7808	9978705.618	781231.637	2712.671	TOP
7809	9978705.553	781231.190	2712.631	TOP
7810	9978705.413	781230.779	2712.618	TOP
7811	9978705.195	781230.404	2712.626	TOP
7812	9978704.813	781230.106	2712.689	TOP
7813	9978704.613	781229.728	2712.693	TOP
7814	9978704.321	781229.388	2712.726	TOP
7815	9978704.015	781229.053	2712.762	TOP
7816	9978703.735	781228.709	2712.791	TOP
7817	9978703.434	781228.373	2712.825	TOP
7818	9978703.318	781227.967	2712.800	TOP
7819	9978703.214	781227.523	2712.768	TOP
7820	9978703.121	781227.083	2712.732	TOP
7821	9978702.983	781226.669	2712.712	TOP
7822	9978702.783	781226.284	2712.711	TOP
7823	9978702.585	781225.898	2712.709	TOP
7824	9978702.424	781225.494	2712.694	TOP
7825	9978702.264	781225.105	2712.681	TOP
7826	9978701.986	781224.771	2712.706	TOP
7827	9978701.704	781224.419	2712.728	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7828	9978701.311	781224.155	2712.792	TOP
7829	9978701.195	781223.724	2712.760	TOP
7830	9978700.975	781223.365	2712.765	TOP
7831	9978700.739	781223.001	2712.772	TOP
7832	9978700.081	781222.882	2712.924	TOP
7833	9978699.658	781222.626	2712.994	TOP
7834	9978699.084	781222.409	2713.118	TOP
7835	9978698.623	781222.241	2713.201	TOP
7836	9978698.302	781221.988	2713.238	TOP
7837	9978697.662	781221.828	2713.384	TOP
7838	9978697.222	781221.591	2713.459	TOP
7839	9978696.713	781221.402	2713.559	TOP
7840	9978696.607	781221.667	2709.646	TOP
7841	9978699.824	781224.026	2709.642	TOP
7842	9978700.037	781224.406	2709.643	TOP
7843	9978700.243	781224.764	2709.641	TOP
7844	9978700.620	781225.050	2709.579	TOP
7845	9978700.954	781225.353	2709.532	TOP
7846	9978701.215	781225.700	2709.512	TOP
7847	9978701.378	781226.080	2709.524	TOP
7848	9978701.463	781226.530	2709.568	TOP
7849	9978701.605	781226.940	2709.590	TOP
7850	9978702.032	781227.187	2709.595	TOP
7851	9978702.301	781227.549	2709.482	TOP
7852	9978702.477	781227.926	2709.488	TOP
7853	9978702.619	781228.335	2709.505	TOP
7854	9978703.026	781229.095	2709.501	TOP
7855	9978703.266	781229.456	2709.486	TOP
7856	9978703.461	781229.836	2709.484	TOP
7857	9978703.643	781230.217	2709.486	TOP
7858	9978703.786	781230.630	2709.503	TOP
7859	9978703.909	781231.051	2709.527	TOP
7860	9978704.006	781231.479	2709.559	TOP
7861	9978704.138	781231.885	2709.577	TOP
7862	9978704.241	781232.318	2709.607	TOP
7863	9978704.317	781232.740	2709.641	TOP
7864	9978704.397	781233.185	2709.680	TOP
7865	9978704.429	781233.650	2709.734	TOP
7866	9978704.589	781234.044	2709.740	TOP
7867	9978704.704	781234.461	2709.762	TOP
7868	9978704.924	781234.827	2709.745	TOP
7869	9978705.181	781235.168	2709.714	TOP
7870	9978705.496	781235.498	2709.664	TOP
7871	9978705.908	781235.782	2709.579	TOP
7872	9978706.358	781236.049	2709.480	TOP
7873	9978706.742	781236.352	2709.405	TOP
7874	9978707.142	781236.638	2709.322	TOP
7875	9978707.499	781236.956	2709.256	TOP
7876	9978708.142	781237.144	2709.088	TOP
7877	9978708.467	781237.488	2709.033	TOP
7878	9978708.772	781237.822	2708.983	TOP
7879	9978709.244	781238.108	2708.877	TOP
7880	9978709.595	781238.459	2708.832	TOP
7881	9978709.949	781238.768	2708.745	TOP
7882	9978710.317	781239.120	2708.706	TOP
7883	9978710.804	781239.369	2708.559	TOP
7884	9978711.135	781239.702	2708.498	TOP
7885	9978711.422	781240.068	2708.453	TOP
7886	9978711.800	781240.394	2708.377	TOP
7887	9978712.037	781240.788	2708.350	TOP
7888	9978712.505	781241.125	2708.283	TOP
7889	9978712.905	781241.512	2708.263	TOP
7890	9978713.772	781241.915	2708.253	TOP
7891	9978713.877	781242.277	2708.200	TOP
7892	9978718.929	781242.647	2708.148	TOP
7893	9978713.200	781242.995	2708.079	TOP
7894	9978713.944	781243.367	2708.038	TOP
7895	9978714.215	781243.769	2708.012	TOP
7896	9978714.485	781244.196	2708.031	TOP
7897	9978714.391	781244.645	2708.060	TOP
7898	9978714.436	781245.088	2708.082	TOP
7899	9978714.619	781245.507	2708.068	TOP
7900	9978714.798	781245.907	2708.053	TOP
7901	9978715.022	781246.292	2708.023	TOP
7902	9978715.316	781246.669	2707.969	TOP
7903	9978715.527	781247.061	2707.943	TOP
7904	9978715.914	781247.415	2707.857	TOP
7905	9978716.124	781247.808	2707.830	TOP
7906	9978716.324	781248.209	2707.806	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7907	9978716.463	781248.628	2707.802	TOP
7908	9978716.640	781249.046	2707.786	TOP
7909	9978716.996	781249.409	2707.709	TOP
7910	9978717.178	781249.823	2707.690	TOP
7911	9978717.464	781250.195	2707.634	TOP
7912	9978717.684	781250.601	2707.601	TOP
7913	9978717.896	781251.033	2707.572	TOP
7914	9978718.032	781251.445	2707.566	TOP
7915	9978718.153	781251.879	2707.566	TOP
7916	9978718.176	781252.332	2707.596	TOP
7917	9978718.324	781252.745	2707.584	TOP
7918	9978718.565	781253.157	2707.533	TOP
7919	9978718.851	781253.590	2707.485	TOP
7920	9978718.885	781254.003	2707.511	TOP
7921	9978719.157	781254.403	2707.457	TOP
7922	9978719.488	781254.780	2707.382	TOP
7923	9978719.826	781255.161	2707.306	TOP
7924	9978720.134	781255.559	2707.230	TOP
7925	9978720.558	781255.926	2707.133	TOP
7926	9978720.842	781256.323	2707.073	TOP
7927	9978721.048	781256.747	2707.039	TOP
7928	9978721.492	781257.104	2706.925	TOP
7929	9978721.744	781257.512	2706.877	TOP
7930	9978722.148	781257.903	2706.773	TOP
7931	9978722.328	781258.327	2706.745	TOP
7932	9978722.646	781258.715	2706.671	TOP
7933	9978722.833	781259.146	2706.641	TOP
7934	9978722.982	781259.585	2706.622	TOP
7935	9978723.222	781259.996	2706.572	TOP
7936	9978723.186	781260.473	2706.614	TOP
7937	9978723.170	781260.948	2706.649	TOP
7938	9978723.189	781261.395	2706.669	TOP
7939	9978723.173	781261.859	2706.702	TOP
7940	9978723.209	781262.329	2706.719	TOP
7941	9978723.190	781262.800	2706.752	TOP
7942	9978723.203	781263.271	2706.774	TOP
7943	9978723.324	781263.701	2706.760	TOP
7944	9978723.311	781264.165	2706.789	TOP
7945	9978723.331	781264.633	2706.808	TOP
7946	9978723.366	781265.089	2706.821	TOP
7947	9978723.714	781267.356	2706.821	TOP
7948	9978723.712	781267.812	2706.843	TOP
7949	9978723.760	781268.275	2706.848	TOP
7950	9978723.650	781268.744	2706.904	TOP
7951	9978723.160	781269.271	2707.084	TOP
7952	9978723.197	781269.722	2707.091	TOP
7953	9978723.197	781270.188	2707.110	TOP
7954	9978723.063	781270.659	2707.172	TOP
7955	9978723.059	781271.107	2707.190	TOP
7956	9978723.109	781271.549	2707.191	TOP
7957	9978722.979	781272.027	2707.250	TOP
7958	9978722.898	781272.482	2707.292	TOP
7959	9978722.590	781272.970	2707.408	TOP
7960	9978722.322	781273.452	2707.510	TOP
7961	9978722.320	781273.896	2707.525	TOP
7962	9978722.221	781274.345	2707.571	TOP
7963	9978722.185	781274.803	2707.596	TOP
7964	9978722.156	781275.261	2707.618	TOP
7965	9978722.100	781275.704	2707.649	TOP
7966	9978722.028	781276.164	2707.684	TOP
7967	9978721.914	781276.614	2707.733	TOP
7968	9978721.919	781277.071	2707.743	TOP
7969	9978721.801	781277.510	2707.791	TOP
7970	9978721.744	781277.975	2707.820	TOP
7971	9978721.657	781278.435	2707.858	TOP
7972	9978721.640	781278.878	2707.872	TOP
7973	9978721.569	781279.328	2707.904	TOP
7974	9978721.527	781279.791	2707.926	TOP
7975	9978721.480	781280.224	2707.949	TOP
7976	9978721.211	781280.681	2708.043	TOP
7977	9978721.153	781281.130	2708.068	TOP
7978	9978720.908	781281.575	2708.153	TOP
7979	9978720.298	781282.047	2708.357	TOP
7980	9978719.670	781282.511	2708.565	TOP
7981	9978719.603	781282.959	2708.591	TOP
7982	9978719.454	781283.407	2708.644	TOP
7983	9978719.523	781283.835	2708.625	TOP
7984	9978719.533	781284.285	2708.625	TOP
7985	9978719.571	781284.711	2708.616	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
7986	9978719.655	781285.149	2708.590	TOP
7987	9978719.828	781285.586	2708.537	TOP
7988	9978719.769	781286.015	2708.557	TOP
7989	9978719.831	781286.451	2708.538	TOP
7990	9978719.820	781286.895	2708.542	TOP
7991	9978719.707	781287.335	2708.579	TOP
7992	9978719.884	781287.766	2708.521	TOP
7993	9978720.062	781288.205	2708.463	TOP
7994	9978720.003	781288.629	2708.480	TOP
7995	9978719.871	781289.072	2708.521	TOP
7996	9978719.596	781289.510	2708.607	TOP
7997	9978719.590	781289.953	2708.607	TOP
7998	9978719.587	781290.389	2708.604	TOP
7999	9978719.607	781290.818	2708.594	TOP
8000	9978719.660	781291.265	2708.573	TOP
8001	9978719.681	781291.703	2708.561	TOP
8002	9978719.612	781292.150	2708.578	TOP
8003	9978719.557	781292.582	2708.591	TOP
8004	9978719.274	781293.042	2708.670	TOP
8005	9978719.226	781293.474	2708.678	TOP
8006	9978719.191	781293.920	2708.682	TOP
8007	9978718.810	781294.405	2708.780	TOP
8008	9978718.548	781294.939	2708.822	TOP
8009	9978718.552	781295.468	2708.844	TOP
8010	9978718.050	781296.079	2708.996	TOP
8011	9978717.881	781297.292	2709.040	TOP
8012	9978717.547	781297.702	2709.117	TOP
8013	9978717.571	781298.116	2709.182	TOP
8014	9978717.119	781298.522	2709.252	TOP
8015	9978716.546	781298.905	2709.425	TOP
8016	9978716.378	781299.323	2709.467	TOP
8017	9978716.090	781299.728	2709.547	TOP
8018	9978715.913	781300.125	2709.591	TOP
8019	9978715.290	781300.491	2709.779	TOP
8020	9978715.055	781300.893	2709.841	TOP
8021	9978714.776	781301.284	2709.916	TOP
8022	9978714.589	781301.695	2709.961	TOP
8023	9978714.397	781302.091	2710.008	TOP
8024	9978714.267	781302.519	2710.001	TOP
8025	9978714.403	781302.952	2709.973	TOP
8026	9978714.530	781303.394	2709.914	TOP
8027	9978714.538	781303.828	2709.894	TOP
8028	9978714.634	781304.268	2709.844	TOP
8029	9978714.699	781304.709	2709.803	TOP
8030	9978714.658	781305.128	2709.798	TOP
8031	9978714.634	781305.563	2709.785	TOP
8032	9978714.596	781305.983	2709.777	TOP
8033	9978714.835	781306.448	2709.679	TOP
8034	9978714.862	781306.886	2709.649	TOP
8035	9978715.007	781307.348	2709.579	TOP
8036	9978715.012	781307.776	2709.555	TOP
8037	9978715.120	781308.240	2709.496	TOP
8038	9978715.141	781308.677	2709.466	TOP
8039	9978715.141	781309.110	2709.443	TOP
8040	9978715.231	781309.552	2709.389	TOP
8041	9978715.232	781310.003	2709.384	TOP
8042	9978715.238	781310.444	2709.339	TOP
8043	9978715.416	781310.913	2709.252	TOP
8044	9978715.359	781311.334	2709.245	TOP
8045	9978715.333	781311.750	2709.259	TOP
8046	9978715.326	781312.155	2709.276	TOP
8047	9978714.982	781312.576	2709.288	TOP
8048	9978715.082	781313.038	2709.226	TOP
8049	9978714.991	781313.441	2709.241	TOP
8050	9978714.917	781313.852	2709.256	TOP
8051	9978714.838	781314.294	2709.226	TOP
8052	9978714.745	781314.720	2709.223	TOP
8053	9978714.692	781315.145	2709.208	TOP
8054	9978714.545	781315.563	2709.218	TOP
8055	9978714.394	781315.969	2709.243	TOP
8056	9978714.272	781316.388	2709.251	TOP
8057	9978714.181	781316.792	2709.249	TOP
8058	9978714.064	781317.232	2709.253	TOP
8059	9978713.904	781317.647	2709.253	TOP
8060	9978713.869	781318.066	2709.251	TOP
8061	9978713.794	781318.480	2709.242	TOP
8062	9978713.650	781318.891	2709.255	TOP
8063	9978713.562	781319.319	2709.249	TOP
8064	9978713.659	781320.696	2709.106	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8065	9978713.599	781321.115	2709.091	TOP
8066	9978713.553	781321.571	2709.064	TOP
8067	9978713.442	781321.971	2709.065	TOP
8068	9978713.322	781322.403	2709.064	TOP
8069	9978713.119	781322.786	2709.095	TOP
8070	9978711.997	781323.201	2709.094	TOP
8071	9978712.724	781323.570	2709.146	TOP
8072	9978712.523	781323.965	2709.172	TOP
8073	9978712.533	781324.417	2709.127	TOP
8074	9978712.578	781324.817	2709.138	TOP
8075	9978712.308	781325.240	2709.120	TOP
8076	9978712.212	781325.671	2709.108	TOP
8077	9978712.151	781326.091	2709.086	TOP
8078	9978712.079	781326.531	2709.066	TOP
8079	9978711.852	781326.911	2709.098	TOP
8080	9978711.104	781327.437	2708.968	TOP
8081	9978711.221	781328.995	2708.836	TOP
8082	9978712.186	781329.300	2708.755	TOP
8083	9978712.058	781329.723	2708.748	TOP
8084	9978712.151	781330.209	2708.668	TOP
8085	9978712.029	781330.628	2708.660	TOP
8086	9978712.092	781332.062	2708.485	TOP
8087	9978712.068	781332.527	2708.441	TOP
8088	9978712.304	781333.073	2708.309	TOP
8089	9978712.237	781333.539	2708.277	TOP
8090	9978712.147	781333.954	2708.256	TOP
8091	9978711.992	781334.380	2708.254	TOP
8092	9978711.875	781334.814	2708.239	TOP
8093	9978712.248	781335.424	2708.056	TOP
8094	9978712.421	781336.462	2707.881	TOP
8095	9978712.423	781336.945	2707.822	TOP
8096	9978712.492	781337.449	2707.741	TOP
8097	9978713.067	781339.128	2707.369	TOP
8098	9978713.533	781341.269	2706.954	TOP
8099	9978713.416	781341.731	2706.930	TOP
8100	9978713.369	781342.210	2706.881	TOP
8101	9978713.267	781342.654	2706.853	TOP
8102	9978713.127	781343.093	2706.836	TOP
8103	9978712.919	781343.487	2706.846	TOP
8104	9978712.754	781343.926	2706.836	TOP
8105	9978712.552	781344.330	2706.841	TOP
8106	9978712.360	781344.757	2706.839	TOP
8107	9978712.087	781345.131	2706.868	TOP
8108	9978711.770	781345.484	2706.912	TOP
8109	9978711.626	781345.906	2706.896	TOP
8110	9978711.454	781346.334	2706.886	TOP
8111	9978711.263	781346.765	2706.881	TOP
8112	9978711.083	781347.179	2706.875	TOP
8113	9978710.828	781347.565	2706.895	TOP
8114	9978710.407	781348.364	2706.901	TOP
8115	9978710.218	781348.781	2706.895	TOP
8116	9978709.946	781349.167	2706.917	TOP
8117	9978709.720	781349.557	2706.924	TOP
8118	9978709.442	781349.921	2706.950	TOP
8119	9978709.123	781350.282	2706.988	TOP
8120	9978708.981	781350.707	2706.965	TOP
8121	9978708.679	781351.074	2706.996	TOP
8122	9978708.454	781351.461	2707.001	TOP
8123	9978708.279	781351.885	2706.986	TOP
8124	9978708.227	781352.357	2706.928	TOP
8125	9978708.132	781352.845	2706.879	TOP
8126	9978707.964	781353.264	2706.862	TOP
8127	9978707.149	781353.949	2706.664	TOP
8128	9978707.002	781354.385	2706.634	TOP
8129	9978706.831	781354.810	2706.612	TOP
8130	9978706.621	781355.264	2706.514	TOP
8131	9978704.893	781360.484	2706.531	TOP
8132	9978704.634	781360.862	2706.536	TOP
8133	9978704.311	781361.199	2706.566	TOP
8134	9978703.885	781363.410	2706.400	TOP
8135	9978703.540	781363.999	2706.280	TOP
8136	9978703.116	781365.385	2706.143	TOP
8137	9978702.624	781366.159	2706.139	TOP
8138	9978701.595	781368.846	2705.904	TOP
8139	9978701.372	781369.266	2705.883	TOP
8140	9978701.160	781369.686	2705.858	TOP
8141	9978700.776	781369.989	2705.900	TOP
8142	9978700.585	781370.425	2705.867	TOP
8143	9978700.532	781370.970	2705.775	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8144	9978699.845	781372.215	2705.710	TOP
8145	9978699.428	781372.483	2705.765	TOP
8146	9978698.511	781372.950	2705.907	TOP
8147	9978698.107	781373.227	2705.954	TOP
8148	9978697.811	781373.593	2705.956	TOP
8149	9978697.529	781373.957	2705.955	TOP
8150	9978697.296	781374.370	2705.930	TOP
8151	9978697.057	781374.776	2705.909	TOP
8152	9978697.008	781375.342	2705.806	TOP
8153	9978696.664	781376.272	2705.702	TOP
8154	9978696.447	781376.681	2705.672	TOP
8155	9978696.302	781377.171	2705.607	TOP
8156	9978695.055	781381.067	2705.095	TOP
8157	9978694.828	781381.491	2705.059	TOP
8158	9978694.558	781381.889	2705.039	TOP
8159	9978694.428	781382.399	2704.960	TOP
8160	9978694.311	781382.931	2704.874	TOP
8161	9978694.068	781383.367	2704.837	TOP
8162	9978693.934	781383.893	2704.755	TOP
8163	9978693.788	781384.405	2704.677	TOP
8164	9978693.678	781385.131	2704.497	TOP
8165	9978693.604	781385.587	2704.467	TOP
8166	9978693.356	781385.963	2704.436	TOP
8167	9978693.034	781386.342	2704.428	TOP
8168	9978692.751	781386.711	2704.417	TOP
8169	9978691.544	781389.614	2704.058	TOP
8170	9978691.204	781389.943	2704.041	TOP
8171	9978690.423	781391.233	2703.922	TOP
8172	9978689.838	781392.001	2703.877	TOP
8173	9978689.574	781392.427	2703.837	TOP
8174	9978686.786	781395.153	2703.810	TOP
8175	9978686.345	781395.400	2703.847	TOP
8176	9978682.793	781399.503	2703.604	TOP
8177	9978682.467	781399.873	2703.580	TOP
8178	9978682.156	781400.275	2703.544	TOP
8179	9978679.794	781402.025	2703.567	TOP
8180	9978679.386	781402.313	2703.597	TOP
8181	9978689.208	781388.819	2700.764	TOP
8182	9978691.661	781385.872	2700.873	TOP
8183	9978691.906	781385.446	2700.910	TOP
8184	9978692.610	781382.240	2701.899	TOP
8185	9978692.950	781381.906	2701.486	TOP
8186	9978693.149	781381.426	2701.551	TOP
8187	9978693.383	781381.016	2701.581	TOP
8188	9978693.591	781380.575	2701.634	TOP
8189	9978693.757	781380.089	2701.708	TOP
8190	9978693.994	781379.684	2701.734	TOP
8191	9978694.159	781379.209	2701.796	TOP
8192	9978694.420	781378.800	2701.825	TOP
8193	9978694.714	781378.630	2702.240	TOP
8194	9978695.011	781378.265	2702.243	TOP
8195	9978695.157	781378.801	2702.307	TOP
8196	9978695.435	781375.431	2702.315	TOP
8197	9978695.698	781375.052	2702.324	TOP
8198	9978695.947	781374.651	2702.345	TOP
8199	9978696.221	781374.271	2702.358	TOP
8200	9978696.195	781373.658	2702.495	TOP
8201	9978696.511	781373.523	2702.487	TOP
8202	9978696.842	781372.991	2702.465	TOP
8203	9978697.313	781372.187	2702.509	TOP
8204	9978697.571	781371.806	2702.519	TOP
8205	9978697.015	781371.562	2702.447	TOP
8206	9978696.754	781371.177	2702.464	TOP
8207	9978696.269	781370.605	2702.585	TOP
8208	9978695.956	781368.898	2702.496	TOP
8209	9978700.640	781367.886	2702.650	TOP
8210	9978700.213	781367.442	2702.695	TOP
8211	9978700.410	781367.024	2702.724	TOP
8212	9978700.556	781366.550	2702.781	TOP
8213	9978700.608	781366.029	2702.870	TOP
8214	9978700.726	781365.556	2702.930	TOP
8215	9978700.914	781365.131	2702.961	TOP
8216	9978701.156	781364.753	2702.967	TOP
8217	9978701.337	781364.338	2702.996	TOP
8218	9978701.366	781363.808	2703.093	TOP
8219	9978701.647	781363.450	2703.081	TOP
8220	9978701.719	781362.948	2703.159	TOP
8221	9978701.905	781362.511	2703.189	TOP
8222	9978702.172	781362.151	2703.180	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8223	9978702.297	781361.705	2703.226	TCP
8224	9978702.494	781361.277	2703.250	TCP
8225	9978702.509	781360.740	2703.348	TCP
8226	9978702.784	781360.380	2703.335	TCP
8227	9978703.361	781359.675	2703.296	TCP
8228	9978703.496	781359.227	2703.340	TCP
8229	9978704.019	781359.009	2703.225	TCP
8230	9978704.213	781358.592	2703.247	TCP
8231	9978704.460	781358.173	2703.265	TCP
8232	9978704.612	781357.793	2703.272	TCP
8233	9978704.781	781357.354	2703.300	TCP
8234	9978704.887	781356.887	2703.352	TCP
8235	9978704.958	781356.389	2703.424	TCP
8236	9978705.136	781355.959	2703.443	TCP
8237	9978705.222	781355.491	2703.504	TCP
8238	9978705.311	781355.026	2703.559	TCP
8239	9978705.507	781354.616	2703.568	TCP
8240	9978705.694	781354.194	2703.588	TCP
8241	9978705.920	781353.802	2703.587	TCP
8242	9978706.129	781353.415	2703.590	TCP
8243	9978706.291	781352.994	2703.613	TCP
8244	9978706.222	781352.439	2703.725	TCP
8245	9978706.369	781352.009	2703.756	TCP
8246	9978706.597	781351.620	2703.752	TCP
8247	9978706.746	781351.199	2703.776	TCP
8248	9978706.892	781350.777	2703.801	TCP
8249	9978707.019	781350.334	2703.835	TCP
8250	9978707.241	781349.943	2703.831	TCP
8251	9978707.564	781349.606	2703.785	TCP
8252	9978707.894	781349.263	2703.738	TCP
8253	9978708.174	781348.903	2703.709	TCP
8254	9978708.383	781348.514	2703.702	TCP
8255	9978708.649	781348.135	2703.680	TCP
8256	9978708.863	781347.738	2703.679	TCP
8257	9978709.063	781347.332	2703.676	TCP
8258	9978709.312	781346.948	2703.662	TCP
8259	9978709.426	781346.515	2703.693	TCP
8260	9978709.574	781346.088	2703.712	TCP
8261	9978709.845	781345.706	2703.681	TCP
8262	9978710.007	781345.283	2703.698	TCP
8263	9978710.144	781344.849	2703.716	TCP
8264	9978710.250	781344.399	2703.753	TCP
8265	9978710.470	781344.016	2703.740	TCP
8266	9978710.744	781343.649	2703.707	TCP
8267	9978710.916	781343.234	2703.711	TCP
8268	9978710.896	781342.719	2703.794	TCP
8269	9978711.093	781342.324	2703.785	TCP
8270	9978711.208	781341.883	2703.811	TCP
8271	9978711.358	781341.481	2703.811	TCP
8272	9978711.586	781341.064	2703.810	TCP
8273	9978711.806	781340.660	2703.794	TCP
8274	9978712.004	781340.274	2703.785	TCP
8275	9978712.169	781339.861	2703.789	TCP
8276	9978712.386	781339.303	2703.924	TCP
8277	9978712.846	781338.757	2704.644	TCP
8278	9978713.387	781337.607	2704.347	TCP
8279	9978713.198	781337.052	2704.482	TCP
8280	9978713.857	781336.454	2704.671	TCP
8281	9978713.951	781336.016	2704.694	TCP
8282	9978713.081	781335.582	2704.712	TCP
8283	9978713.190	781335.146	2704.732	TCP
8284	9978713.391	781334.754	2704.716	TCP
8285	9978713.442	781334.304	2704.753	TCP
8286	9978713.457	781333.847	2704.805	TCP
8287	9978713.186	781333.332	2704.892	TCP
8288	9978713.438	781332.896	2704.932	TCP
8289	9978713.320	781332.377	2705.030	TCP
8290	9978713.127	781331.902	2705.102	TCP
8291	9978713.127	781331.382	2705.214	TCP
8292	9978713.233	781330.959	2705.252	TCP
8293	9978713.196	781330.472	2705.298	TCP
8294	9978713.259	781330.043	2705.330	TCP
8295	9978713.271	781329.586	2705.376	TCP
8296	9978713.073	781329.199	2705.557	TCP
8297	9978713.171	781328.174	2705.371	TCP
8298	9978713.017	781327.671	2705.678	TCP
8299	9978713.068	781327.231	2705.710	TCP
8300	9978713.116	781326.799	2705.741	TCP
8301	9978713.184	781326.378	2705.763	TCP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8302	9978711.247	781325.944	2705.788	TCP
8303	9978711.321	781325.513	2705.808	TCP
8304	9978711.391	781325.083	2705.826	TCP
8305	9978711.580	781324.699	2705.806	TCP
8306	9978711.576	781324.257	2705.852	TCP
8307	9978711.646	781323.824	2705.872	TCP
8308	9978711.927	781323.482	2705.813	TCP
8309	9978711.967	781323.024	2705.843	TCP
8310	9978712.112	781322.623	2705.833	TCP
8311	9978712.158	781322.205	2705.851	TCP
8312	9978712.160	781321.752	2705.900	TCP
8313	9978712.181	781321.306	2705.930	TCP
8314	9978712.275	781320.880	2705.943	TCP
8315	9978712.339	781320.461	2705.956	TCP
8316	9978712.386	781319.584	2706.019	TCP
8317	9978712.504	781319.175	2706.018	TCP
8318	9978712.717	781318.783	2705.977	TCP
8319	9978712.827	781318.371	2705.978	TCP
8320	9978712.897	781317.937	2706.012	TCP
8321	9978712.939	781317.519	2706.012	TCP
8322	9978713.010	781317.098	2706.019	TCP
8323	9978713.240	781316.954	2706.115	TCP
8324	9978713.266	781316.523	2706.154	TCP
8325	9978713.345	781316.105	2706.141	TCP
8326	9978713.354	781315.663	2706.170	TCP
8327	9978713.464	781315.252	2706.163	TCP
8328	9978713.330	781314.807	2706.237	TCP
8329	9978713.061	781314.310	2706.364	TCP
8330	9978713.325	781313.934	2706.302	TCP
8331	9978713.356	781313.505	2706.321	TCP
8332	9978713.307	781313.065	2706.367	TCP
8333	9978713.501	781312.677	2706.325	TCP
8334	9978713.573	781312.263	2706.327	TCP
8335	9978713.542	781309.815	2706.367	TCP
8336	9978713.553	781309.387	2706.389	TCP
8337	9978713.542	781308.950	2706.420	TCP
8338	9978713.510	781308.519	2706.456	TCP
8339	9978713.508	781308.087	2706.482	TCP
8340	9978713.348	781307.640	2706.560	TCP
8341	9978713.354	781307.208	2706.585	TCP
8342	9978713.332	781306.783	2706.614	TCP
8343	9978713.362	781306.354	2706.629	TCP
8344	9978713.414	781305.930	2706.613	TCP
8345	9978713.410	781305.511	2706.657	TCP
8346	9978713.421	781305.079	2706.675	TCP
8347	9978713.393	781304.641	2706.702	TCP
8348	9978713.467	781304.228	2706.700	TCP
8349	9978713.438	781303.807	2706.726	TCP
8350	9978713.419	781303.380	2706.756	TCP
8351	9978713.441	781302.948	2706.764	TCP
8352	9978713.513	781302.545	2706.758	TCP
8353	9978713.617	781302.116	2706.742	TCP
8354	9978713.765	781301.723	2706.703	TCP
8355	9978713.867	781301.309	2706.688	TCP
8356	9978714.045	781300.909	2706.641	TCP
8357	9978714.144	781300.485	2706.622	TCP
8358	9978714.272	781300.075	2706.593	TCP
8359	9978714.465	781299.686	2706.539	TCP
8360	9978714.546	781299.265	2706.525	TCP
8361	9978714.713	781298.860	2706.480	TCP
8362	9978714.830	781298.444	2706.493	TCP
8363	9978714.920	781298.033	2706.582	TCP
8364	9978715.226	781297.640	2706.521	TCP
8365	9978715.515	781297.234	2706.250	TCP
8366	9978715.775	781296.815	2706.237	TCP
8367	9978715.838	781296.386	2706.228	TCP
8368	9978715.716	781295.961	2706.209	TCP
8369	9978715.825	781295.535	2706.183	TCP
8370	9978715.093	781295.133	2706.099	TCP
8371	9978716.024	781294.705	2706.062	TCP
8372	9978716.480	781294.296	2705.981	TCP
8373	9978716.576	781293.865	2705.955	TCP
8374	9978716.711	781293.437	2705.915	TCP
8375	9978716.881	781293.024	2705.863	TCP
8376	9978716.975	781292.596	2705.836	TCP
8377	9978717.041	781292.173	2705.819	TCP
8378	9978717.175	781291.737	2705.775	TCP
8379	9978717.442	781291.318	2705.680	TCP
8380	9978717.517	781290.883	2705.665	TCP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8381	9978717.578	781290.458	2705.647	TOP
8382	9978717.698	781290.032	2705.609	TOP
8383	9978717.713	781289.599	2705.610	TOP
8384	9978717.811	781289.166	2705.649	TOP
8385	9978717.409	781288.728	2705.721	TOP
8386	9978717.104	781288.302	2705.880	TOP
8387	9978716.970	781287.870	2705.875	TOP
8388	9978716.757	781287.448	2705.954	TOP
8389	9978716.553	781287.016	2706.026	TOP
8390	9978716.507	781286.595	2706.038	TOP
8391	9978716.555	781286.169	2706.024	TOP
8392	9978716.806	781285.740	2705.934	TOP
8393	9978717.803	781285.305	2705.583	TOP
8394	9978717.869	781284.877	2705.557	TOP
8395	9978718.170	781284.430	2705.448	TOP
8396	9978718.477	781283.985	2705.334	TOP
8397	9978718.999	781283.547	2705.151	TOP
8398	9978719.217	781283.105	2705.069	TOP
8399	9978719.219	781282.657	2705.063	TOP
8400	9978719.626	781282.213	2704.915	TOP
8401	9978719.757	781281.755	2704.859	TOP
8402	9978719.835	781281.311	2704.810	TOP
8403	9978720.009	781280.877	2704.761	TOP
8404	9978720.207	781280.421	2704.684	TOP
8405	9978720.537	781279.954	2704.560	TOP
8406	9978720.705	781279.504	2704.488	TOP
8407	9978721.182	781279.040	2704.315	TOP
8408	9978721.327	781278.584	2704.251	TOP
8409	9978721.356	781278.131	2704.234	TOP
8410	9978721.361	781277.683	2704.221	TOP
8411	9978721.312	781277.239	2704.224	TOP
8412	9978721.360	781276.785	2704.198	TOP
8413	9978721.382	781276.340	2704.178	TOP
8414	9978721.319	781275.911	2704.188	TOP
8415	9978721.284	781275.459	2704.187	TOP
8416	9978721.334	781275.011	2704.155	TOP
8417	9978721.424	781274.542	2704.105	TOP
8418	9978721.573	781274.099	2704.042	TOP
8419	9978721.843	781273.618	2703.931	TOP
8420	9978721.912	781273.167	2703.890	TOP
8421	9978722.026	781272.715	2703.834	TOP
8422	9978722.094	781272.241	2703.792	TOP
8423	9978722.099	781271.796	2703.773	TOP
8424	9978722.220	781271.342	2703.712	TOP
8425	9978722.231	781270.886	2703.690	TOP
8426	9978722.499	781270.411	2703.576	TOP
8427	9978722.581	781269.937	2703.527	TOP
8428	9978722.558	781269.480	2703.510	TOP
8429	9978722.585	781269.010	2703.479	TOP
8430	9978722.611	781268.567	2703.453	TOP
8431	9978722.831	781268.071	2703.352	TOP
8432	9978722.937	781267.589	2703.291	TOP
8433	9978723.019	781267.120	2703.239	TOP
8434	9978723.015	781266.670	2703.217	TOP
8435	9978723.158	781266.179	2703.138	TOP
8436	9978723.117	781265.736	2703.128	TOP
8437	9978723.081	781265.283	2703.119	TOP
8438	9978723.051	781264.805	2703.116	TOP
8439	9978722.962	781264.352	2703.107	TOP
8440	9978723.051	781263.883	2703.048	TOP
8441	9978723.049	781263.415	2703.021	TOP
8442	9978723.181	781262.926	2702.942	TOP
8443	9978723.231	781262.455	2702.899	TOP
8444	9978723.231	781261.973	2702.865	TOP
8445	9978723.173	781261.527	2702.859	TOP
8446	9978723.117	781261.073	2702.849	TOP
8447	9978723.141	781260.607	2702.809	TOP
8448	9978723.033	781260.159	2702.816	TOP
8449	9978722.258	781259.851	2703.061	TOP
8450	9978721.846	781259.452	2703.140	TOP
8451	9978721.815	781259.022	2703.151	TOP
8452	9978721.582	781258.611	2703.201	TOP
8453	9978721.316	781258.200	2703.261	TOP
8454	9978720.950	781257.817	2703.362	TOP
8455	9978720.734	781257.403	2703.405	TOP
8456	9978720.439	781257.008	2703.475	TOP
8457	9978720.268	781256.591	2703.501	TOP
8458	9978720.071	781256.168	2703.531	TOP
8459	9978719.949	781255.732	2703.540	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8460	9978719.750	781255.307	2703.574	TOP
8461	9978719.496	781254.906	2703.627	TOP
8462	9978719.316	781254.489	2703.653	TOP
8463	9978718.801	781254.153	2703.796	TOP
8464	9978718.293	781253.824	2703.944	TOP
8465	9978717.778	781253.483	2704.089	TOP
8466	9978717.501	781253.099	2704.149	TOP
8467	9978717.256	781252.706	2704.197	TOP
8468	9978717.150	781252.279	2704.194	TOP
8469	9978716.972	781251.864	2704.217	TOP
8470	9978716.711	781251.473	2704.268	TOP
8471	9978716.481	781251.040	2704.306	TOP
8472	9978716.208	781250.685	2704.360	TOP
8473	9978715.953	781250.299	2704.412	TOP
8474	9978715.776	781249.890	2704.432	TOP
8475	9978715.379	781249.540	2704.531	TOP
8476	9978715.280	781249.107	2704.521	TOP
8477	9978715.072	781248.703	2704.550	TOP
8478	9978714.902	781248.308	2704.567	TOP
8479	9978714.824	781247.879	2704.549	TOP
8480	9978714.630	781247.478	2704.572	TOP
8481	9978714.464	781247.058	2704.580	TOP
8482	9978714.167	781246.691	2704.643	TOP
8483	9978713.974	781246.296	2704.665	TOP
8484	9978713.888	781245.934	2704.721	TOP
8485	9978713.481	781245.538	2704.747	TOP
8486	9978713.334	781245.115	2704.748	TOP
8487	9978713.173	781244.710	2704.757	TOP
8488	9978712.955	781244.315	2704.784	TOP
8489	9978712.648	781243.964	2704.846	TOP
8490	9978712.413	781243.583	2704.880	TOP
8491	9978712.060	781243.237	2704.953	TOP
8492	9978711.843	781242.845	2704.982	TOP
8493	9978711.563	781242.482	2705.031	TOP
8494	9978711.412	781242.080	2705.033	TOP
8495	9978711.210	781241.690	2705.052	TOP
8496	9978710.807	781241.369	2705.146	TOP
8497	9978710.467	781241.036	2705.216	TOP
8498	9978710.030	781240.725	2705.321	TOP
8499	9978709.831	781240.335	2705.337	TOP
8500	9978709.431	781240.036	2705.481	TOP
8501	9978709.237	781239.641	2705.444	TOP
8502	9978708.984	781239.271	2705.479	TOP
8503	9978708.614	781238.953	2705.538	TOP
8504	9978708.317	781238.602	2705.609	TOP
8505	9978707.464	781238.485	2705.867	TOP
8506	9978708.995	781238.223	2705.988	TOP
8507	9978706.411	781238.003	2706.145	TOP
8508	9978706.024	781237.694	2706.232	TOP
8509	9978705.799	781237.332	2706.255	TOP
8510	9978705.527	781236.997	2706.297	TOP
8511	9978705.255	781236.656	2706.338	TOP
8512	9978704.976	781236.316	2706.380	TOP
8513	9978704.708	781235.972	2706.414	TOP
8514	9978704.369	781235.656	2706.482	TOP
8515	9978704.090	781235.319	2706.524	TOP
8516	9978703.865	781234.962	2706.544	TOP
8517	9978703.634	781234.604	2706.566	TOP
8518	9978703.460	781234.217	2706.565	TOP
8519	9978703.286	781233.775	2706.520	TOP
8520	9978703.252	781233.377	2706.508	TOP
8521	9978703.137	781232.963	2706.492	TOP
8522	9978703.068	781232.582	2706.479	TOP
8523	9978703.011	781232.241	2706.515	TOP
8524	9978705.640	781231.896	2702.801	TOP
8525	9978705.629	781231.499	2703.792	TOP
8526	9978705.119	781231.196	2702.738	TOP
8527	9978704.431	781230.140	2702.676	TOP
8528	9978706.955	781229.379	2702.525	TOP
8529	9978709.288	781229.701	2702.453	TOP
8530	9978707.649	781240.030	2702.372	TOP
8531	9978708.294	781240.229	2702.172	TOP
8532	9978708.626	781240.547	2702.101	TOP
8533	9978709.027	781240.875	2702.001	TOP
8534	9978709.206	781241.263	2701.990	TOP
8535	9978709.403	781241.655	2701.972	TOP
8536	9978709.599	781242.035	2701.953	TOP
8537	9978709.796	781242.431	2701.935	TOP
8538	9978709.926	781242.833	2701.941	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8539	9978710.075	781243.244	2701.941	TOP
8540	9978710.377	781243.600	2701.879	TOP
8541	9978710.523	781244.006	2701.878	TOP
8542	9978710.996	781244.297	2701.745	TOP
8543	9978711.223	781244.679	2701.711	TOP
8544	9978711.450	781245.050	2701.675	TOP
8545	9978711.747	781245.420	2701.614	TOP
8546	9978711.965	781245.805	2701.581	TOP
8547	9978712.145	781246.211	2701.566	TOP
8548	9978712.360	781246.593	2701.533	TOP
8549	9978712.689	781246.930	2701.454	TOP
8550	9978712.882	781247.337	2701.431	TOP
8551	9978713.045	781247.738	2701.418	TOP
8552	9978713.295	781248.119	2701.371	TOP
8553	9978713.465	781248.516	2701.354	TOP
8554	9978713.742	781248.883	2701.294	TOP
8555	9978713.911	781249.277	2701.276	TOP
8556	9978714.083	781249.684	2701.258	TOP
8557	9978714.171	781250.132	2701.274	TOP
8558	9978714.270	781250.545	2701.282	TOP
8559	9978714.491	781250.939	2701.243	TOP
8560	9978714.574	781251.368	2701.257	TOP
8561	9978715.382	781251.598	2700.986	TOP
8562	9978715.906	781251.916	2700.827	TOP
8563	9978716.294	781252.270	2700.720	TOP
8564	9978716.412	781252.607	2700.719	TOP
8565	9978716.588	781253.100	2700.694	TOP
8566	9978716.815	781253.503	2700.650	TOP
8567	9978716.976	781253.918	2700.630	TOP
8568	9978717.468	781254.282	2700.481	TOP
8569	9978717.834	781254.624	2700.380	TOP
8570	9978718.628	781254.878	2700.112	TOP
8571	9978718.892	781255.270	2700.049	TOP
8572	9978719.060	781255.695	2700.026	TOP
8573	9978719.849	781256.099	2699.954	TOP
8574	9978719.471	781256.531	2699.947	TOP
8575	9978719.688	781256.940	2699.902	TOP
8576	9978719.836	781257.369	2699.883	TOP
8577	9978720.070	781257.780	2699.810	TOP
8578	9978720.257	781258.201	2699.796	TOP
8579	9978720.589	781258.589	2699.704	TOP
8580	9978720.804	781258.997	2699.657	TOP
8581	9978720.957	781259.425	2699.633	TOP
8582	9978721.164	781259.832	2699.587	TOP
8583	9978721.307	781260.266	2699.567	TOP
8584	9978721.576	781260.676	2699.497	TOP
8585	9978721.796	781261.096	2699.446	TOP
8586	9978721.901	781261.530	2699.438	TOP
8587	9978722.040	781261.964	2699.417	TOP
8588	9978722.086	781262.418	2699.431	TOP
8589	9978722.088	781262.881	2699.465	TOP
8590	9978722.095	781263.349	2699.491	TOP
8591	9978722.070	781263.808	2699.531	TOP
8592	9978722.141	781264.253	2699.533	TOP
8593	9978722.024	781264.741	2699.607	TOP
8594	9978722.059	781265.189	2699.622	TOP
8595	9978722.030	781265.665	2699.669	TOP
8596	9978721.930	781266.137	2699.735	TOP
8597	9978721.978	781266.578	2699.735	TOP
8598	9978721.840	781267.053	2699.814	TOP
8599	9978721.933	781267.496	2699.803	TOP
8600	9978721.965	781267.958	2699.816	TOP
8601	9978721.760	781268.440	2699.917	TOP
8602	9978721.754	781268.883	2699.945	TOP
8603	9978721.699	781269.349	2699.989	TOP
8604	9978721.694	781269.807	2700.013	TOP
8605	9978721.657	781270.259	2700.049	TOP
8606	9978721.533	781270.731	2700.118	TOP
8607	9978721.282	781271.207	2700.234	TOP
8608	9978721.193	781271.665	2700.287	TOP
8609	9978721.188	781272.110	2700.309	TOP
8610	9978721.019	781272.582	2700.392	TOP
8611	9978721.017	781273.029	2700.411	TOP
8612	9978720.771	781273.500	2700.523	TOP
8613	9978720.688	781273.943	2700.571	TOP
8614	9978720.469	781274.411	2700.670	TOP
8615	9978720.429	781274.855	2700.703	TOP
8616	9978720.378	781275.312	2700.736	TOP
8617	9978720.232	781275.768	2700.807	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8618	9978720.181	781276.209	2700.840	TOP
8619	9978720.134	781276.651	2700.871	TOP
8620	9978720.050	781277.105	2700.916	TOP
8621	9978719.888	781277.557	2700.990	TOP
8622	9978719.725	781278.014	2701.064	TOP
8623	9978719.670	781278.453	2701.096	TOP
8624	9978719.449	781278.902	2701.191	TOP
8625	9978719.368	781279.344	2701.232	TOP
8626	9978719.074	781279.801	2701.353	TOP
8627	9978719.238	781280.244	2701.300	TOP
8628	9978718.709	781280.704	2701.509	TOP
8629	9978717.677	781281.616	2701.916	TOP
8630	9978717.581	781282.046	2701.959	TOP
8631	9978717.071	781282.508	2702.158	TOP
8632	9978716.782	781282.943	2702.282	TOP
8633	9978716.672	781283.380	2702.321	TOP
8634	9978716.202	781283.819	2702.504	TOP
8635	9978716.088	781284.250	2702.553	TOP
8636	9978715.866	781284.672	2702.638	TOP
8637	9978715.695	781285.108	2702.706	TOP
8638	9978715.031	781285.543	2702.960	TOP
8639	9978714.910	781285.957	2703.008	TOP
8640	9978714.709	781286.369	2703.085	TOP
8641	9978714.499	781286.802	2703.166	TOP
8642	9978714.538	781287.212	2703.153	TOP
8643	9978714.892	781287.639	2703.016	TOP
8644	9978714.816	781288.059	2703.044	TOP
8645	9978715.258	781288.479	2702.875	TOP
8646	9978715.296	781288.901	2702.859	TOP
8647	9978715.414	781289.332	2702.811	TOP
8648	9978715.655	781289.766	2702.717	TOP
8649	9978715.652	781290.180	2702.714	TOP
8650	9978715.617	781290.606	2702.725	TOP
8651	9978715.587	781291.022	2702.730	TOP
8652	9978715.432	781291.446	2702.784	TOP
8653	9978715.294	781291.883	2702.830	TOP
8654	9978715.258	781292.301	2702.837	TOP
8655	9978715.510	781292.729	2702.811	TOP
8656	9978715.302	781293.152	2702.807	TOP
8657	9978715.323	781293.570	2702.791	TOP
8658	9978715.242	781294.001	2702.813	TOP
8659	9978715.173	781294.423	2702.830	TOP
8660	9978715.151	781294.842	2702.829	TOP
8661	9978715.079	781295.264	2702.846	TOP
8662	9978714.947	781295.681	2702.886	TOP
8663	9978714.930	781296.103	2702.881	TOP
8664	9978714.856	781296.524	2702.897	TOP
8665	9978714.760	781296.954	2702.921	TOP
8666	9978714.585	781297.357	2702.976	TOP
8667	9978714.502	781297.773	2702.994	TOP
8668	9978714.450	781298.188	2703.000	TOP
8669	9978714.419	781298.613	2702.998	TOP
8670	9978714.210	781299.017	2703.062	TOP
8671	9978714.002	781299.413	2703.127	TOP
8672	9978713.811	781299.809	2703.184	TOP
8673	9978713.531	781300.205	2703.274	TOP
8674	9978713.403	781300.606	2703.306	TOP
8675	9978713.307	781301.021	2703.325	TOP
8676	9978713.167	781301.426	2703.361	TOP
8677	9978713.031	781301.819	2703.433	TOP
8678	9978712.869	781302.249	2703.423	TOP
8679	9978712.865	781302.654	2703.419	TOP
8680	9978712.825	781303.102	2703.338	TOP
8681	9978712.816	781303.528	2703.320	TOP
8682	9978712.916	781303.990	2703.390	TOP
8683	9978712.899	781304.353	2703.432	TOP
8684	9978712.840	781304.767	2703.523	TOP
8685	9978712.816	781305.201	2703.293	TOP
8686	9978712.870	781305.629	2703.264	TOP
8687	9978712.824	781306.045	2703.259	TOP
8688	9978712.816	781306.468	2703.237	TOP
8689	9978712.959	781306.911	2703.023	TOP
8690	9978712.765	781307.355	2703.070	TOP
8691	9978712.775	781307.884	2703.036	TOP
8692	9978712.789	781308.318	2703.001	TOP
8693	9978712.642	781308.719	2703.028	TOP
8694	9978712.377	781309.189	2703.101	TOP
8695	9978712.144	781309.666	2703.159	TOP
8696	9978711.996	781310.177	2703.184	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8697	9978711.776	781312.259	2703.238	TOP
8698	9978711.737	781312.673	2703.220	TOP
8699	9978711.426	781315.039	2703.808	TOP
8700	9978711.120	781313.392	2703.393	TOP
8701	9978711.139	781313.830	2703.351	TOP
8702	9978711.446	781314.323	2703.197	TOP
8703	9978711.286	781314.718	2703.224	TOP
8704	9978711.491	781315.194	2703.108	TOP
8705	9978711.384	781315.607	2703.113	TOP
8706	9978711.232	781316.003	2703.135	TOP
8707	9978711.114	781316.416	2703.142	TOP
8708	9978711.030	781316.830	2703.137	TOP
8709	9978710.892	781317.219	2703.153	TOP
8710	9978710.824	781317.641	2703.139	TOP
8711	9978711.125	781318.150	2702.982	TOP
8712	9978711.228	781318.611	2702.901	TOP
8713	9978711.271	781319.061	2702.842	TOP
8714	9978711.294	781319.513	2702.791	TOP
8715	9978711.279	781319.947	2702.754	TOP
8716	9978711.255	781320.369	2702.721	TOP
8717	9978711.196	781320.811	2702.699	TOP
8718	9978711.260	781321.268	2702.629	TOP
8719	9978711.237	781321.699	2702.593	TOP
8720	9978711.209	781322.128	2702.562	TOP
8721	9978710.876	781323.820	2702.501	TOP
8722	9978710.683	781324.189	2702.531	TOP
8723	9978710.413	781325.886	2702.438	TOP
8724	9978710.363	781326.318	2702.406	TOP
8725	9978710.294	781326.740	2702.382	TOP
8726	9978710.222	781327.162	2702.358	TOP
8727	9978710.041	781327.557	2702.376	TOP
8728	9978709.972	781327.984	2702.349	TOP
8729	9978709.950	781328.430	2702.304	TOP
8730	9978709.851	781328.855	2702.287	TOP
8731	9978709.872	781329.342	2702.183	TOP
8732	9978709.966	781329.800	2702.128	TOP
8733	9978710.142	781330.317	2702.000	TOP
8734	9978710.154	781330.794	2701.935	TOP
8735	9978710.130	781331.247	2701.887	TOP
8736	9978710.238	781331.735	2701.784	TOP
8737	9978710.215	781332.179	2701.734	TOP
8738	9978710.297	781332.678	2701.639	TOP
8739	9978710.208	781333.127	2701.611	TOP
8740	9978710.276	781333.613	2701.521	TOP
8741	9978710.266	781334.071	2701.462	TOP
8742	9978710.080	781334.471	2701.474	TOP
8743	9978710.053	781334.930	2701.420	TOP
8744	9978709.960	781335.368	2701.392	TOP
8745	9978709.818	781335.776	2701.384	TOP
8746	9978709.713	781336.207	2701.360	TOP
8747	9978710.018	781336.801	2701.169	TOP
8748	9978710.463	781337.456	2700.918	TOP
8749	9978710.443	781337.916	2700.858	TOP
8750	9978710.696	781338.503	2700.684	TOP
8751	9978710.549	781338.920	2700.674	TOP
8752	9978710.319	781339.294	2700.699	TOP
8753	9978710.115	781339.687	2700.711	TOP
8754	9978709.980	781340.109	2700.694	TOP
8755	9978709.850	781340.545	2700.679	TOP
8756	9978709.715	781340.964	2700.656	TOP
8757	9978709.675	781341.426	2700.599	TOP
8758	9978709.461	781341.815	2700.612	TOP
8759	9978709.374	781342.270	2700.571	TOP
8760	9978709.127	781342.636	2700.599	TOP
8761	9978708.969	781343.065	2700.585	TOP
8762	9978708.856	781343.500	2700.554	TOP
8763	9978708.658	781343.899	2700.557	TOP
8764	9978708.449	781344.279	2700.567	TOP
8765	9978708.242	781344.676	2700.574	TOP
8766	9978708.017	781345.063	2700.587	TOP
8767	9978707.852	781345.481	2700.574	TOP
8768	9978707.753	781345.914	2700.535	TOP
8769	9978707.529	781346.308	2700.545	TOP
8770	9978707.399	781346.738	2700.517	TOP
8771	9978707.195	781347.141	2700.517	TOP
8772	9978706.987	781347.536	2700.520	TOP
8773	9978706.616	781347.835	2700.594	TOP
8774	9978706.363	781348.203	2700.615	TOP
8775	9978706.231	781348.642	2700.583	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8776	9978706.132	781349.087	2700.538	TOP
8777	9978706.025	781349.541	2700.499	TOP
8778	9978705.928	781349.995	2700.445	TOP
8779	9978705.711	781350.374	2700.449	TOP
8780	9978705.526	781350.767	2700.440	TOP
8781	9978705.420	781351.215	2700.394	TOP
8782	9978705.359	781351.702	2700.326	TOP
8783	9978705.142	781352.075	2700.329	TOP
8784	9978704.908	781352.453	2700.337	TOP
8785	9978704.705	781352.849	2700.330	TOP
8786	9978704.398	781353.193	2700.367	TOP
8787	9978704.212	781353.594	2700.353	TOP
8788	9978704.045	781354.016	2700.328	TOP
8789	9978703.879	781354.439	2700.302	TOP
8790	9978703.708	781355.363	2700.181	TOP
8791	9978703.593	781355.836	2700.127	TOP
8792	9978703.345	781356.215	2700.134	TOP
8793	9978703.158	781356.615	2700.123	TOP
8794	9978702.965	781358.074	2699.890	TOP
8795	9978702.778	781358.496	2699.866	TOP
8796	9978702.075	781359.640	2699.860	TOP
8797	9978700.220	781364.362	2699.457	TOP
8798	9978700.015	781364.773	2699.432	TOP
8799	9978699.060	781366.872	2699.268	TOP
8800	9978698.846	781367.290	2699.241	TOP
8801	9978698.586	781367.668	2699.237	TOP
8802	9978698.411	781368.108	2699.192	TOP
8803	9978698.200	781368.513	2699.165	TOP
8804	9978697.754	781368.753	2699.245	TOP
8805	9978696.863	781369.804	2699.277	TOP
8806	9978696.453	781370.062	2699.341	TOP
8807	9978696.229	781370.453	2699.318	TOP
8808	9978696.005	781370.852	2699.292	TOP
8809	9978695.702	781371.195	2699.303	TOP
8810	9978695.545	781371.657	2699.241	TOP
8811	9978695.242	781372.009	2699.249	TOP
8812	9978694.988	781372.382	2699.236	TOP
8813	9978694.860	781372.869	2699.159	TOP
8814	9978694.617	781373.249	2699.140	TOP
8815	9978694.371	781373.657	2699.115	TOP
8816	9978692.685	781378.212	2698.490	TOP
8817	9978692.449	781378.618	2698.456	TOP
8818	9978692.191	781379.014	2698.430	TOP
8819	9978691.887	781379.347	2698.433	TOP
8820	9978691.585	781380.529	2698.269	TOP
8821	9978691.340	781380.736	2698.285	TOP
8822	9978690.986	781381.048	2698.254	TOP
8823	9978690.791	781381.496	2698.194	TOP
8824	9978690.475	781381.831	2698.196	TOP
8825	9978690.200	781382.211	2698.174	TOP
8826	9978690.112	781382.768	2698.054	TOP
8827	9978689.916	781383.217	2697.991	TOP
8828	9978687.852	781385.790	2697.875	TOP
8829	9978684.120	781394.186	2696.543	TOP
8830	9978670.925	781419.883	2691.734	TOP
8831	9978670.625	781420.379	2691.634	TOP
8832	9978719.748	781617.647	2672.647	ASFALTO
8833	9978685.030	781389.539	2695.533	TOP
8834	9978685.260	781389.101	2695.588	TOP
8835	9978684.548	781388.710	2695.656	TOP
8836	9978684.248	781377.099	2695.581	TOP
8837	9978680.511	781376.873	2695.512	TOP
8838	9978680.848	781376.567	2695.491	TOP
8839	9978680.702	781376.237	2695.466	TOP
8840	9978680.245	781380.868	2695.478	TOP
8841	9978680.208	781380.448	2695.525	TOP
8842	9978680.208	781379.874	2695.686	TOP
8843	9978680.308	781371.150	2695.850	TOP
8844	9978694.382	781170.113	2696.051	TOP
8845	9978685.282	781369.106	2696.023	TOP
8846	9978685.617	781368.810	2695.981	TOP
8847	9978686.193	781368.114	2695.965	TOP
8848	9978697.479	781366.240	2695.994	TOP
8849	9978697.730	781365.878	2695.999	TOP
8850	9978698.914	781364.511	2695.928	TOP
8851	9978699.171	781363.595	2696.055	TOP
8852	9978699.426	781363.235	2696.061	TOP
8853	9978699.754	781361.846	2696.260	TOP
8854	9978699.863	781361.975	2696.329	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8855	9978699.993	781360.932	2696.385	TOP
8856	9978700.150	781360.511	2696.426	TOP
8857	9978700.380	781360.118	2696.435	TOP
8858	9978702.410	781354.559	2696.927	TOP
8859	9978702.506	781354.111	2696.985	TOP
8860	9978702.708	781353.716	2696.996	TOP
8861	9978702.942	781353.340	2696.991	TOP
8862	9978703.203	781352.979	2696.972	TOP
8863	9978703.488	781352.638	2696.940	TOP
8864	9978703.672	781352.232	2696.956	TOP
8865	9978703.821	781351.819	2696.985	TOP
8866	9978703.662	781351.220	2697.161	TOP
8867	9978703.916	781350.866	2697.140	TOP
8868	9978704.028	781350.424	2697.187	TOP
8869	9978704.153	781349.996	2697.226	TOP
8870	9978704.284	781349.573	2697.261	TOP
8871	9978704.315	781349.054	2697.342	TOP
8872	9978705.073	781347.503	2697.370	TOP
8873	9978705.210	781347.089	2697.398	TOP
8874	9978705.398	781346.688	2697.404	TOP
8875	9978705.588	781346.291	2697.408	TOP
8876	9978705.820	781345.915	2697.392	TOP
8877	9978706.185	781345.594	2697.317	TOP
8878	9978706.522	781345.276	2697.251	TOP
8879	9978706.781	781344.919	2697.220	TOP
8880	9978706.865	781344.476	2697.268	TOP
8881	9978707.016	781344.053	2697.288	TOP
8882	9978707.282	781343.685	2697.254	TOP
8883	9978707.437	781343.280	2697.268	TOP
8884	9978707.617	781342.885	2697.270	TOP
8885	9978707.749	781342.454	2697.296	TOP
8886	9978707.957	781342.068	2697.284	TOP
8887	9978708.121	781341.651	2697.294	TOP
8888	9978708.195	781341.211	2697.341	TOP
8889	9978708.369	781340.803	2697.344	TOP
8890	9978708.460	781340.379	2697.380	TOP
8891	9978708.516	781339.920	2697.435	TOP
8892	9978708.664	781339.495	2697.449	TOP
8893	9978708.827	781339.087	2697.453	TOP
8894	9978709.032	781338.705	2697.439	TOP
8895	9978709.100	781338.307	2697.556	TOP
8896	9978709.199	781337.976	2697.587	TOP
8897	9978709.233	781338.909	2697.647	TOP
8898	9978709.169	781336.414	2697.748	TOP
8899	9978708.942	781335.858	2697.919	TOP
8900	9978708.947	781335.404	2697.988	TOP
8901	9978708.938	781334.926	2698.061	TOP
8902	9978708.965	781334.466	2698.120	TOP
8903	9978709.032	781334.029	2698.160	TOP
8904	9978709.152	781333.604	2698.176	TOP
8905	9978709.287	781333.206	2698.183	TOP
8906	9978709.338	781332.760	2698.230	TOP
8907	9978709.304	781332.280	2698.310	TOP
8908	9978709.239	781331.799	2698.403	TOP
8909	9978709.311	781331.365	2698.436	TOP
8910	9978709.343	781330.918	2698.486	TOP
8911	9978709.324	781330.461	2698.557	TOP
8912	9978709.123	781329.930	2698.707	TOP
8913	9978708.815	781329.570	2698.901	TOP
8914	9978708.740	781328.889	2698.995	TOP
8915	9978708.587	781328.385	2699.121	TOP
8916	9978708.485	781327.903	2699.224	TOP
8917	9978708.401	781327.427	2699.318	TOP
8918	9978708.347	781327.026	2699.314	TOP
8919	9978708.513	781326.578	2699.384	TOP
8920	9978708.493	781326.125	2699.449	TOP
8921	9978708.592	781325.723	2699.461	TOP
8922	9978708.627	781325.288	2699.502	TOP
8923	9978709.907	781321.730	2699.420	TOP
8924	9978709.816	781319.488	2699.779	TOP
8925	9978709.703	781319.066	2699.787	TOP
8926	9978709.784	781318.653	2699.798	TOP
8927	9978709.805	781318.225	2699.833	TOP
8928	9978709.890	781317.804	2699.841	TOP
8929	9978709.961	781317.388	2699.853	TOP
8930	9978709.905	781316.955	2699.919	TOP
8931	9978709.763	781316.486	2700.021	TOP
8932	9978709.752	781316.057	2700.096	TOP
8933	9978709.819	781315.640	2700.079	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
8934	9978709.938	781315.239	2700.068	TOP
8935	9978710.006	781314.828	2700.079	TOP
8936	9978709.951	781314.397	2700.140	TOP
8937	9978710.027	781313.984	2700.146	TOP
8938	9978710.083	781313.569	2700.160	TOP
8939	9978710.159	781313.158	2700.165	TOP
8940	9978710.205	781312.738	2700.182	TOP
8941	9978710.956	781310.785	2700.039	TOP
8942	9978711.183	781310.408	2699.977	TOP
8943	9978711.351	781310.025	2699.938	TOP
8944	9978711.671	781309.652	2699.837	TOP
8945	9978711.769	781309.237	2699.828	TOP
8946	9978712.007	781308.855	2699.760	TOP
8947	9978712.076	781308.444	2699.760	TOP
8948	9978712.006	781308.015	2699.818	TOP
8949	9978711.748	781307.540	2699.954	TOP
8950	9978711.830	781307.126	2699.948	TOP
8951	9978711.856	781306.709	2699.965	TOP
8952	9978711.907	781306.287	2699.971	TOP
8953	9978711.916	781305.874	2699.993	TOP
8954	9978711.962	781305.460	2699.999	TOP
8955	9978712.054	781305.045	2699.987	TOP
8956	9978711.921	781304.606	2700.066	TOP
8957	9978711.941	781304.184	2700.082	TOP
8958	9978711.962	781303.768	2700.096	TOP
8959	9978711.876	781303.345	2700.154	TOP
8960	9978711.839	781302.916	2700.191	TOP
8961	9978711.856	781302.485	2700.206	TOP
8962	9978711.838	781302.073	2700.234	TOP
8963	9978711.932	781301.671	2700.235	TOP
8964	9978712.024	781301.263	2700.197	TOP
8965	9978712.335	781300.866	2700.089	TOP
8966	9978712.447	781300.475	2700.061	TOP
8967	9978712.670	781300.081	2699.988	TOP
8968	9978712.811	781299.677	2699.947	TOP
8969	9978712.915	781299.273	2699.921	TOP
8970	9978713.059	781298.871	2699.878	TOP
8971	9978713.147	781298.467	2699.858	TOP
8972	9978713.369	781298.056	2699.782	TOP
8973	9978713.311	781297.636	2699.821	TOP
8974	9978713.396	781297.224	2699.799	TOP
8975	9978713.473	781296.818	2699.782	TOP
8976	9978713.708	781296.413	2699.699	TOP
8977	9978713.788	781295.995	2699.678	TOP
8978	9978713.850	781295.570	2699.663	TOP
8979	9978713.993	781295.163	2699.618	TOP
8980	9978714.039	781294.750	2699.609	TOP
8981	9978714.044	781294.325	2699.617	TOP
8982	9978714.026	781293.892	2699.635	TOP
8983	9978713.403	781293.442	2699.898	TOP
8984	9978713.375	781293.024	2699.918	TOP
8985	9978713.568	781292.613	2699.847	TOP
8986	9978713.683	781292.209	2699.807	TOP
8987	9978713.581	781291.782	2699.855	TOP
8988	9978713.540	781291.357	2699.878	TOP
8989	9978713.579	781290.935	2699.888	TOP
8990	9978713.577	781290.525	2699.873	TOP
8991	9978713.656	781290.102	2699.895	TOP
8992	9978713.666	781289.688	2699.919	TOP
8993	9978713.466	781289.265	2699.930	TOP
8994	9978713.304	781288.827	2700.001	TOP
8995	9978713.333	781288.397	2699.951	TOP
8996	9978713.402	781287.970	2699.964	TOP
8997	9978713.610	781287.545	2699.909	TOP
8998	9978713.552	781287.118	2699.900	TOP
8999	9978713.663	781286.698	2699.880	TOP
9000	9978713.678	781286.270	2699.847	TOP
9001	9978713.669	781285.842	2699.784	TOP
9002	9978713.767	781285.415	2699.805	TOP
9003	9978713.965	781284.988	2699.721	TOP
9004	9978714.102	781284.562	2699.661	TOP
9005	9978714.818	781284.135	2699.584	TOP
9006	9978715.119	781283.708	2699.536	TOP
9007	9978715.025	781283.280	2699.468	TOP
9008	9978715.285	781282.853	2699.435	TOP
9009	9978715.541	781282.426	2699.044	TOP
9010	9978715.810	781281.999	2698.926	TOP
9011	9978715.516	781281.572	2698.875	TOP
9012	9978716.250	781281.145	2698.729	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRÁFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9013	9978716.334	781279.923	2698.685	TOP
9014	9978716.501	781279.483	2698.606	TOP
9015	9978716.831	781279.038	2698.461	TOP
9016	9978716.925	781278.605	2698.411	TOP
9017	9978717.116	781278.156	2698.321	TOP
9018	9978717.261	781277.706	2698.249	TOP
9019	9978717.476	781277.259	2698.148	TOP
9020	9978717.568	781276.823	2698.097	TOP
9021	9978717.625	781276.386	2698.059	TOP
9022	9978717.633	781275.953	2698.041	TOP
9023	9978718.310	781275.022	2697.732	TOP
9024	9978718.639	781274.548	2697.580	TOP
9025	9978718.069	781274.075	2697.386	TOP
9026	9978718.568	781273.584	2697.164	TOP
9027	9978719.808	781273.121	2697.047	TOP
9028	9978720.215	781272.634	2696.860	TOP
9029	9978720.400	781272.160	2696.763	TOP
9030	9978720.382	781271.733	2696.751	TOP
9031	9978720.383	781271.284	2696.729	TOP
9032	9978720.412	781270.842	2696.695	TOP
9033	9978720.614	781270.364	2696.590	TOP
9034	9978720.743	781269.900	2696.513	TOP
9035	9978720.743	781269.440	2696.489	TOP
9036	9978721.143	781268.937	2696.299	TOP
9037	9978721.134	781268.489	2696.278	TOP
9038	9978721.109	781268.042	2696.262	TOP
9039	9978721.088	781267.591	2696.253	TOP
9040	9978720.977	781267.146	2696.263	TOP
9041	9978720.940	781266.714	2696.251	TOP
9042	9978720.959	781266.257	2696.215	TOP
9043	9978721.007	781265.793	2696.146	TOP
9044	9978720.953	781265.349	2696.158	TOP
9045	9978721.015	781264.877	2696.102	TOP
9046	9978721.008	781264.421	2696.074	TOP
9047	9978721.123	781263.943	2695.994	TOP
9048	9978721.190	781263.483	2695.935	TOP
9049	9978721.208	781263.014	2695.894	TOP
9050	9978721.272	781262.532	2695.833	TOP
9051	9978720.660	781261.284	2695.983	TOP
9052	9978720.412	781260.874	2696.050	TOP
9053	9978720.186	781260.462	2696.108	TOP
9054	9978719.878	781260.062	2696.198	TOP
9055	9978719.994	781259.672	2696.279	TOP
9056	9978719.410	781259.272	2696.319	TOP
9057	9978719.341	781258.831	2696.309	TOP
9058	9978718.972	781258.446	2696.423	TOP
9059	9978718.840	781258.017	2696.438	TOP
9060	9978718.752	781257.579	2696.430	TOP
9061	9978718.513	781257.183	2696.493	TOP
9062	9978718.348	781256.762	2696.520	TOP
9063	9978718.282	781256.329	2696.513	TOP
9064	9978717.940	781255.935	2696.604	TOP
9065	9978717.735	781255.528	2696.646	TOP
9066	9978717.715	781255.077	2696.610	TOP
9067	9978717.449	781254.884	2696.677	TOP
9068	9978716.705	781254.419	2696.945	TOP
9069	9978716.426	781254.030	2697.016	TOP
9070	9978715.914	781253.699	2697.185	TOP
9071	9978715.544	781253.344	2697.293	TOP
9072	9978715.352	781252.953	2697.328	TOP
9073	9978715.013	781252.582	2697.422	TOP
9074	9978714.805	781252.183	2697.461	TOP
9075	9978714.487	781251.819	2697.547	TOP
9076	9978714.227	781251.440	2697.607	TOP
9077	9978713.771	781251.118	2697.730	TOP
9078	9978713.541	781250.737	2697.797	TOP
9079	9978713.350	781250.334	2697.825	TOP
9080	9978713.074	781249.961	2697.890	TOP
9081	9978712.841	781249.566	2697.935	TOP
9082	9978712.233	781249.302	2698.141	TOP
9083	9978711.992	781248.936	2698.192	TOP
9084	9978711.690	781248.580	2698.267	TOP
9085	9978711.558	781248.165	2698.267	TOP
9086	9978711.387	781247.772	2698.285	TOP
9087	9978711.248	781247.362	2698.288	TOP
9088	9978711.134	781246.960	2698.282	TOP
9089	9978710.890	781246.599	2698.333	TOP
9090	9978710.748	781246.180	2698.332	TOP
9091	9978710.362	781245.851	2698.438	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9092	9978710.227	781245.441	2698.436	TOP
9093	9978709.988	781245.078	2698.480	TOP
9094	9978709.691	781244.721	2698.547	TOP
9095	9978709.475	781244.352	2698.581	TOP
9096	9978713.176	781251.646	2694.218	TOP
9097	9978713.350	781252.062	2694.195	TOP
9098	9978713.893	781252.344	2693.999	TOP
9099	9978714.239	781252.720	2693.896	TOP
9100	9978714.567	781253.078	2693.799	TOP
9101	9978715.092	781253.388	2693.612	TOP
9102	9978715.351	781253.761	2693.544	TOP
9103	9978715.764	781254.115	2693.408	TOP
9104	9978717.453	781256.429	2692.934	TOP
9105	9978717.600	781256.857	2692.915	TOP
9106	9978717.767	781257.269	2692.884	TOP
9107	9978718.000	781257.668	2692.824	TOP
9108	9978718.143	781258.092	2692.803	TOP
9109	9978718.318	781258.507	2692.768	TOP
9110	9978718.618	781258.888	2692.675	TOP
9111	9978718.878	781259.299	2692.602	TOP
9112	9978718.983	781259.720	2692.585	TOP
9113	9978719.116	781260.139	2692.575	TOP
9114	9978719.103	781260.601	2692.621	TOP
9115	9978719.225	781261.036	2692.607	TOP
9116	9978719.314	781261.464	2692.604	TOP
9117	9978719.372	781261.905	2692.618	TOP
9118	9978719.757	781262.270	2692.480	TOP
9119	9978719.928	781262.694	2692.441	TOP
9120	9978720.264	781263.102	2692.329	TOP
9121	9978720.349	781263.539	2692.326	TOP
9122	9978720.326	781264.006	2692.372	TOP
9123	9978720.376	781264.449	2692.382	TOP
9124	9978720.355	781264.901	2692.425	TOP
9125	9978720.289	781265.376	2692.467	TOP
9126	9978720.295	781265.829	2692.517	TOP
9127	9978720.180	781266.293	2692.599	TOP
9128	9978720.337	781266.727	2692.603	TOP
9129	9978720.093	781267.204	2692.697	TOP
9130	9978719.992	781267.670	2692.771	TOP
9131	9978719.941	781268.127	2692.822	TOP
9132	9978719.829	781268.596	2692.899	TOP
9133	9978719.818	781269.041	2692.931	TOP
9134	9978719.796	781269.488	2692.967	TOP
9135	9978719.879	781269.929	2692.956	TOP
9136	9978719.904	781270.373	2692.970	TOP
9137	9978719.251	781271.543	2693.305	TOP
9138	9978719.840	781272.303	2695.044	TOP
9139	9978715.303	781277.778	2695.297	TOP
9140	9978715.257	781278.215	2695.331	TOP
9141	9978715.107	781278.649	2695.411	TOP
9142	9978715.036	781279.079	2695.453	TOP
9143	9978715.070	781279.497	2695.449	TOP
9144	9978714.829	781279.933	2695.565	TOP
9145	9978714.768	781280.368	2695.602	TOP
9146	9978714.683	781280.794	2695.649	TOP
9147	9978714.438	781281.217	2695.766	TOP
9148	9978714.278	781281.650	2695.846	TOP
9149	9978714.091	781282.082	2695.933	TOP
9150	9978714.061	781282.505	2695.954	TOP
9151	9978713.823	781282.938	2696.112	TOP
9152	9978713.602	781283.370	2696.166	TOP
9153	9978713.217	781283.790	2696.340	TOP
9154	9978712.869	781284.209	2696.434	TOP
9155	9978712.540	781284.628	2696.580	TOP
9156	9978712.625	781285.057	2696.611	TOP
9157	9978712.653	781285.468	2696.602	TOP
9158	9978712.699	781285.874	2696.584	TOP
9159	9978712.478	781286.275	2696.682	TOP
9160	9978712.230	781286.697	2696.788	TOP
9161	9978712.232	781287.105	2696.791	TOP
9162	9978712.207	781287.526	2696.802	TOP
9163	9978712.145	781287.935	2696.828	TOP
9164	9978712.098	781288.340	2696.847	TOP
9165	9978712.166	781288.747	2696.815	TOP
9166	9978712.154	781289.176	2696.817	TOP
9167	9978712.128	781289.584	2696.826	TOP
9168	9978712.121	781289.999	2696.824	TOP
9169	9978712.334	781290.414	2696.723	TOP
9170	9978712.411	781290.825	2696.688	TOP

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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9171	9978712.494	781291.250	2696.646	TOP
9172	9978712.541	781291.658	2696.616	TOP
9173	9978712.513	781292.077	2696.624	TOP
9174	9978712.493	781292.496	2696.626	TOP
9175	9978712.611	781292.909	2696.566	TOP
9176	9978712.631	781293.333	2696.548	TOP
9177	9978712.594	781293.748	2696.555	TOP
9178	9978712.561	781294.164	2696.559	TOP
9179	9978712.515	781294.578	2696.569	TOP
9180	9978712.506	781294.995	2696.561	TOP
9181	9978712.665	781295.833	2696.468	TOP
9182	9978712.684	781296.265	2696.446	TOP
9183	9978712.656	781296.679	2696.444	TOP
9184	9978712.618	781297.082	2696.447	TOP
9185	9978712.572	781297.500	2696.449	TOP
9186	9978712.431	781297.904	2696.495	TOP
9187	9978712.281	781298.307	2696.549	TOP
9188	9978712.138	781298.714	2696.565	TOP
9189	9978712.109	781299.114	2696.590	TOP
9190	9978712.008	781299.530	2696.617	TOP
9191	9978711.745	781299.908	2696.719	TOP
9192	9978711.538	781300.305	2696.786	TOP
9193	9978711.436	781300.708	2696.812	TOP
9194	9978711.165	781301.097	2696.911	TOP
9195	9978710.993	781301.491	2696.966	TOP
9196	9978710.809	781301.879	2697.026	TOP
9197	9978710.613	781302.265	2697.087	TOP
9198	9978710.703	781302.699	2697.027	TOP
9199	9978710.819	781303.133	2696.953	TOP
9200	9978710.699	781303.525	2696.984	TOP
9201	9978710.684	781303.934	2696.965	TOP
9202	9978710.690	781304.359	2696.936	TOP
9203	9978710.770	781304.780	2696.876	TOP
9204	9978710.841	781305.215	2696.817	TOP
9205	9978710.913	781305.643	2696.755	TOP
9206	9978710.999	781306.079	2696.693	TOP
9207	9978710.855	781306.468	2696.729	TOP
9208	9978710.494	781306.831	2696.856	TOP
9209	9978710.101	781307.195	2697.004	TOP
9210	9978710.012	781307.602	2697.009	TOP
9211	9978710.078	781307.988	2696.857	TOP
9212	9978709.983	781308.492	2696.866	TOP
9213	9978709.851	781310.079	2696.892	TOP
9214	9978709.887	781310.507	2696.837	TOP
9215	9978709.774	781310.899	2696.857	TOP
9216	9978709.596	781311.280	2696.901	TOP
9217	9978709.456	781311.680	2696.927	TOP
9218	9978709.314	781312.064	2696.954	TOP
9219	9978709.307	781312.473	2696.921	TOP
9220	9978709.230	781312.883	2696.917	TOP
9221	9978709.248	781313.310	2696.870	TOP
9222	9978709.174	781313.712	2696.864	TOP
9223	9978709.082	781314.119	2696.864	TOP
9224	9978708.858	781314.494	2696.925	TOP
9225	9978708.820	781314.900	2696.901	TOP
9226	9978708.787	781315.321	2696.873	TOP
9227	9978708.771	781315.737	2696.838	TOP
9228	9978708.922	781316.209	2696.726	TOP
9229	9978708.704	781316.583	2696.780	TOP
9230	9978708.659	781316.997	2696.756	TOP
9231	9978708.655	781317.409	2696.714	TOP
9232	9978708.483	781317.805	2696.740	TOP
9233	9978708.404	781318.216	2696.733	TOP
9234	9978708.334	781318.622	2696.714	TOP
9235	9978708.366	781319.060	2696.655	TOP
9236	9978708.215	781319.447	2696.675	TOP
9237	9978708.195	781319.873	2696.635	TOP
9238	9978707.996	781320.249	2696.675	TOP
9239	9978708.118	781320.713	2696.561	TOP
9240	9978708.279	781321.164	2696.445	TOP
9241	9978708.283	781321.620	2696.392	TOP
9242	9978708.313	781322.065	2696.325	TOP
9243	9978708.246	781322.478	2696.302	TOP
9244	9978707.436	781323.270	2696.282	TOP
9245	9978707.257	781323.642	2696.307	TOP
9246	9978707.208	781324.064	2696.270	TOP
9247	9978707.406	781324.571	2696.118	TOP
9248	9978707.414	781325.013	2696.054	TOP
9249	9978707.338	781325.438	2696.026	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9250	9978707.380	781327.887	2695.945	TOP
9251	9978707.501	781328.381	2695.825	TOP
9252	9978707.466	781328.807	2695.774	TOP
9253	9978707.588	781329.231	2695.749	TOP
9254	9978707.325	781329.660	2695.713	TOP
9255	9978707.264	781330.082	2695.671	TOP
9256	9978707.425	781330.588	2695.529	TOP
9257	9978707.471	781331.064	2695.442	TOP
9258	9978707.568	781331.540	2695.331	TOP
9259	9978707.474	781331.970	2695.302	TOP
9260	9978707.449	781332.424	2695.243	TOP
9261	9978707.235	781332.785	2695.274	TOP
9262	9978707.012	781333.163	2695.805	TOP
9263	9978707.416	781333.780	2695.034	TOP
9264	9978707.443	781334.243	2694.957	TOP
9265	9978707.495	781334.729	2694.837	TOP
9266	9978707.428	781335.170	2694.812	TOP
9267	9978707.537	781335.665	2694.687	TOP
9268	9978707.965	781336.062	2694.691	TOP
9269	9978707.246	781336.474	2694.671	TOP
9270	9978707.279	781336.964	2694.575	TOP
9271	9978707.168	781337.365	2694.512	TOP
9272	9978707.199	781337.848	2694.457	TOP
9273	9978707.087	781338.250	2694.431	TOP
9274	9978706.853	781338.632	2694.456	TOP
9275	9978706.658	781339.012	2694.472	TOP
9276	9978706.623	781339.470	2694.405	TOP
9277	9978705.828	781341.474	2694.357	TOP
9278	9978705.614	781341.856	2694.374	TOP
9279	9978705.412	781342.240	2694.384	TOP
9280	9978705.143	781342.586	2694.425	TOP
9281	9978705.019	781343.013	2694.390	TOP
9282	9978704.885	781343.424	2694.370	TOP
9283	9978704.776	781343.858	2694.329	TOP
9284	9978704.592	781344.245	2694.327	TOP
9285	9978704.567	781344.704	2694.245	TOP
9286	9978704.422	781345.122	2694.224	TOP
9287	9978704.265	781345.525	2694.206	TOP
9288	9978704.069	781345.931	2694.199	TOP
9289	9978703.752	781347.222	2694.068	TOP
9290	9978703.568	781347.614	2694.060	TOP
9291	9978703.247	781347.999	2694.068	TOP
9292	9978703.179	781348.398	2694.050	TOP
9293	9978703.106	781348.843	2693.986	TOP
9294	9978702.911	781349.230	2693.981	TOP
9295	9978702.564	781350.520	2693.843	TOP
9296	9978702.385	781350.914	2693.827	TOP
9297	9978701.883	781351.620	2693.867	TOP
9298	9978701.705	781352.033	2693.845	TOP
9299	9978701.609	781352.486	2693.793	TOP
9300	9978701.309	781352.871	2693.778	TOP
9301	9978701.170	781353.238	2693.794	TOP
9302	9978700.843	781353.545	2693.839	TOP
9303	9978700.738	781353.992	2693.779	TOP
9304	9978700.285	781354.238	2693.890	TOP
9305	9978699.977	781354.570	2693.934	TOP
9306	9978699.574	781354.893	2693.975	TOP
9307	9978699.271	781355.271	2693.963	TOP
9308	9978699.271	781355.628	2693.974	TOP
9309	9978698.950	781355.974	2693.993	TOP
9310	9978698.968	781356.441	2693.915	TOP
9311	9978698.643	781356.822	2693.912	TOP
9312	9978698.428	781357.187	2693.905	TOP
9313	9978698.027	781357.963	2693.874	TOP
9314	9978697.695	781359.326	2693.668	TOP
9315	9978697.517	781359.728	2693.636	TOP
9316	9978697.546	781360.271	2693.494	TOP
9317	9978697.471	781360.732	2693.408	TOP
9318	9978697.437	781361.254	2693.293	TOP
9319	9978697.414	781361.787	2693.162	TOP
9320	9978697.573	781362.404	2692.859	TOP
9321	9978697.360	781362.784	2692.842	TOP
9322	9978697.209	781363.220	2692.885	TOP
9323	9978697.158	781363.733	2692.777	TOP
9324	9978696.850	781364.066	2692.803	TOP
9325	9978696.566	781364.394	2692.821	TOP
9326	9978696.301	781364.759	2692.822	TOP
9327	9978696.032	781365.099	2692.891	TOP
9328	9978695.724	781365.437	2692.853	TOP

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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9379	9978695.549	781365.852	2692.803	TOP
9380	9978695.169	781366.137	2692.867	TOP
9381	9978694.822	781366.418	2692.916	TOP
9382	9978693.344	781368.085	2692.962	TOP
9383	9978693.105	781368.453	2692.976	TOP
9384	9978692.878	781368.843	2692.989	TOP
9385	9978692.139	781369.966	2692.900	TOP
9386	9978691.963	781370.383	2692.845	TOP
9387	9978691.824	781370.856	2692.763	TOP
9388	9978691.793	781371.397	2692.624	TOP
9389	9978691.581	781371.809	2692.582	TOP
9390	9978691.381	781372.206	2692.539	TOP
9391	9978691.094	781372.550	2692.540	TOP
9392	9978690.838	781372.911	2692.525	TOP
9393	9978690.552	781373.246	2692.526	TOP
9394	9978683.406	781395.374	2687.976	TOP
9395	9978683.111	781395.792	2687.918	TOP
9396	9978682.971	781396.334	2687.785	TOP
9397	9978682.711	781396.780	2687.711	TOP
9398	9978682.416	781397.179	2687.663	TOP
9399	9978680.581	781400.361	2687.130	TOP
9400	9978677.614	781404.412	2686.522	TOP
9401	9978671.757	781417.090	2685.447	TOP
9402	9978671.386	781417.464	2685.306	TOP
9403	9978682.852	781491.480	2684.465	TOP
9404	9978683.315	781490.470	2685.364	TOP
9405	9978683.867	781490.397	2685.208	TOP
9406	9978684.272	781390.124	2685.179	TOP
9407	9978684.525	781389.719	2685.236	TOP
9408	9978684.407	781386.895	2686.231	TOP
9409	9978691.203	781368.230	2689.740	TOP
9410	9978691.449	781367.869	2689.753	TOP
9411	9978691.836	781367.605	2689.687	TOP
9412	9978692.851	781366.188	2689.715	TOP
9413	9978694.753	781362.700	2689.959	TOP
9414	9978695.006	781362.339	2689.960	TOP
9415	9978695.494	781362.151	2689.823	TOP
9416	9978695.845	781361.884	2689.752	TOP
9417	9978696.133	781361.535	2689.742	TOP
9418	9978696.504	781361.273	2689.668	TOP
9419	9978696.477	781360.724	2689.824	TOP
9420	9978696.517	781360.239	2689.936	TOP
9421	9978696.588	781359.751	2690.035	TOP
9422	9978696.294	781359.036	2690.335	TOP
9423	9978696.265	781358.507	2690.484	TOP
9424	9978696.393	781358.044	2690.568	TOP
9425	9978696.516	781357.636	2690.609	TOP
9426	9978696.684	781357.230	2690.646	TOP
9427	9978696.946	781356.885	2690.631	TOP
9428	9978697.305	781356.801	2690.561	TOP
9429	9978697.456	781356.188	2690.404	TOP
9430	9978697.725	781355.341	2690.709	TOP
9431	9978697.958	781354.982	2690.704	TOP
9432	9978700.144	781349.786	2691.057	TOP
9433	9978700.834	781349.190	2690.910	TOP
9434	9978701.767	781347.271	2690.953	TOP
9435	9978701.953	781346.893	2690.958	TOP
9436	9978702.164	781346.501	2690.956	TOP
9437	9978702.456	781345.702	2691.006	TOP
9438	9978702.685	781345.333	2690.989	TOP
9439	9978702.834	781344.923	2691.014	TOP
9440	9978703.009	781344.538	2691.022	TOP
9441	9978703.206	781344.145	2691.021	TOP
9442	9978703.202	781343.203	2691.217	TOP
9443	9978703.346	781342.797	2691.240	TOP
9444	9978703.464	781342.376	2691.275	TOP
9445	9978703.636	781341.981	2691.282	TOP
9446	9978703.710	781341.553	2691.337	TOP
9447	9978703.741	781341.106	2691.412	TOP
9448	9978703.802	781340.653	2691.476	TOP
9449	9978704.078	781340.314	2691.425	TOP
9450	9978704.134	781339.494	2691.475	TOP
9451	9978704.187	781339.058	2691.536	TOP
9452	9978704.572	781338.677	2691.529	TOP
9453	9978704.547	781338.205	2691.629	TOP
9454	9978704.571	781337.745	2691.705	TOP
9455	9978704.725	781337.359	2691.711	TOP
9456	9978704.858	781336.957	2691.728	TOP
9457	9978705.071	781336.594	2691.703	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9408	9978705.244	781336.209	2691.698	TOP
9409	9978705.366	781335.803	2691.718	TOP
9410	9978705.532	781335.409	2691.718	TOP
9411	9978705.699	781335.026	2691.713	TOP
9412	9978705.834	781334.632	2691.774	TOP
9413	9978705.825	781334.181	2691.806	TOP
9414	9978705.970	781333.773	2691.814	TOP
9415	9978705.887	781333.289	2691.933	TOP
9416	9978706.030	781332.884	2691.939	TOP
9417	9978706.008	781332.428	2692.026	TOP
9418	9978706.122	781332.024	2692.044	TOP
9419	9978706.036	781331.541	2692.162	TOP
9420	9978705.963	781331.063	2692.272	TOP
9421	9978706.204	781330.695	2692.228	TOP
9422	9978706.287	781330.297	2692.254	TOP
9423	9978706.421	781329.894	2692.260	TOP
9424	9978706.382	781329.437	2692.349	TOP
9425	9978706.532	781329.035	2692.346	TOP
9426	9978706.580	781328.610	2692.391	TOP
9427	9978706.711	781328.208	2692.395	TOP
9428	9978706.811	781327.802	2692.412	TOP
9429	9978706.755	781327.349	2692.506	TOP
9430	9978706.716	781326.888	2692.592	TOP
9431	9978706.639	781326.419	2692.696	TOP
9432	9978706.700	781326.009	2692.729	TOP
9433	9978706.614	781325.539	2692.835	TOP
9434	9978706.692	781325.135	2692.859	TOP
9435	9978706.773	781324.728	2692.881	TOP
9436	9978706.623	781324.251	2693.015	TOP
9437	9978706.509	781323.781	2693.131	TOP
9438	9978706.603	781323.381	2693.144	TOP
9439	9978706.936	781323.054	2693.040	TOP
9440	9978707.004	781322.647	2693.064	TOP
9441	9978706.953	781322.200	2693.146	TOP
9442	9978707.050	781321.797	2693.156	TOP
9443	9978707.082	781321.375	2693.196	TOP
9444	9978707.126	781320.960	2693.231	TOP
9445	9978706.999	781320.501	2693.346	TOP
9446	9978707.075	781320.097	2693.362	TOP
9447	9978706.990	781319.640	2693.458	TOP
9448	9978707.264	781319.273	2693.428	TOP
9449	9978707.359	781318.478	2693.432	TOP
9450	9978707.389	781318.050	2693.468	TOP
9451	9978707.449	781317.646	2693.489	TOP
9452	9978707.745	781316.875	2693.443	TOP
9453	9978707.733	781316.447	2693.497	TOP
9454	9978707.720	781316.026	2693.549	TOP
9455	9978707.811	781315.614	2693.552	TOP
9456	9978707.930	781315.219	2693.541	TOP
9457	9978708.087	781314.835	2693.510	TOP
9458	9978708.096	781314.422	2693.550	TOP
9459	9978708.176	781314.018	2693.553	TOP
9460	9978708.068	781313.578	2693.649	TOP
9461	9978708.048	781313.145	2693.701	TOP
9462	9978708.090	781312.743	2693.722	TOP
9463	9978708.091	781312.322	2693.762	TOP
9464	9978708.011	781311.902	2693.825	TOP
9465	9978708.011	781311.518	2693.817	TOP
9466	9978708.145	781311.096	2693.854	TOP
9467	9978708.153	781310.681	2693.887	TOP
9468	9978708.136	781310.271	2693.930	TOP
9469	9978708.093	781309.845	2693.985	TOP
9470	9978708.293	781309.472	2693.929	TOP
9471	9978708.337	781309.078	2693.931	TOP
9472	9978708.096	781308.655	2693.953	TOP
9473	9978708.531	781308.259	2693.920	TOP
9474	9978708.680	781307.882	2693.882	TOP
9475	9978708.749	781307.483	2693.881	TOP
9476	9978708.842	781307.084	2693.869	TOP
9477	9978709.006	781306.701	2693.823	TOP
9478	9978709.157	781306.296	2693.792	TOP
9479	9978709.323	781305.914	2693.734	TOP
9480	9978709.475	781305.528	2693.691	TOP
9481	9978709.422	781305.108	2693.744	TOP
9482	9978709.416	781304.690	2693.776	TOP
9483	9978709.496	781304.291	2693.765	TOP
9484	9978709.547	781303.886	2693.768	TOP
9485	9978709.639	781303.483	2693.751	TOP
9486	9978709.449	781303.090	2693.866	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9487	9978709.499	781302.644	2693.870	TOP
9488	9978709.489	781302.231	2693.895	TOP
9489	9978709.569	781301.832	2693.881	TOP
9490	9978709.641	781301.431	2693.870	TOP
9491	9978709.628	781301.015	2693.899	TOP
9492	9978710.000	781299.832	2693.786	TOP
9493	9978710.013	781299.419	2693.800	TOP
9494	9978710.068	781299.019	2693.792	TOP
9495	9978710.073	781298.620	2693.808	TOP
9496	9978710.096	781298.208	2693.835	TOP
9497	9978710.102	781297.800	2693.829	TOP
9498	9978710.422	781297.423	2693.695	TOP
9499	9978710.429	781297.011	2693.708	TOP
9500	9978710.559	781296.613	2693.682	TOP
9501	9978710.654	781296.212	2693.632	TOP
9502	9978710.726	781295.810	2693.612	TOP
9503	9978710.825	781295.391	2693.579	TOP
9504	9978710.948	781294.989	2693.534	TOP
9505	9978711.084	781294.589	2693.478	TOP
9506	9978711.234	781294.193	2693.423	TOP
9507	9978711.423	781293.781	2693.346	TOP
9508	9978711.568	781293.381	2693.288	TOP
9509	9978711.774	781292.972	2693.201	TOP
9510	9978711.754	781292.563	2693.219	TOP
9511	9978711.757	781292.161	2693.226	TOP
9512	9978711.682	781291.735	2693.269	TOP
9513	9978711.833	781291.330	2693.205	TOP
9514	9978711.823	781290.907	2693.216	TOP
9515	9978711.851	781290.505	2693.208	TOP
9516	9978711.721	781290.082	2693.274	TOP
9517	9978711.585	781289.669	2693.342	TOP
9518	9978711.635	781289.263	2693.323	TOP
9519	9978711.777	781288.852	2693.259	TOP
9520	9978711.675	781288.434	2693.309	TOP
9521	9978711.585	781288.033	2693.353	TOP
9522	9978711.610	781287.617	2693.342	TOP
9523	9978711.694	781287.210	2693.303	TOP
9524	9978711.726	781286.803	2693.289	TOP
9525	9978711.774	781286.389	2693.245	TOP
9526	9978711.779	781285.982	2693.262	TOP
9527	9978711.032	781285.572	2693.141	TOP
9528	9978711.523	781285.146	2692.909	TOP
9529	9978711.689	781284.733	2692.827	TOP
9530	9978712.935	781284.314	2692.709	TOP
9531	9978713.148	781283.894	2692.604	TOP
9532	9978713.271	781283.472	2692.541	TOP
9533	9978713.383	781283.056	2692.483	TOP
9534	9978713.519	781282.626	2692.412	TOP
9535	9978713.703	781282.193	2692.319	TOP
9536	9978713.878	781281.774	2692.229	TOP
9537	9978714.039	781281.340	2692.154	TOP
9538	9978714.175	781280.926	2692.072	TOP
9539	9978714.138	781280.508	2692.079	TOP
9540	9978714.016	781280.083	2692.126	TOP
9541	9978714.045	781279.662	2692.101	TOP
9542	9978714.093	781279.240	2692.067	TOP
9543	9978714.057	781278.820	2692.071	TOP
9544	9978714.962	781278.404	2692.102	TOP
9545	9978713.857	781277.985	2692.137	TOP
9546	9978713.773	781277.572	2692.162	TOP
9547	9978713.925	781277.134	2692.075	TOP
9548	9978717.988	781272.034	2689.951	TOP
9549	9978719.000	781269.698	2689.346	TOP
9550	9978718.928	781269.277	2689.353	TOP
9551	9978718.982	781268.833	2689.346	TOP
9552	9978719.049	781268.367	2689.238	TOP
9553	9978718.997	781267.918	2689.232	TOP
9554	9978719.226	781267.439	2689.093	TOP
9555	9978719.186	781267.010	2689.082	TOP
9556	9978719.439	781266.521	2688.930	TOP
9557	9978719.413	781266.078	2688.909	TOP
9558	9978719.338	781265.640	2688.911	TOP
9559	9978719.308	781265.188	2688.891	TOP
9560	9978719.242	781264.751	2688.887	TOP
9561	9978719.216	781264.305	2688.863	TOP
9562	9978719.210	781263.857	2688.830	TOP
9563	9978719.164	781263.413	2688.815	TOP
9564	9978719.077	781262.970	2688.818	TOP
9565	9978718.977	781262.532	2688.826	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9566	9978718.874	781262.109	2688.836	TOP
9567	9978718.761	781261.681	2688.851	TOP
9568	9978718.532	781261.272	2688.919	TOP
9569	9978718.366	781260.863	2688.957	TOP
9570	9978718.127	781260.448	2689.028	TOP
9571	9978718.080	781260.023	2689.005	TOP
9572	9978718.036	781259.584	2688.987	TOP
9573	9978717.934	781259.151	2688.992	TOP
9574	9978717.800	781258.732	2689.011	TOP
9575	9978717.659	781258.313	2689.034	TOP
9576	9978718.380	781266.677	2685.376	TOP
9577	9978718.496	781267.096	2685.352	TOP
9578	9978718.339	781267.562	2685.463	TOP
9579	9978718.344	781268.016	2685.495	TOP
9580	9978718.361	781268.445	2685.516	TOP
9581	9978717.788	781268.976	2685.837	TOP
9582	9978717.471	781269.458	2686.026	TOP
9583	9978717.000	781269.952	2686.291	TOP
9584	9978716.912	781270.414	2686.365	TOP
9585	9978716.735	781270.868	2686.481	TOP
9586	9978716.687	781271.310	2686.532	TOP
9587	9978716.728	781271.739	2686.540	TOP
9588	9978716.758	781272.167	2686.548	TOP
9589	9978716.765	781272.590	2686.568	TOP
9590	9978716.749	781273.019	2686.601	TOP
9591	9978714.612	781278.543	2687.998	TOP
9592	9978713.947	781283.022	2688.347	TOP
9593	9978713.905	781283.439	2688.375	TOP
9594	9978713.805	781283.871	2688.493	TOP
9595	9978713.573	781284.281	2688.552	TOP
9596	9978713.476	781284.705	2688.604	TOP
9597	9978713.181	781285.136	2688.755	TOP
9598	9978712.728	781285.557	2688.984	TOP
9599	9978712.326	781285.971	2689.186	TOP
9600	9978712.144	781286.381	2689.179	TOP
9601	9978712.005	781286.790	2689.349	TOP
9602	9978711.826	781287.204	2689.438	TOP
9603	9978711.678	781287.617	2689.511	TOP
9604	9978711.410	781288.013	2689.644	TOP
9605	9978711.390	781288.423	2689.652	TOP
9606	9978711.070	781288.836	2689.809	TOP
9607	9978710.980	781289.240	2689.851	TOP
9608	9978710.888	781289.654	2689.843	TOP
9609	9978711.077	781290.064	2689.794	TOP
9610	9978711.166	781290.474	2689.744	TOP
9611	9978711.017	781290.875	2689.813	TOP
9612	9978710.804	781291.284	2689.912	TOP
9613	9978710.653	781291.691	2689.980	TOP
9614	9978710.593	781292.098	2690.002	TOP
9615	9978710.622	781292.501	2689.979	TOP
9616	9978710.620	781292.912	2689.973	TOP
9617	9978710.587	781293.317	2689.977	TOP
9618	9978710.540	781293.731	2689.990	TOP
9619	9978710.419	781294.134	2690.039	TOP
9620	9978709.977	781294.532	2690.248	TOP
9621	9978709.844	781294.921	2690.257	TOP
9622	9978709.711	781295.309	2690.378	TOP
9623	9978709.611	781295.717	2690.390	TOP
9624	9978709.505	781296.105	2690.528	TOP
9625	9978709.488	781296.494	2690.592	TOP
9626	9978709.290	781296.916	2690.505	TOP
9627	9978709.394	781297.323	2690.457	TOP
9628	9978709.612	781297.729	2690.424	TOP
9629	9978709.556	781298.131	2690.440	TOP
9630	9978709.335	781298.542	2690.422	TOP
9631	9978709.280	781298.932	2690.411	TOP
9632	9978709.033	781299.319	2690.503	TOP
9633	9978709.038	781300.122	2690.480	TOP
9634	9978709.114	781300.566	2690.319	TOP
9635	9978709.229	781300.969	2690.538	TOP
9636	9978709.282	781301.380	2690.289	TOP
9637	9978709.138	781301.765	2690.337	TOP
9638	9978709.032	781302.578	2690.340	TOP
9639	9978708.521	781303.557	2690.459	TOP
9640	9978708.159	781304.914	2690.611	TOP
9641	9978708.006	781305.299	2690.658	TOP
9642	9978707.914	781305.692	2690.674	TOP
9643	9978707.851	781306.089	2690.674	TOP
9644	9978707.745	781306.482	2690.696	TOP



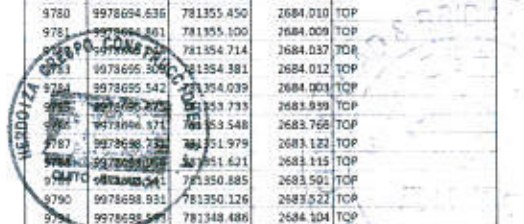
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9645	9978707.694	781306.887	2690.688	TOP
9646	9978707.587	781307.286	2690.707	TOP
9647	9978707.565	781307.684	2690.685	TOP
9648	9978707.504	781308.085	2690.680	TOP
9649	9978707.411	781308.477	2690.692	TOP
9650	9978707.332	781308.883	2690.695	TOP
9651	9978707.280	781309.280	2690.684	TOP
9652	9978707.244	781309.685	2690.664	TOP
9653	9978707.199	781310.075	2690.650	TOP
9654	9978707.062	781310.467	2690.680	TOP
9655	9978706.993	781310.860	2690.676	TOP
9656	9978706.965	781311.259	2690.650	TOP
9657	9978707.035	781311.685	2690.573	TOP
9658	9978707.051	781312.103	2690.522	TOP
9659	9978706.988	781312.487	2690.514	TOP
9660	9978706.901	781312.899	2690.513	TOP
9661	9978706.721	781313.275	2690.560	TOP
9662	9978706.625	781313.661	2690.565	TOP
9663	9978706.562	781314.063	2690.551	TOP
9664	9978706.508	781314.488	2690.588	TOP
9665	9978706.535	781315.306	2690.424	TOP
9666	9978706.455	781315.705	2690.416	TOP
9667	9978706.523	781316.144	2690.332	TOP
9668	9978706.435	781316.536	2690.327	TOP
9669	9978706.135	781316.881	2690.431	TOP
9670	9978705.865	781317.232	2690.518	TOP
9671	9978705.725	781317.614	2690.538	TOP
9672	9978705.624	781318.006	2690.537	TOP
9673	9978705.510	781318.392	2690.543	TOP
9674	9978705.509	781318.816	2690.489	TOP
9675	9978705.288	781320.855	2690.321	TOP
9676	9978705.347	781321.291	2690.233	TOP
9677	9978705.307	781321.701	2690.194	TOP
9678	9978705.325	781322.139	2690.125	TOP
9679	9978705.287	781322.549	2690.081	TOP
9680	9978705.535	781324.694	2689.742	TOP
9681	9978705.315	781325.114	2689.686	TOP
9682	9978705.247	781325.520	2689.656	TOP
9683	9978705.193	781325.932	2689.617	TOP
9684	9978705.176	781326.365	2689.557	TOP
9685	9978705.138	781326.791	2689.507	TOP
9686	9978705.074	781327.200	2689.471	TOP
9687	9978705.008	781327.613	2689.435	TOP
9688	9978705.037	781328.002	2689.275	TOP
9689	9978704.950	781328.908	2689.248	TOP
9690	9978704.866	781329.328	2689.216	TOP
9691	9978704.753	781329.716	2689.204	TOP
9692	9978704.951	781330.228	2689.027	TOP
9693	9978705.091	781330.728	2688.870	TOP
9694	9978705.098	781331.177	2688.789	TOP
9695	9978705.418	781331.746	2688.539	TOP
9696	9978705.379	781332.177	2688.480	TOP
9697	9978705.378	781332.620	2688.401	TOP
9698	9978705.225	781333.026	2688.388	TOP
9699	9978705.104	781333.420	2688.382	TOP
9700	9978704.945	781333.823	2688.382	TOP
9701	9978704.680	781334.613	2688.357	TOP
9702	9978704.557	781334.995	2688.342	TOP
9703	9978704.464	781335.419	2688.303	TOP
9704	9978704.300	781335.810	2688.304	TOP
9705	9978703.909	781336.098	2688.428	TOP
9706	9978702.938	781337.944	2688.506	TOP
9707	9978702.686	781338.294	2688.550	TOP
9708	9978702.506	781338.666	2688.556	TOP
9709	9978701.104	781343.100	2688.242	TOP
9710	9978701.012	781343.532	2688.187	TOP
9711	9978699.202	781346.856	2688.224	TOP
9712	9978698.537	781349.348	2687.915	TOP
9713	9978698.368	781349.749	2687.890	TOP
9714	9978698.194	781350.127	2687.872	TOP
9715	9978698.331	781352.182	2687.298	TOP
9716	9978697.833	781354.376	2686.946	TOP
9717	9978697.300	781354.556	2687.125	TOP
9718	9978697.311	781355.068	2686.986	TOP
9719	9978697.000	781355.395	2687.033	TOP
9720	9978696.280	781355.434	2687.324	TOP
9721	9978695.548	781355.482	2687.619	TOP
9722	9978695.326	781355.827	2687.620	TOP
9723	9978694.835	781356.533	2687.635	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9724	9978694.728	781356.977	2687.558	TOP
9725	9978694.610	781357.395	2687.492	TOP
9726	9978694.757	781358.514	2687.129	TOP
9727	9978694.716	781359.011	2687.002	TOP
9728	9978694.769	781359.563	2686.825	TOP
9729	9978694.221	781360.210	2686.868	TOP
9730	9978693.661	781360.858	2686.913	TOP
9731	9978693.224	781361.608	2686.876	TOP
9732	9978692.979	781361.961	2686.874	TOP
9733	9978692.858	781362.391	2686.798	TOP
9734	9978692.671	781362.341	2686.595	TOP
9735	9978692.412	781362.687	2686.593	TOP
9736	9978691.970	781362.898	2686.712	TOP
9737	9978691.755	781364.264	2686.690	TOP
9738	9978691.597	781364.695	2686.624	TOP
9739	9978691.508	781365.165	2686.519	TOP
9740	9978690.063	781367.331	2686.430	TOP
9741	9978689.788	781367.668	2686.433	TOP
9742	9978685.901	781380.035	2686.849	TOP
9743	9978685.793	781380.542	2686.713	TOP
9744	9978685.556	781380.951	2686.637	TOP
9745	9978685.296	781381.311	2686.626	TOP
9746	9978685.046	781381.719	2686.575	TOP
9747	9978684.719	781382.091	2686.580	TOP
9748	9978684.556	781382.499	2686.474	TOP
9749	9978684.038	781383.249	2686.393	TOP
9750	9978683.822	781383.686	2686.315	TOP
9751	9978682.102	781391.924	2686.912	TOP
9752	9978680.157	781417.006	2674.763	TOP
9753	9978686.845	781417.458	2674.654	TOP
9754	9978686.498	781417.895	2674.559	TOP
9755	9978686.106	781418.231	2674.518	TOP
9756	9978687.773	781418.672	2674.416	TOP
9757	9978682.584	781389.711	2677.175	TOP
9758	9978682.020	781389.535	2677.069	TOP
9759	9978684.495	781376.361	2681.460	TOP
9760	9978684.773	781376.025	2681.473	TOP
9761	9978685.078	781375.700	2681.470	TOP
9762	9978685.429	781375.426	2681.430	TOP
9763	9978685.761	781375.125	2681.407	TOP
9764	9978686.045	781374.794	2681.412	TOP
9765	9978686.437	781374.563	2681.339	TOP
9766	9978686.819	781374.312	2681.275	TOP
9767	9978687.099	781373.946	2681.304	TOP
9768	9978687.239	781373.511	2681.389	TOP
9769	9978687.397	781373.061	2681.482	TOP
9770	9978692.211	781360.439	2683.599	TOP
9771	9978692.452	781360.076	2683.605	TOP
9772	9978692.612	781359.684	2683.654	TOP
9773	9978692.772	781359.281	2683.706	TOP
9774	9978693.487	781357.732	2683.854	TOP
9775	9978693.516	781357.235	2683.988	TOP
9776	9978693.745	781356.894	2683.987	TOP
9777	9978693.941	781356.515	2684.011	TOP
9778	9978694.152	781356.152	2684.023	TOP
9779	9978694.421	781355.815	2684.000	TOP
9780	9978694.636	781355.450	2684.010	TOP
9781	9978694.861	781355.100	2684.009	TOP
9782	9978695.066	781354.714	2684.037	TOP
9783	9978695.306	781354.381	2684.012	TOP
9784	9978695.542	781354.039	2684.003	TOP
9785	9978695.776	781353.733	2683.999	TOP
9786	9978696.011	781353.548	2683.766	TOP
9787	9978696.236	781353.197	2683.123	TOP
9788	9978696.461	781352.621	2683.115	TOP
9789	9978696.686	781352.041	2683.501	TOP
9790	9978698.931	781350.126	2683.522	TOP
9791	9978698.579	781348.486	2684.104	TOP
9792	9978698.694	781348.059	2684.167	TOP
9793	9978698.821	781345.762	2684.687	TOP
9794	9978698.899	781345.333	2684.756	TOP
9795	9978699.124	781344.974	2684.740	TOP
9796	9978699.578	781341.944	2685.252	TOP
9797	9978700.279	781341.360	2685.053	TOP
9798	9978700.443	781340.980	2685.063	TOP
9799	9978700.902	781340.275	2685.003	TOP
9800	9978701.117	781339.913	2684.982	TOP
9801	9978703.217	781336.506	2684.747	TOP
9802	9978703.322	781335.908	2684.778	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9803	9978704.397	781331.858	2685.055	TOP
9804	9978704.315	781331.990	2685.185	TOP
9805	9978704.422	781330.967	2685.211	TOP
9806	9978704.320	781330.046	2685.433	TOP
9807	9978704.287	781329.606	2685.529	TOP
9808	9978704.126	781329.118	2685.698	TOP
9809	9978703.951	781328.607	2685.878	TOP
9810	9978703.944	781328.165	2685.960	TOP
9811	9978703.913	781327.725	2686.053	TOP
9812	9978703.935	781327.295	2686.117	TOP
9813	9978703.872	781326.839	2686.227	TOP
9814	9978704.014	781326.466	2686.230	TOP
9815	9978704.179	781326.084	2686.205	TOP
9816	9978703.878	781325.555	2686.443	TOP
9817	9978703.980	781325.162	2686.456	TOP
9818	9978703.752	781324.656	2686.655	TOP
9819	9978703.765	781324.280	2686.716	TOP
9820	9978703.482	781323.727	2686.942	TOP
9821	9978703.624	781323.350	2686.930	TOP
9822	9978703.785	781322.980	2686.907	TOP
9823	9978703.836	781322.162	2687.008	TOP
9824	9978703.943	781321.775	2687.013	TOP
9825	9978704.197	781321.435	2686.935	TOP
9826	9978704.297	781321.039	2686.944	TOP
9827	9978704.333	781320.635	2686.985	TOP
9828	9978704.455	781320.258	2686.978	TOP
9829	9978704.509	781319.853	2687.009	TOP
9830	9978704.593	781319.454	2687.024	TOP
9831	9978704.729	781319.071	2687.068	TOP
9832	9978704.678	781318.222	2687.152	TOP
9833	9978704.764	781317.833	2687.161	TOP
9834	9978704.831	781317.431	2687.180	TOP
9835	9978704.941	781317.040	2687.175	TOP
9836	9978705.107	781316.675	2687.118	TOP
9837	9978704.806	781316.190	2687.355	TOP
9838	9978704.926	781315.799	2687.343	TOP
9839	9978705.270	781315.478	2687.206	TOP
9840	9978705.549	781315.122	2687.107	TOP
9841	9978705.587	781314.713	2687.117	TOP
9842	9978705.500	781314.285	2687.234	TOP
9843	9978705.630	781313.898	2687.213	TOP
9844	9978705.991	781313.573	2687.064	TOP
9845	9978706.173	781313.782	2687.080	TOP
9846	9978706.229	781313.381	2687.076	TOP
9847	9978706.135	781313.958	2687.171	TOP
9848	9978706.056	781313.539	2687.258	TOP
9849	9978706.061	781313.129	2687.299	TOP
9850	9978705.649	781310.645	2687.564	TOP
9851	9978706.276	781309.453	2687.309	TOP
9852	9978706.540	781309.597	2687.207	TOP
9853	9978706.572	781309.199	2687.229	TOP
9854	9978706.617	781308.791	2687.245	TOP
9855	9978706.647	781308.591	2687.267	TOP
9856	9978706.705	781308.001	2687.273	TOP
9857	9978706.807	781307.610	2687.259	TOP
9858	9978706.821	781307.198	2687.285	TOP
9859	9978706.761	781306.789	2687.353	TOP
9860	9978706.883	781306.996	2687.322	TOP
9861	9978706.991	781306.005	2687.299	TOP
9862	9978707.005	781305.600	2687.325	TOP
9863	9978707.121	781305.217	2687.295	TOP
9864	9978707.166	781304.815	2687.303	TOP
9865	9978707.238	781304.421	2687.295	TOP
9866	9978707.462	781304.041	2687.207	TOP
9867	9978707.514	781303.644	2687.209	TOP
9868	9978707.812	781303.287	2687.078	TOP
9869	9978707.802	781302.886	2687.058	TOP
9870	9978708.100	781302.503	2686.981	TOP
9871	9978708.771	781301.773	2686.676	TOP
9872	9978708.795	781301.370	2686.689	TOP
9873	9978708.852	781300.976	2686.683	TOP
9874	9978708.822	781300.561	2686.724	TOP
9875	9978708.856	781300.162	2686.729	TOP
9876	9978708.847	781299.747	2686.756	TOP
9877	9978708.829	781299.350	2686.788	TOP
9878	9978708.786	781298.949	2686.831	TOP
9879	9978708.697	781298.531	2686.900	TOP
9880	9978708.621	781298.120	2686.960	TOP
9881	9978708.547	781297.714	2687.019	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9882	9978708.493	781297.298	2687.065	TOP
9883	9978708.306	781296.161	2686.684	TOP
9884	9978708.419	781295.747	2686.640	TOP
9885	9978710.873	781295.374	2685.968	TOP
9886	9978710.284	781295.162	2686.035	TOP
9887	9978711.448	781290.130	2685.708	TOP
9888	9978711.604	781289.714	2685.630	TOP
9889	9978711.711	781289.309	2685.578	TOP
9890	9978712.174	781288.896	2685.336	TOP
9891	9978712.542	781288.490	2685.250	TOP
9892	9978712.413	781288.084	2685.214	TOP
9893	9978712.505	781287.669	2685.167	TOP
9894	9978712.114	781286.847	2685.374	TOP
9895	9978712.483	781286.427	2685.189	TOP
9896	9978712.625	781286.017	2685.101	TOP
9897	9978712.960	781285.602	2684.922	TOP
9898	9978712.922	781285.188	2684.938	TOP
9899	9978713.042	781284.766	2684.871	TOP
9900	9978713.440	781284.342	2684.655	TOP
9901	9978713.592	781283.925	2684.569	TOP
9902	9978713.986	781283.497	2684.355	TOP
9903	9978714.234	781283.083	2684.182	TOP
9904	9978714.295	781282.660	2684.139	TOP
9905	9978714.350	781282.237	2684.098	TOP
9906	9978715.149	781278.791	2683.621	TOP
9907	9978715.259	781278.367	2683.601	TOP
9908	9978715.590	781277.471	2683.339	TOP
9909	9978716.157	781277.006	2683.020	TOP
9910	9978716.090	781275.726	2682.999	TOP
9911	9978716.092	781275.307	2682.999	TOP
9912	9978714.496	781282.999	2679.967	TOP
9913	9978714.336	781283.414	2680.064	TOP
9914	9978714.271	781283.841	2680.108	TOP
9915	9978714.205	781284.255	2680.150	TOP
9916	9978714.175	781284.678	2680.172	TOP
9917	9978713.917	781285.106	2680.322	TOP
9918	9978713.597	781285.530	2680.505	TOP
9919	9978713.619	781285.941	2680.495	TOP
9920	9978713.552	781286.358	2680.545	TOP
9921	9978713.498	781286.778	2680.566	TOP
9922	9978713.308	781287.185	2680.673	TOP
9923	9978713.373	781287.597	2680.636	TOP
9924	9978713.368	781288.021	2680.617	TOP
9925	9978713.445	781288.435	2680.542	TOP
9926	9978713.469	781288.848	2680.576	TOP
9927	9978713.442	781289.261	2680.587	TOP
9928	9978712.189	781290.078	2681.283	TOP
9929	9978712.051	781290.481	2681.355	TOP
9930	9978711.751	781290.883	2681.517	TOP
9931	9978710.786	781292.502	2682.026	TOP
9932	9978710.649	781292.904	2682.092	TOP
9933	9978708.863	781296.052	2682.988	TOP
9934	9978708.118	781298.403	2683.295	TOP
9935	9978708.107	781299.203	2683.258	TOP
9936	9978708.037	781299.601	2683.274	TOP
9937	9978708.001	781299.996	2683.270	TOP
9938	9978707.775	781300.779	2683.348	TOP
9939	9978707.540	781301.180	2683.359	TOP
9940	9978707.569	781301.545	2683.449	TOP
9941	9978707.347	781301.937	2683.510	TOP
9942	9978707.264	781302.330	2683.536	TOP
9943	9978707.179	781302.731	2683.547	TOP
9944	9978706.968	781303.102	2683.632	TOP
9945	9978706.999	781303.466	2683.780	TOP
9946	9978706.971	781303.849	2683.779	TOP
9947	9978706.524	781304.243	2683.796	TOP
9948	9978706.416	781304.638	2683.824	TOP
9949	9978706.359	781305.031	2683.823	TOP
9950	9978706.207	781305.409	2683.875	TOP
9951	9978706.279	781305.824	2683.804	TOP
9952	9978706.022	781306.182	2683.910	TOP
9953	9978705.820	781306.557	2683.988	TOP
9954	9978705.282	781306.875	2684.257	TOP
9955	9978705.254	781307.269	2684.235	TOP
9956	9978705.464	781307.706	2684.677	TOP
9957	9978705.515	781308.126	2684.607	TOP
9958	9978705.623	781308.550	2683.905	TOP
9959	9978705.674	781308.960	2683.835	TOP
9960	9978705.612	781309.364	2683.827	TOP





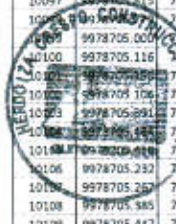
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
9961	9978705.634	781309.755	2683.774	TOP
9962	9978705.522	781310.138	2683.795	TOP
9963	9978705.250	781310.503	2683.882	TOP
9964	9978705.147	781310.884	2683.919	TOP
9965	9978705.078	781311.275	2683.913	TOP
9966	9978705.167	781313.325	2683.621	TOP
9967	9978705.117	781313.713	2683.600	TOP
9968	9978705.318	781314.171	2683.432	TOP
9969	9978705.281	781314.575	2683.401	TOP
9970	9978705.241	781314.989	2683.369	TOP
9971	9978705.213	781315.387	2683.333	TOP
9972	9978705.400	781316.251	2683.113	TOP
9973	9978705.197	781316.625	2683.174	TOP
9974	9978705.214	781317.046	2683.107	TOP
9975	9978705.236	781317.473	2683.034	TOP
9976	9978705.094	781317.848	2683.059	TOP
9977	9978704.838	781318.217	2683.112	TOP
9978	9978704.707	781318.574	2683.164	TOP
9979	9978704.652	781319.403	2683.070	TOP
9980	9978704.772	781319.860	2682.936	TOP
9981	9978704.663	781320.249	2682.936	TOP
9982	9978704.496	781320.617	2682.969	TOP
9983	9978704.241	781320.955	2683.054	TOP
9984	9978704.060	781321.317	2683.094	TOP
9985	9978703.836	781321.688	2683.145	TOP
9986	9978703.630	781322.029	2683.212	TOP
9987	9978703.471	781322.406	2683.235	TOP
9988	9978703.354	781322.776	2683.237	TOP
9989	9978702.843	781323.382	2683.324	TOP
9990	9978702.805	781324.278	2683.276	TOP
9991	9978702.911	781324.743	2683.138	TOP
9992	9978702.785	781325.976	2682.966	TOP
9993	9978702.434	781328.848	2682.635	TOP
9994	9978702.442	781329.286	2682.547	TOP
9995	9978702.434	781330.597	2682.292	TOP
9996	9978702.342	781330.996	2682.259	TOP
9997	9978703.670	781334.182	2680.904	TOP
9998	9978703.263	781335.356	2680.864	TOP
9999	9978703.140	781335.766	2680.838	TOP
10000	9978703.045	781336.164	2680.799	TOP
10001	9978702.926	781336.564	2680.772	TOP
10002	9978702.632	781336.881	2680.853	TOP
10003	9978702.198	781337.602	2680.914	TOP
10004	9978697.580	781343.176	2681.656	TOP
10005	9978697.742	781343.721	2681.687	TOP
10006	9978697.464	781344.041	2681.743	TOP
10007	9978697.975	781348.551	2680.283	TOP
10008	9978697.168	781350.018	2680.270	TOP
10009	9978696.894	781350.345	2680.311	TOP
10010	9978696.534	781350.617	2680.409	TOP
10011	9978696.078	781350.826	2680.571	TOP
10012	9978695.827	781351.169	2680.596	TOP
10013	9978695.491	781351.462	2680.671	TOP
10014	9978695.305	781351.836	2680.652	TOP
10015	9978694.627	781351.916	2680.955	TOP
10016	9978693.602	781352.740	2681.203	TOP
10017	9978693.458	781353.144	2681.151	TOP
10018	9978693.358	781353.566	2681.072	TOP
10019	9978693.122	781353.915	2681.079	TOP
10020	9978692.703	781354.138	2681.210	TOP
10021	9978692.364	781355.893	2680.831	TOP
10022	9978692.196	781356.287	2680.788	TOP
10023	9978692.065	781356.698	2680.721	TOP
10024	9978691.790	781357.014	2680.750	TOP
10025	9978691.536	781357.342	2680.765	TOP
10026	9978691.077	781357.532	2680.918	TOP
10027	9978690.777	781357.816	2680.960	TOP
10028	9978690.506	781358.139	2680.989	TOP
10029	9978690.349	781358.520	2680.939	TOP
10030	9978690.981	781361.029	2679.832	TOP
10031	9978690.757	781361.393	2679.815	TOP
10032	9978689.367	781366.200	2678.813	TOP
10033	9978689.237	781366.656	2678.712	TOP
10034	9978689.070	781367.081	2678.637	TOP
10035	9978688.945	781367.524	2678.557	TOP
10036	9978688.714	781367.888	2678.510	TOP
10037	9978688.743	781368.467	2678.293	TOP
10038	9978688.513	781368.841	2678.260	TOP
10039	9978688.545	781369.427	2678.038	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10040	9978688.332	781369.810	2677.993	TOP
10041	9978687.523	781370.812	2677.982	TOP
10042	9978687.150	781371.070	2678.049	TOP
10043	9978695.851	781348.913	2677.082	TOP
10044	9978697.005	781346.260	2677.254	TOP
10045	9978697.068	781345.833	2677.342	TOP
10046	9978697.670	781343.825	2677.584	TOP
10047	9978697.869	781343.464	2677.577	TOP
10048	9978698.374	781342.330	2677.615	TOP
10049	9978698.888	781341.670	2677.515	TOP
10050	9978699.170	781341.349	2677.449	TOP
10051	9978699.367	781340.988	2677.420	TOP
10052	9978701.728	781337.085	2677.137	TOP
10053	9978701.910	781336.705	2677.118	TOP
10054	9978702.092	781336.339	2677.116	TOP
10055	9978702.243	781335.961	2677.122	TOP
10056	9978702.464	781335.614	2677.081	TOP
10057	9978703.009	781334.938	2676.938	TOP
10058	9978703.198	781334.569	2676.918	TOP
10059	9978703.427	781334.223	2676.911	TOP
10060	9978703.663	781333.868	2676.820	TOP
10061	9978703.766	781333.471	2676.852	TOP
10062	9978703.494	781331.138	2677.510	TOP
10063	9978703.082	781330.163	2678.503	TOP
10064	9978702.205	781329.771	2678.516	TOP
10065	9978702.322	781328.380	2678.533	TOP
10066	9978701.584	781328.673	2679.091	TOP
10067	9978701.731	781328.906	2679.084	TOP
10068	9978701.901	781327.937	2679.063	TOP
10069	9978702.217	781327.609	2678.951	TOP
10070	9978702.388	781327.252	2678.926	TOP
10071	9978702.584	781326.889	2678.887	TOP
10072	9978702.657	781326.491	2678.924	TOP
10073	9978702.481	781326.007	2679.116	TOP
10074	9978702.377	781325.540	2679.264	TOP
10075	9978703.055	781324.497	2679.076	TOP
10076	9978703.120	781324.094	2679.113	TOP
10077	9978703.328	781323.734	2679.061	TOP
10078	9978703.584	781323.403	2678.974	TOP
10079	9978703.590	781322.977	2679.047	TOP
10080	9978703.686	781322.590	2679.060	TOP
10081	9978703.723	781322.195	2679.108	TOP
10082	9978703.823	781321.799	2679.119	TOP
10083	9978703.969	781321.419	2679.101	TOP
10084	9978704.135	781321.050	2679.067	TOP
10085	9978704.257	781320.668	2679.073	TOP
10086	9978704.408	781320.299	2679.036	TOP
10087	9978704.588	781319.927	2678.993	TOP
10088	9978704.816	781319.570	2678.920	TOP
10089	9978704.920	781319.176	2678.923	TOP
10090	9978705.353	781317.309	2678.975	TOP
10091	9978705.450	781316.814	2678.976	TOP
10092	9978705.536	781316.430	2678.981	TOP
10093	9978705.624	781316.034	2678.989	TOP
10094	9978705.666	781315.626	2679.022	TOP
10095	9978705.722	781315.221	2679.046	TOP
10096	9978705.790	781314.815	2679.063	TOP
10097	9978705.815	781314.409	2679.103	TOP
10098	9978705.815	781314.006	2679.180	TOP
10099	9978705.000	781313.404	2679.710	TOP
10100	9978705.116	781313.019	2679.699	TOP
10101	9978705.255	781312.232	2679.743	TOP
10102	9978705.106	781311.604	2679.852	TOP
10103	9978705.291	781310.647	2679.825	TOP
10104	9978705.455	781310.257	2679.816	TOP
10105	9978705.618	781309.851	2679.877	TOP
10106	9978705.232	781307.791	2680.233	TOP
10107	9978705.257	781307.402	2680.253	TOP
10108	9978705.585	781304.613	2680.448	TOP
10109	9978705.447	781304.215	2680.447	TOP
10110	9978705.806	781303.861	2680.364	TOP
10111	9978706.057	781303.526	2680.147	TOP
10112	9978706.174	781303.126	2680.108	TOP
10113	9978706.351	781302.745	2680.034	TOP
10114	9978706.495	781302.345	2680.015	TOP
10115	9978706.534	781301.958	2679.985	TOP
10116	9978706.596	781301.561	2679.978	TOP
10117	9978706.659	781301.181	2679.967	TOP
10118	9978706.576	781300.773	2680.045	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRÁFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10119	9978706.862	781298.005	2680.165	TOP
10120	9978706.802	781297.806	2680.103	TOP
10121	9978706.937	781297.230	2680.042	TOP
10122	9978707.237	781296.853	2679.888	TOP
10123	9978707.384	781296.468	2679.813	TOP
10124	9978707.699	781296.094	2679.643	TOP
10125	9978708.189	781295.726	2679.372	TOP
10126	9978708.584	781295.342	2679.149	TOP
10127	9978709.018	781294.971	2678.906	TOP
10128	9978709.163	781294.574	2678.834	TOP
10129	9978709.438	781294.191	2678.684	TOP
10130	9978709.506	781293.784	2678.658	TOP
10131	9978709.652	781293.379	2678.584	TOP
10132	9978710.157	781293.008	2678.294	TOP
10133	9978710.355	781292.602	2678.188	TOP
10134	9978710.822	781292.224	2677.919	TOP
10135	9978711.054	781291.810	2677.791	TOP
10136	9978711.803	781291.599	2677.369	TOP
10137	9978707.096	781291.599	2675.817	TOP
10138	9978707.009	781291.962	2675.849	TOP
10139	9978707.052	781298.372	2675.799	TOP
10140	9978706.968	781298.759	2675.828	TOP
10141	9978706.814	781299.199	2675.903	TOP
10142	9978706.565	781299.503	2676.034	TOP
10143	9978706.583	781299.905	2675.995	TOP
10144	9978706.565	781300.295	2675.979	TOP
10145	9978706.535	781300.696	2675.970	TOP
10146	9978706.408	781301.087	2676.021	TOP
10147	9978706.318	781301.471	2676.048	TOP
10148	9978706.109	781302.248	2676.119	TOP
10149	9978705.959	781302.620	2676.182	TOP
10150	9978705.820	781303.005	2676.237	TOP
10151	9978705.702	781303.390	2676.278	TOP
10152	9978705.609	781303.772	2676.303	TOP
10153	9978705.445	781304.146	2676.371	TOP
10154	9978705.340	781304.542	2676.400	TOP
10155	9978705.269	781304.930	2676.408	TOP
10156	9978704.900	781306.460	2676.487	TOP
10157	9978705.149	781306.916	2676.284	TOP
10158	9978705.259	781307.334	2676.171	TOP
10159	9978705.535	781307.786	2675.951	TOP
10160	9978705.571	781308.188	2675.884	TOP
10161	9978705.593	781308.595	2675.825	TOP
10162	9978705.789	781309.046	2675.664	TOP
10163	9978705.752	781309.444	2675.627	TOP
10164	9978705.734	781309.842	2675.592	TOP
10165	9978705.959	781310.174	2675.784	TOP
10166	9978705.173	781310.538	2675.854	TOP
10167	9978705.184	781310.945	2675.796	TOP
10168	9978705.320	781311.377	2675.657	TOP
10169	9978705.275	781311.757	2675.667	TOP
10170	9978705.125	781312.136	2675.679	TOP
10171	9978705.036	781312.526	2675.682	TOP
10172	9978705.102	781312.954	2675.584	TOP
10173	9978705.116	781313.367	2675.519	TOP
10174	9978705.397	781313.848	2675.279	TOP
10175	9978705.764	781314.331	2674.985	TOP
10176	9978705.647	781314.725	2675.000	TOP
10177	9978705.594	781315.124	2674.975	TOP
10178	9978705.554	781315.538	2674.938	TOP
10179	9978705.467	781315.924	2674.934	TOP
10180	9978705.441	781316.339	2674.887	TOP
10181	9978705.331	781316.723	2674.895	TOP
10182	9978705.174	781317.094	2674.934	TOP
10183	9978705.069	781317.490	2674.936	TOP
10184	9978704.952	781317.871	2674.946	TOP
10185	9978704.911	781318.287	2674.903	TOP
10186	9978704.912	781318.702	2674.829	TOP
10187	9978705.025	781319.135	2674.695	TOP
10188	9978704.906	781319.535	2674.699	TOP
10189	9978704.713	781319.907	2674.748	TOP
10190	9978704.561	781320.275	2674.783	TOP
10191	9978704.398	781320.651	2674.818	TOP
10192	9978704.267	781321.030	2674.828	TOP
10193	9978704.127	781321.405	2674.847	TOP
10194	9978704.014	781321.784	2674.847	TOP
10195	9978703.886	781322.171	2674.854	TOP
10196	9978703.738	781322.542	2674.875	TOP
10197	9978703.555	781322.905	2674.918	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10198	9978703.432	781323.281	2674.921	TOP
10199	9978703.306	781323.665	2674.925	TOP
10200	9978703.290	781324.088	2674.852	TOP
10201	9978703.170	781324.471	2674.850	TOP
10202	9978703.062	781324.855	2674.839	TOP
10203	9978703.067	781325.266	2674.755	TOP
10204	9978702.974	781325.665	2674.752	TOP
10205	9978702.784	781326.038	2674.769	TOP
10206	9978702.518	781326.369	2674.861	TOP
10207	9978702.388	781326.758	2674.858	TOP
10208	9978702.106	781327.070	2674.961	TOP
10209	9978702.188	781304.781	2670.960	TOP
10210	9978710.486	782623.694	2672.078	BORDE
10211	9978706.805	781416.749	2749.268	TOP
10212	9978704.893	781415.085	2743.376	TOP
10213	9978716.014	782627.734	2672.035	ASFALTO
10214	9978695.296	781422.495	2757.549	TOP
10215	9978702.401	781412.909	2737.708	TOP
10216	9978698.855	781409.822	2732.447	TOP
10217	9978692.837	781419.976	2732.052	TOP
10218	9978713.589	782637.432	2671.966	ASFALTO
10219	9978689.020	781416.179	2727.082	TOP
10220	9978695.461	781406.865	2727.995	TOP
10221	9978692.478	781404.268	2722.465	TOP
10222	9978685.886	781413.061	2722.201	TOP
10223	9978680.991	781424.096	2721.134	TOP
10224	9978669.372	781447.223	2732.196	TOP
10225	9978675.003	781434.812	2731.980	TOP
10226	9978677.433	781420.053	2716.567	TOP
10227	9978683.627	781410.813	2717.219	TOP
10228	9978689.952	781402.072	2717.366	TOP
10229	9978688.296	781400.631	2712.463	TOP
10230	9978682.968	781409.565	2711.942	TOP
10231	9978675.194	781417.502	2711.684	TOP
10232	9978672.495	781431.531	2708.962	TOP
10233	9978666.895	781443.502	2707.094	TOP
10234	9978663.826	781461.684	2702.907	TOP
10235	9978661.769	781458.106	2697.316	TOP
10236	9978665.890	781441.986	2701.178	TOP
10237	9978670.097	781428.416	2704.054	TOP
10238	9978673.838	781415.954	2706.480	TOP
10239	9978680.000	781407.205	2707.200	TOP
10240	9978686.380	781398.958	2707.517	TOP
10241	9978684.193	781397.059	2702.763	TOP
10242	9978678.652	781405.864	2702.040	TOP
10243	9978672.933	781414.925	2701.038	TOP
10244	9978669.205	781427.255	2698.375	TOP
10245	9978665.115	781440.825	2695.151	TOP
10246	9978659.485	781454.046	2692.084	TOP
10247	9978579.304	781461.939	2624.769	TOP
10248	9978579.037	781461.574	2624.878	TOP
10249	9978658.275	781452.011	2686.080	TOP
10250	9978665.918	781439.031	2689.389	TOP
10251	9978668.739	781426.640	2692.377	TOP
10252	9978673.137	781415.153	2694.872	TOP
10253	9978678.014	781405.224	2696.474	TOP
10254	9978683.288	781396.276	2697.389	TOP
10255	9978677.906	781405.118	2690.477	TOP
10256	9978672.640	781414.594	2688.994	TOP
10257	9978672.117	781426.118	2686.213	TOP
10258	9978667.872	781436.961	2683.764	TOP
10259	9978657.582	781450.822	2679.533	TOP
10260	9978649.719	781461.610	2677.008	TOP
10261	9978649.282	781468.740	2675.970	TOP
10262	9978648.650	781465.330	2670.216	TOP
10263	9978645.624	781459.376	2670.762	TOP
10264	9978655.214	781447.417	2674.387	TOP
10265	9978656.847	781434.412	2678.411	TOP
10266	9978667.389	781424.876	2680.350	TOP
10267	9978672.243	781414.142	2682.906	TOP
10268	9978677.296	781404.451	2684.692	TOP
10269	9978671.624	781413.433	2676.837	TOP
10270	9978666.186	781423.310	2674.608	TOP
10271	9978659.347	781432.165	2672.895	TOP
10272	9978654.811	781445.987	2667.904	TOP
10273	9978647.032	781456.132	2665.081	TOP
10274	9978636.725	781462.094	2664.421	TOP
10275	9978645.259	781452.489	2659.676	TOP
10276	9978653.539	781443.772	2661.875	TOP





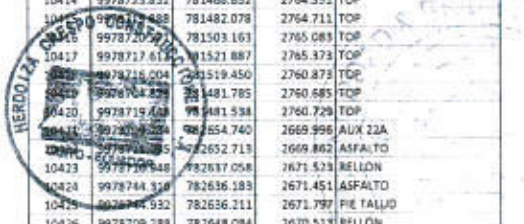
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10278	9978658.720	781431.225	2666.452	TOP
10279	9978643.760	781449.420	2653.968	TOP
10280	9978744.506	781330.208	2784.376	TOP
10281	9978745.034	781321.276	2784.269	TOP
10282	9978747.164	781312.562	2784.427	TOP
10283	9978748.639	781303.683	2784.553	TOP
10284	9978747.573	781294.720	2784.385	TOP
10285	9978747.457	781285.786	2784.414	TOP
10286	9978748.754	781276.658	2784.705	TOP
10287	9978751.145	781267.118	2782.090	TOP
10288	9978746.942	781276.862	2781.414	TOP
10289	9978747.034	781285.813	2781.334	TOP
10290	9978747.143	781294.721	2781.308	TOP
10291	9978747.740	781303.640	2781.400	TOP
10292	9978744.290	781312.300	2781.045	TOP
10293	9978743.676	781321.088	2781.090	TOP
10294	9978743.242	781329.967	2781.220	TOP
10295	9978743.033	781339.028	2781.434	TOP
10296	9978742.281	781348.124	2781.634	TOP
10297	9978743.802	781358.222	2782.192	TOP
10298	9978742.001	781367.482	2782.388	TOP
10299	9978741.487	781377.547	2782.825	TOP
10300	9978741.442	781388.281	2783.406	TOP
10301	9978728.428	781473.743	2784.642	TOP
10302	9978730.882	781459.347	2783.723	TOP
10303	9978736.190	781448.710	2783.352	TOP
10304	9978738.701	781436.163	2782.693	TOP
10305	9978739.510	781423.119	2781.913	TOP
10306	9978740.265	781410.893	2781.241	TOP
10307	9978740.307	781398.955	2780.572	TOP
10308	9978740.171	781387.617	2779.973	TOP
10309	9978740.147	781376.921	2779.466	TOP
10310	9978740.215	781366.752	2779.042	TOP
10311	9978741.610	781357.461	2778.822	TOP
10312	9978744.400	781348.761	2778.730	TOP
10313	9978742.238	781338.836	2778.332	TOP
10314	9978742.219	781329.773	2778.128	TOP
10315	9978742.589	781320.937	2778.015	TOP
10316	9978743.463	781312.251	2777.999	TOP
10317	9978745.654	781303.569	2778.172	TOP
10318	9978745.347	781294.742	2778.123	TOP
10319	9978745.063	781285.934	2778.127	TOP
10320	9978745.687	781277.002	2778.270	TOP
10321	9978749.247	781267.438	2778.780	TOP
10322	9978746.894	781267.813	2778.495	TOP
10323	9978744.995	781277.084	2778.216	TOP
10324	9978743.956	781286.007	2778.056	TOP
10325	9978744.119	781294.757	2778.042	TOP
10326	9978744.193	781303.509	2778.063	TOP
10327	9978742.327	781312.131	2778.945	TOP
10328	9978741.381	781320.769	2778.953	TOP
10329	9978740.915	781329.524	2778.038	TOP
10330	9978740.507	781338.513	2778.206	TOP
10331	9978740.430	781347.581	2778.374	TOP
10332	9978739.913	781356.864	2778.588	TOP
10333	9978739.288	781366.979	2778.832	TOP
10334	9978739.563	781376.647	2778.224	TOP
10335	9978738.948	781386.969	2778.584	TOP
10336	9978739.189	781398.283	2778.095	TOP
10337	9978738.682	781409.838	2778.604	TOP
10338	9978737.477	781421.613	2778.117	TOP
10339	9978737.298	781433.011	2778.831	TOP
10340	9978734.541	781447.197	2779.352	TOP
10341	9978730.023	781458.485	2779.754	TOP
10342	9978727.582	781472.813	2780.522	TOP
10343	9978724.317	781487.527	2781.324	TOP
10344	9978723.140	781506.673	2782.597	TOP
10345	9978721.322	781527.520	2784.021	TOP
10346	9978720.241	781525.881	2779.234	TOP
10347	9978723.913	781507.726	2778.321	TOP
10348	9978723.992	781487.117	2777.155	TOP
10349	9978725.819	781470.847	2776.351	TOP
10350	9978728.832	781457.281	2775.792	TOP
10351	9978733.209	781445.994	2775.465	TOP
10352	9978736.140	781434.061	2775.069	TOP
10353	9978737.355	781421.523	2774.573	TOP
10354	9978738.170	781409.991	2774.128	TOP
10355	9978738.167	781397.674	2773.675	TOP
10356	9978738.193	781386.568	2773.285	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10357	9978738.638	781376.208	2772.977	TOP
10358	9978736.104	781365.068	2772.489	TOP
10359	9978737.503	781356.018	2772.352	TOP
10360	9978736.843	781346.528	2772.097	TOP
10361	9978740.047	781338.904	2772.166	TOP
10362	9978735.075	781328.434	2771.666	TOP
10363	9978738.441	781320.365	2771.807	TOP
10364	9978737.120	781311.671	2771.642	TOP
10365	9978741.579	781303.410	2771.920	TOP
10366	9978737.108	781294.839	2771.991	TOP
10367	9978738.078	781286.871	2771.689	TOP
10368	9978738.683	781277.793	2771.776	TOP
10369	9978742.591	781268.519	2772.144	TOP
10370	9978742.930	781259.464	2772.285	TOP
10371	9978742.176	781250.827	2769.279	TOP
10372	9978740.167	781268.914	2769.069	TOP
10373	9978737.866	781277.889	2768.876	TOP
10374	9978736.847	781286.447	2768.784	TOP
10375	9978735.973	781294.853	2768.723	TOP
10376	9978738.487	781303.292	2768.867	TOP
10377	9978735.312	781311.511	2768.725	TOP
10378	9978734.822	781319.862	2768.750	TOP
10379	9978734.573	781328.322	2768.817	TOP
10380	9978734.414	781336.942	2768.909	TOP
10381	9978733.847	781345.637	2769.003	TOP
10382	9978733.225	781354.515	2769.129	TOP
10383	9978735.776	781364.127	2769.842	TOP
10384	9978732.561	781373.720	2769.485	TOP
10385	9978732.549	781383.378	2769.754	TOP
10386	9978737.113	781397.051	2770.320	TOP
10387	9978735.043	781407.414	2770.528	TOP
10388	9978736.347	781420.782	2771.011	TOP
10389	9978734.982	781433.109	2771.371	TOP
10390	9978732.152	781445.026	2771.682	TOP
10391	9978727.631	781456.074	2771.917	TOP
10392	9978724.835	781469.755	2772.359	TOP
10393	9978724.162	781487.327	2773.071	TOP
10394	9978723.296	781506.886	2773.889	TOP
10395	9978718.684	781523.511	2774.495	TOP
10396	9978717.659	781521.958	2769.884	TOP
10397	9978721.857	781504.888	2769.438	TOP
10398	9978722.142	781484.817	2768.842	TOP
10399	9978724.133	781468.958	2768.428	TOP
10400	9978726.947	781455.395	2768.124	TOP
10401	9978729.827	781442.921	2767.873	TOP
10402	9978729.804	781428.907	2767.522	TOP
10403	9978729.742	781415.876	2767.210	TOP
10404	9978730.647	781404.480	2766.987	TOP
10405	9978731.062	781393.437	2766.774	TOP
10406	9978731.778	781383.155	2766.604	TOP
10407	9978736.235	781286.489	2765.954	TOP
10408	9978737.222	781277.961	2766.013	TOP
10409	9978739.068	781269.097	2766.129	TOP
10410	9978741.397	781259.789	2766.278	TOP
10411	9978728.400	781427.703	2764.002	TOP
10412	9978725.709	781439.165	2764.126	TOP
10413	9978711.452	782650.562	2670.087	ASFALTO
10414	9978733.832	781468.632	2764.551	TOP
10415	9978732.885	781482.078	2764.711	TOP
10416	9978720.721	781503.163	2765.083	TOP
10417	9978717.618	781521.887	2765.373	TOP
10418	9978716.004	781519.450	2760.873	TOP
10419	9978704.229	781481.785	2760.685	TOP
10420	9978715.638	781481.538	2760.729	TOP
10421	9978706.284	781554.740	2669.996	AUX 22A
10422	9978704.285	781265.713	2669.862	ASFALTO
10423	9978709.948	782637.058	2671.523	RELLON
10424	9978744.518	782636.183	2671.451	RELLON
10425	9978744.932	782636.211	2671.797	PIE TALUD
10426	9978709.288	782648.084	2670.513	RELLON
10427	9978746.894	782647.731	2670.294	ASFALTO
10428	9978747.228	782647.524	2670.764	PIE TALUD
10429	9978710.409	782661.511	2669.020	ASFALTO
10430	9978708.665	782659.482	2669.432	RELLON
10431	9978745.238	782656.989	2669.258	ASFALTO
10432	9978710.767	782673.015	2667.981	ASFALTO
10433	9978710.784	782673.013	2667.981	ASFALTO
10434	9978709.074	782669.902	2668.614	RELLON
10435	9978743.833	782666.441	2667.862	ASFALTO





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10436	9978711.977	782683.225	2667.031	ASFALTO
10437	9978709.444	782681.045	2667.745	RELLON
10438	9978745.738	782682.750	2666.087	ASFALTO
10439	9978714.228	782692.341	2666.159	ASFALTO
10440	9978717.745	782700.611	2665.399	ASFALTO
10441	9978751.451	782699.539	2664.566	ASFALTO
10442	9978716.297	782701.488	2666.517	RELLON
10443	9978722.953	782709.701	2664.796	ASFALTO
10444	9978722.586	782711.233	2665.358	RELLON
10445	9978728.672	782716.562	2664.179	ASFALTO
10446	9978726.702	782716.867	2664.707	RELLON
10447	9978732.323	782723.856	2663.930	RELLON
10448	9978735.938	782723.722	2663.632	ASFALTO
10449	9978743.998	782731.110	2662.932	ASFALTO
10450	9978741.045	782733.317	2662.940	RELLON
10451	9978759.653	782712.197	2662.870	ASFALTO
10452	9978750.202	782739.645	2662.377	RELLON
10453	9978757.328	782742.011	2661.579	ASFALTO
10454	9978758.535	782742.976	2661.436	ASFALTO
10455	9978759.867	782746.697	2661.321	RELLON
10456	9978768.288	782750.928	2660.257	ASFALTO
10457	9978766.822	782753.540	2660.328	RELLON
10458	9978772.035	782728.978	2661.341	ASFALTO
10459	9978780.947	782739.361	2659.917	ASFALTO
10460	9978550.032	782141.970	2705.429	TN
10461	9978553.122	782151.085	2706.410	TN
10462	9978547.328	782156.376	2699.006	TN
10463	9978538.229	782158.087	2694.442	TN
10464	9978556.272	782158.611	2705.915	TN
10465	9978552.704	782167.203	2698.783	TN
10466	9978544.663	782175.173	2692.881	TN
10467	9978559.400	782164.746	2704.588	TN
10468	9978550.676	782189.055	2689.788	TN
10469	9978565.308	782174.236	2703.825	TN
10470	9978553.185	782188.556	2691.417	TN
10471	9978570.790	782183.042	2703.386	TN
10472	9978561.025	782180.144	2699.985	TN
10473	9978558.260	782205.453	2687.597	TN
10474	9978568.934	782189.818	2699.839	TN
10475	9978578.911	782183.353	2703.186	TN
10476	9978571.506	782197.042	2697.806	TN
10477	9978567.078	782221.442	2684.064	TN
10478	9978576.420	782198.502	2700.212	TN
10479	9978582.908	782200.778	2700.344	TN
10480	9978572.948	782228.145	2683.110	TN
10481	9978586.548	782218.275	2694.060	TN
10482	9978591.469	782213.052	2698.037	TN
10483	9978591.413	782226.551	2694.205	TN
10484	9978579.249	782231.790	2684.349	TN
10485	9978598.256	782221.861	2700.703	TN
10486	9978594.030	782237.073	2691.221	TN
10487	9978603.821	782230.112	2700.075	TN
10488	9978610.661	782239.755	2699.481	TN
10489	9978599.056	782245.313	2691.674	TN
10490	9978599.258	782261.788	2684.747	TN
10491	9978606.902	782256.967	2689.214	TN
10492	9978616.477	782251.930	2697.024	TN
10493	9978618.232	782263.175	2697.423	TN
10494	9978609.485	782265.819	2690.328	TN
10495	9978598.783	782270.143	2684.340	TN
10496	9978599.150	782282.152	2681.991	TN
10497	9978606.717	782277.004	2689.272	TN
10498	9978617.420	782273.810	2694.732	TN
10499	9978617.762	782273.712	2695.767	TN
10500	9978622.884	782281.440	2695.918	TN
10501	9978621.205	782282.149	2694.924	TN
10502	9978616.619	782293.173	2688.132	TN
10503	9978604.469	782298.609	2680.657	TN
10504	9978628.055	782292.625	2692.621	TN
10505	9978629.528	782292.298	2695.712	TN
10506	9978622.376	782307.819	2686.818	TN
10507	9978609.844	782315.023	2678.641	TN
10508	9978631.162	782305.369	2692.668	TN
10509	9978631.556	782305.253	2694.018	TN
10510	9978625.644	782324.279	2683.538	TN
10511	9978614.273	782329.080	2676.086	TN
10512	9978633.204	782314.856	2691.614	TN
10513	9978634.296	782314.566	2691.429	TN
10514	9978628.641	782336.275	2684.525	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10515	9978618.007	782341.996	2678.642	TN
10516	9978636.138	782324.093	2691.381	TN
10517	9978636.665	782323.836	2693.015	TN
10518	9978629.833	782345.799	2684.085	TN
10519	9978618.658	782350.788	2677.764	TN
10520	9978638.585	782342.861	2689.590	TN
10521	9978639.033	782342.552	2691.909	TN
10522	9978628.813	782360.132	2680.429	TN
10523	9978622.552	782361.865	2677.101	TN
10524	9978640.941	782357.748	2688.828	TN
10525	9978641.843	782357.564	2690.884	TN
10526	9978626.681	782372.720	2677.966	TN
10527	9978631.675	782371.093	2681.639	TN
10528	9978639.851	782366.668	2690.157	TN
10529	9978640.408	782366.500	2690.604	TN
10530	9978642.654	782374.172	2690.056	TN
10531	9978642.287	782374.460	2688.430	TN
10532	9978634.633	782377.789	2682.679	TN
10533	9978631.518	782392.678	2677.741	TN
10534	9978638.319	782387.149	2682.117	TN
10535	9978645.278	782384.877	2697.935	TN
10536	9978645.440	782384.849	2689.735	TN
10537	9978642.156	782395.297	2682.604	TN
10538	9978634.471	782398.915	2676.791	TN
10539	9978648.408	782397.771	2687.141	TN
10540	9978650.277	782406.434	2686.312	TN
10541	9978650.534	782406.342	2688.142	TN
10542	9978642.484	782410.035	2680.959	TN
10543	9978636.730	782409.204	2677.534	TN
10544	9978652.705	782415.860	2685.207	TN
10545	9978649.036	782421.071	2683.417	TN
10546	9978644.753	782420.550	2680.440	TN
10547	9978649.414	782417.974	2686.600	TN
10548	9978637.776	782424.121	2674.484	TN
10549	9978652.378	782428.118	2687.085	TN
10550	9978639.754	782438.205	2673.087	TN
10551	9978652.151	782427.910	2684.790	TN
10552	9978658.971	782439.907	2686.230	TN
10553	9978657.923	782440.077	2684.815	TN
10554	9978668.737	782441.542	2676.950	TN
10555	9978640.167	782444.330	2699.825	TN
10556	9978664.576	782456.644	2684.618	TN
10557	9978664.557	782456.643	2685.010	TN
10558	9978644.996	782454.411	2670.775	TN
10559	9978670.562	782467.643	2684.048	TN
10560	9978644.180	782468.412	2665.534	TN
10561	9978651.590	782463.533	2673.928	TN
10562	9978657.694	782478.796	2671.275	TN
10563	9978652.387	782480.196	2667.072	TN
10564	9978672.015	782466.460	2685.184	TN
10565	9978665.167	782492.240	2668.778	TN
10566	9978685.221	782486.902	2682.272	TN
10567	9978677.227	782493.190	2673.561	TN
10568	9978694.783	782494.051	2681.677	TN
10569	9978677.337	782497.202	2670.520	TN
10570	9978698.185	782499.553	2679.129	TN
10571	9978681.827	782508.452	2667.819	TN
10572	9978694.492	782509.971	2662.373	TN
10573	9978689.739	782517.673	2660.944	TN
10574	9978696.207	782512.953	2671.195	TN
10575	9978703.074	782506.631	2679.752	TN
10576	9978705.434	782512.987	2679.158	TN
10577	9978696.185	782513.044	2670.624	TN
10578	9978703.128	782516.075	2679.626	TN
10579	9978702.298	782519.508	2676.344	TN
10580	9978699.988	782521.746	2674.673	TN
10581	9978714.009	782526.432	2674.197	TN
10582	9978715.486	782531.805	2673.646	TN
10583	9978717.462	782533.616	2676.664	TN
10584	9978718.779	782538.853	2677.982	TN
10585	9978720.314	782550.214	2675.501	TN
10586	9978715.764	782550.132	2671.267	TN
10587	9978723.341	782562.678	2673.997	TN
10588	9978717.029	782560.823	2665.485	TN
10589	9978727.054	782571.869	2673.810	TN
10590	9978726.577	782577.466	2670.132	TN
10591	9978725.624	782584.393	2668.567	TN
10592	9978723.728	782590.630	2669.182	TN
10593	9978723.010	782593.462	2673.078	TN



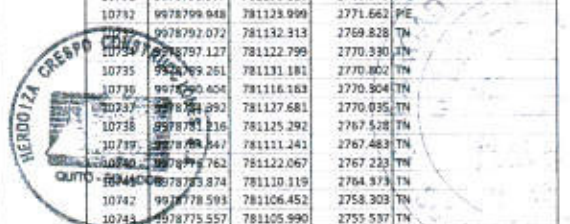
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10594	9978721.618	782599.083	2672.500	TN
10595	9978704.691	782577.397	2654.732	TN
10596	9978720.931	782602.705	2668.444	TN
10597	9978719.946	782606.883	2668.148	TN
10598	9978715.425	782605.057	2662.432	TN
10599	9978717.123	782612.854	2672.776	TN
10600	9978717.111	782612.855	2667.772	TN
10601	9978711.279	782601.942	2658.283	TN
10602	9978715.280	782615.897	2670.590	TN
10603	9978710.093	782623.497	2670.017	TN
10604	9978711.959	782608.570	2662.634	TN
10605	9978705.196	782624.812	2665.361	TN
10606	9978707.017	782628.786	2665.658	TN
10607	9978705.010	782633.443	2666.016	TN
10608	9978701.998	782628.321	2663.328	TN
10609	9978694.831	782631.566	2662.706	TN
10610	9978701.553	782617.345	2662.880	TN
10611	9978702.545	782628.716	2669.428	TN
10612	9978689.496	782635.751	2663.393	TN
10613	9978693.959	782642.325	2669.369	TN
10614	9978683.147	782642.927	2663.942	TN
10615	9978686.169	782649.889	2669.188	TN
10616	9978675.227	782652.461	2664.171	TN
10617	9978678.579	782655.485	2668.533	TN
10618	9978696.335	782625.106	2657.909	TN
10619	9978671.012	782661.596	2665.859	TN
10620	9978665.907	782658.986	2661.667	TN
10621	9978685.534	782632.327	2658.038	TN
10622	9978668.074	782665.397	2664.812	TN
10623	9978659.594	782659.858	2656.562	TN
10624	9978664.681	782660.087	2659.846	TN
10625	9978674.271	782640.865	2656.527	TN
10626	9978658.745	782668.552	2659.654	TN
10627	9978652.888	782665.624	2655.030	TN
10628	9978658.299	782651.576	2652.450	TN
10629	9978651.558	782678.101	2658.658	TN
10630	9978645.969	782676.257	2654.126	TN
10631	9978640.890	782669.610	2648.685	TN
10632	9978647.107	782685.418	2657.528	TN
10633	9978640.418	782683.586	2651.415	TN
10634	9978634.094	782680.724	2646.563	TN
10635	9978649.852	782687.843	2661.307	TN
10636	9978630.472	782691.244	2646.053	TN
10637	9978635.903	782691.311	2649.404	TN
10638	9978590.489	781873.234	2727.250	TOP
10639	9978582.076	781973.176	2719.228	TOP
10640	9978582.798	781877.147	2728.502	TOP
10641	9978590.485	781873.261	2727.247	TOP
10642	9978554.751	782150.880	2707.731	TOP
10643	9978583.176	781959.979	2718.006	TN
10644	9978580.839	781968.537	2717.113	TN
10645	9978577.593	781980.379	2716.059	TN
10646	9978574.817	781980.948	2715.522	TN
10647	9978572.184	782000.519	2715.169	TN
10648	9978568.381	782010.868	2714.975	TN
10649	9978566.869	782017.272	2713.129	TN
10650	9978565.142	782025.021	2713.927	TN
10651	9978565.142	782025.021	2713.930	TOP
10652	9978565.142	782025.021	2715.930	TOP
10653	9978565.141	782025.021	2715.931	TOP
10654	9978565.142	782025.021	2715.930	BG
10655	9978566.570	782018.929	2716.663	BG
10656	9978568.310	782012.192	2716.674	BG
10657	9978564.974	782025.243	2715.416	EC
10658	9978547.829	782020.953	2699.673	EC
10659	9978535.251	782016.875	2690.704	TN
10660	9978556.236	782055.059	2713.783	TN
10661	9978556.188	782055.033	2713.784	EC
10662	9978537.348	782044.268	2695.386	TN
10663	9978537.353	782044.273	2697.389	TN
10664	9978533.034	782036.419	2692.931	TN
10665	9978537.760	782053.474	2699.794	TN
10666	9978537.760	782053.475	2699.793	EC
10667	9978529.466	782052.439	2693.516	TN
10668	9978553.540	782061.825	2706.870	TN
10669	9978535.752	782065.386	2699.485	TN
10670	9978552.160	782073.982	2709.309	TN
10671	9978526.047	782067.436	2692.069	TN
10672	9978550.827	782084.000	2708.404	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10673	9978528.352	782096.130	2691.014	TN
10674	9978528.408	782096.111	2694.010	TN
10675	9978535.973	782098.040	2699.836	TN
10676	9978543.490	782097.152	2707.221	TN
10677	9978546.777	782108.931	2707.578	TN
10678	9978536.224	782116.261	2701.243	TN
10679	9978530.477	782116.762	2697.350	TN
10680	9978545.987	782116.821	2707.099	TN
10681	9978526.894	782117.113	2694.008	TN
10682	9978540.084	782138.935	2699.833	TN
10683	9978530.698	782141.421	2699.523	TN
10684	9978546.288	782121.957	2704.475	TN
10685	9978548.216	782135.793	2704.791	TN
10687	9978834.724	781028.280	2775.215	AUXA
10688	9978834.759	781028.287	2775.213	AUXA
10689	9978810.846	781097.298	2772.747	PIE
10690	9978808.075	781108.009	2770.644	PIE
10691	9978803.119	781105.230	2770.108	TN
10692	9978805.481	781095.992	2772.550	TN
10693	9978801.688	781094.091	2769.481	TN
10694	9978799.143	781101.696	2768.418	TN
10695	9978796.767	781094.906	2765.949	TN
10696	9978798.983	781090.555	2768.150	TN
10697	9978799.027	781090.569	2765.724	TN
10698	9978796.583	781095.269	2768.073	TN
10699	9978797.255	781087.850	2765.697	BSQ
10700	9978798.816	781085.311	2765.581	TN
10701	9978799.668	781087.157	2767.991	TN
10702	9978796.809	781087.957	2762.703	FL
10703	9978794.383	781092.145	2764.936	BSQ
10704	9978796.088	781091.025	2765.717	BSQ
10705	9978796.211	781090.990	2763.717	FL
10706	9978795.088	781082.055	2761.026	TN
10707	9978791.442	781091.705	2763.382	TN
10708	9978792.663	781080.039	2760.577	TN
10709	9978791.866	781087.106	2762.105	BSQ
10710	9978792.407	781081.848	2759.792	TN
10711	9978791.490	781083.269	2760.893	BSQ
10712	9978791.482	781083.361	2759.872	FL
10713	9978792.331	781086.269	2760.283	FL
10714	9978787.447	781080.296	2757.606	FL
10715	9978787.609	781080.248	2759.626	BSQ
10716	9978788.146	781088.053	2761.973	TN
10717	9978788.523	781079.079	2757.670	TN
10718	9978788.252	781077.717	2757.959	TN
10719	9978788.807	781083.596	2759.732	BSQ
10720	9978794.234	781085.514	2762.644	BSQ
10721	9978788.980	781082.325	2759.177	FL
10722	9978794.229	781085.558	2760.678	FL
10723	9978786.907	781081.840	2759.589	BSQ
10724	9978787.117	781081.562	2757.895	FL
10725	9978797.296	781090.752	2762.739	S-ALC
10726	9978783.441	781078.946	2756.522	FL
10727	9978783.090	781078.660	2754.956	FL
10728	9978782.515	781079.104	2757.367	BSQ
10729	9978799.404	781097.617	2768.076	TN
10730	9978782.088	781081.674	2756.618	TN
10731	9978793.577	781133.216	2769.979	PIE
10732	9978799.948	781123.999	2771.662	PIE
10733	9978792.072	781132.313	2769.828	TN
10734	9978797.127	781122.799	2770.330	TN
10735	9978799.261	781131.181	2770.802	TN
10736	9978790.604	781116.183	2770.304	TN
10737	9978798.892	781127.681	2770.035	TN
10738	9978781.216	781125.292	2767.528	TN
10739	9978788.847	781111.241	2767.483	TN
10740	9978783.762	781122.067	2767.233	TN
10741	9978783.874	781110.119	2764.373	TN
10742	9978778.593	781106.452	2758.303	TN
10743	9978775.557	781105.990	2755.537	TN
10744	9978768.160	781118.594	2758.634	TN
10745	9978763.630	781118.089	2754.077	TN
10746	9978755.191	781124.848	2748.868	TN
10747	9978759.862	781126.939	2751.716	TN
10748	9978764.170	781129.610	2757.939	TN
10749	9978767.848	781131.882	2762.947	TN
10750	9978752.772	781134.056	2753.177	TN
10751	9978770.559	781133.504	2766.734	TN
10752	9978773.732	781135.111	2766.953	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10753	9978757.809	781137.456	2758.539	TN
10754	9978778.874	781138.663	2770.029	TN
10755	9978782.340	781141.346	2771.192	TN
10756	9978762.432	781141.882	2764.039	TN
10757	9978789.531	781145.900	2770.867	PIE
10758	9978764.679	781141.177	2766.000	TN
10759	9978771.077	781145.849	2767.605	TN
10760	9978775.901	781148.733	2771.108	TN
10761	9978778.162	781150.978	2772.730	TN
10762	9978781.958	781154.023	2771.961	TN
10763	9978784.326	781157.837	2772.411	PIE
10764	9978776.112	781175.978	2773.753	PIE
10765	9978780.550	781167.037	2773.424	PIE
10766	9978772.591	781174.914	2773.821	TN
10767	9978776.927	781165.361	2773.237	TN
10768	9978770.842	781173.558	2773.668	TN
10769	9978773.810	781163.019	2774.445	TN
10770	9978765.927	781169.729	2771.200	TN
10771	9978771.145	781159.373	2772.215	TN
10772	9978767.421	781157.486	2769.140	TN
10773	9978759.915	781167.233	2766.889	TN
10774	9978762.987	781156.082	2760.998	TN
10775	9978759.585	781153.818	2764.704	TN
10776	9978754.783	781163.233	2764.702	TN
10777	9978756.391	781151.314	2761.410	TN
10778	9978750.669	781149.097	2756.962	TN
10779	9978750.236	781159.958	2759.465	TN
10780	9978748.256	781146.999	2754.977	TN
10781	9978746.824	781145.955	2754.282	TN
10782	9978742.053	781154.288	2749.709	TN
10783	9978743.315	781144.128	2750.527	TN
10784	9978741.842	781143.175	2748.640	TN
10785	9978737.597	781140.787	2744.248	TN
10786	9978735.475	781150.151	2742.633	TN
10787	9978727.152	781157.683	2743.497	TN
10788	9978733.373	781168.272	2750.833	TN
10789	9978724.686	781162.923	2743.764	TN
10790	9978731.856	781174.431	2750.919	TN
10791	9978726.501	781171.557	2744.820	TN
10792	9978731.049	781179.468	2751.288	TN
10793	9978722.894	781177.325	2744.343	TN
10794	9978728.895	781185.887	2753.467	TN
10795	9978729.377	781195.080	2755.870	TN
10796	9978718.957	781183.255	2742.111	TN
10797	9978724.693	781194.294	2750.837	TN
10798	9978714.786	781194.586	2741.258	TN
10799	9978725.119	781199.845	2750.994	TN
10800	9978731.918	781203.138	2757.791	TN
10801	9978730.769	781206.964	2755.692	TN
10802	9978727.716	781212.073	2754.942	TN
10803	9978716.702	781204.715	2742.172	TN
10804	9978722.546	781208.541	2749.389	TN
10805	9978718.143	781213.377	2746.881	TN
10806	9978709.699	781205.991	2736.695	TN
10807	9978714.721	781217.732	2744.386	TN
10808	9978714.720	781217.770	2746.972	TN
10809	9978707.267	781215.819	2734.976	TN
10810	9978710.094	781224.593	2743.503	TN
10811	9978703.829	781218.442	2734.890	TN
10812	9978717.650	781222.436	2750.657	TN
10813	9978713.559	781230.282	2750.355	TN
10814	9978711.830	781084.920	2742.358	TN
10815	9978769.736	781095.870	2740.174	TN
10816	9978766.389	781107.179	2744.245	TN
10817	9978759.520	781116.806	2746.534	TN
10818	9978748.350	781125.229	2740.127	TN
10819	9978739.797	781132.667	2737.972	TN
10820	9978769.360	781082.561	2751.011	TN
10821	9978769.434	781091.457	2727.279	TN
10822	9978766.683	781100.374	2730.196	TN
10823	9978758.723	781110.121	2730.017	TN
10824	9978754.204	781114.062	2731.598	TN
10825	9978744.230	781122.253	2731.225	TN
10826	9978739.537	781127.633	2728.794	TN
10827	9978732.054	781136.104	2730.644	TN
10828	9978805.490	781121.695	2779.719	BS
10829	9978806.078	781129.217	2784.674	BS
10830	9978803.251	781135.683	2786.416	BS
10831	9978799.143	781148.482	2788.899	BS

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
10832	9978793.271	781152.402	2784.005	BS
10833	9978785.459	781166.379	2780.583	BS
10834	9978780.045	781174.553	2779.146	BS
10835	9978776.512	781185.242	2780.276	BS
10836	9978772.402	781191.370	2778.832	BS
10837	9978769.454	781198.699	2778.563	BS
10838	9978769.741	781205.531	2781.240	BS
10839	9978765.144	781211.195	2779.521	BS
10840	9978760.483	781216.183	2775.644	BS
10841	9978808.618	781109.688	2766.730	E-ALC
10842	9978808.599	781109.678	2766.741	E-ALC
10843	9978768.931	781255.027	2775.915	TN
10844	9978757.471	781258.263	2784.513	TN
10845	9978759.040	781260.444	2789.959	BS
10846	9978766.597	781251.839	2790.625	TN
10847	9978766.597	781251.839	2790.625	TN
10848	9978767.673	781251.020	2794.622	BS
10849	9978764.187	781249.838	2787.119	TN
10850	9978750.837	781247.961	2783.705	TN
10851	9978769.885	781246.524	2794.655	BS
10852	9978755.863	781246.656	2779.681	TN
10853	9978766.528	781245.938	2789.429	TN
10854	9978752.820	781245.990	2776.913	TN
10855	9978762.523	781241.102	2785.873	TN
10856	9978750.816	781245.738	2775.179	BS
10857	9978758.318	781240.823	2780.875	TN
10858	9978756.356	781239.955	2781.151	TN
10859	9978756.614	781239.476	2778.390	TN
10860	9978755.177	781233.728	2774.904	TN
10861	9978755.464	781227.863	2775.724	BS
10862	9978763.475	781262.467	2793.574	TN
10863	9978766.187	781255.365	2794.627	TN
10864	9978769.088	781255.426	2796.846	TN
10865	9978756.547	781233.294	2779.342	BS
10866	9978774.648	781246.458	2798.264	TN
10867	9978763.137	781233.333	2784.267	TN
10868	9978776.914	781234.949	2797.584	TN
10869	9978766.258	781233.523	2789.747	TN
10870	9978767.004	781235.392	2792.227	BS
10871	9978781.279	781228.204	2795.391	TN
10872	9978769.395	781227.590	2788.093	TN
10873	9978783.489	781224.124	2795.954	TN
10874	9978784.818	781220.782	2797.074	TN
10875	9978786.607	781215.478	2796.382	TN
10876	9978773.260	781220.032	2787.382	TN
10877	9978776.249	781209.157	2786.717	TN
10878	9978788.738	781212.748	2796.522	TN
10879	9978780.245	781199.769	2787.017	TN
10880	9978795.994	781199.012	2797.151	TN
10881	9978786.441	781187.561	2787.550	TN
10882	9978800.556	781190.045	2798.120	TN
10883	9978790.504	781179.836	2789.196	TN
10884	9978795.231	781170.729	2790.343	TN
12560	9978731.763	781290.498	2761.992	AUX1A
12568	9978731.763	781290.498	2761.992	AUX1A
12569	9978731.767	781290.508	2761.960	AUX1A
12570	9978803.653	781180.220	2798.359	TN
12571	9978801.090	781165.633	2789.622	TN
12572	9978803.470	781158.050	2789.936	TN
12573	9978806.470	781172.626	2799.141	TN
12574	9978808.651	781172.789	2799.659	TN
12575	9978808.169	781153.263	2790.736	TN
12576	9978801.617	781168.414	2797.647	TN
12577	9978811.293	781161.901	2799.081	TN
12578	9978806.493	781149.349	2793.872	TN
12579	9978816.301	781151.578	2801.697	TN
12580	9978809.839	781141.689	2793.623	TN
12581	9978821.767	781146.080	2802.509	BSQ
12582	9978825.785	781143.205	2800.325	TN
12583	9978825.801	781143.212	2800.323	BSQ
12584	9978813.965	781136.489	2792.889	BSQ
12585	9978827.879	781142.428	2798.067	TN
12586	9978832.973	781139.011	2797.319	TN
12587	9978835.986	781157.614	2796.654	TN
12588	9978819.314	781133.123	2787.840	TN
12589	9978841.485	781134.000	2794.308	TN
12590	9978820.845	781125.515	2781.413	TN
12591	9978844.375	781131.540	2793.002	BSQ
12592	9978844.942	781130.942	2782.986	FI





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
12593	9978823.524	781121.784	2778.534	BSQ
12594	9978823.510	781121.189	2774.581	FG
12595	9978827.147	781129.085	2788.244	TN
12596	9978820.814	781115.105	2772.549	FG
12597	9978820.854	781114.738	2773.883	BSQ
12598	9978814.206	781108.429	2772.862	TN
12599	9978820.908	781110.219	2780.438	TN
12600	9978817.433	781104.435	2776.767	TN
12601	9978857.078	781111.394	2811.510	C-LUZ
12602	9978824.494	781110.900	2783.138	TN
12603	9978827.505	781102.468	2786.456	TN
12604	9978847.639	781125.659	2785.137	FG
12605	9978847.509	781125.142	2791.274	BSQ
12606	9978848.992	781120.142	2793.528	TN
12607	9978846.141	781115.960	2795.273	TN
12608	9978831.757	781097.429	2789.656	TN
12609	9978841.873	781109.102	2796.195	TN
12610	9978841.416	781103.429	2796.599	TN
12611	9978834.851	781088.776	2789.661	TN
12612	9978845.685	781095.319	2798.005	TN
12613	9978839.222	781077.461	2788.866	TN
12614	9978849.199	781089.307	2797.151	TN
12615	9978843.798	781069.930	2789.001	TN
12616	9978855.377	781080.760	2798.240	TN
12617	9978861.549	781071.192	2799.459	TN
12618	9978848.699	781063.050	2789.442	TN
12619	9978867.659	781062.663	2800.827	TN
12620	9978852.049	781055.874	2789.483	TN
12621	9978873.510	781049.763	2801.378	TN
12622	9978876.742	781040.063	2801.555	TN
12623	9978857.769	781047.103	2790.380	TN
12624	9978859.654	781039.230	2790.197	TN
12625	9978862.888	781031.595	2790.015	TN
12626	9978879.847	781031.758	2800.859	TN
12627	9978866.469	781026.604	2790.241	TN
12628	9978882.125	781025.145	2801.838	TN
12629	9978872.378	781017.571	2789.942	TN
12630	9978882.546	781025.012	2800.520	TN
12631	9978884.288	781020.730	2801.203	TN
12632	9978869.912	781006.676	2788.228	TN
12633	9978886.972	781012.048	2804.101	TN
12634	9978873.738	781003.508	2791.115	TN
12635	9978889.644	781005.373	2804.598	TN
12636	9978870.554	780994.425	2794.185	TN
12637	9978889.594	780998.203	2805.045	TN
12638	9978892.468	780989.593	2806.638	TN
12639	9978876.927	780987.944	2795.611	TN
12640	9978895.829	780979.142	2807.064	TN
12641	9978878.796	780985.387	2796.504	TN
12642	9978880.673	780981.122	2797.393	TN
12643	9978882.406	780973.007	2797.543	TN
12644	9978882.571	780973.228	2798.202	BS
12645	9978875.468	780977.266	2793.403	BS
12646	9978869.430	780966.976	2788.281	BS
12647	9978870.473	780991.638	2789.341	BS
12648	9978863.064	781004.767	2783.897	BS
12649	9978865.444	780997.907	2785.637	BS
12650	9978858.884	781008.571	2780.824	BS
12651	9978857.435	781010.693	2779.906	BS
12652	9978855.806	781014.040	2778.917	BS
12653	9978854.888	781014.942	2776.499	BS
12654	9978849.109	781024.890	2778.186	BS
12655	9978845.818	781035.920	2780.077	BS
12656	9978852.876	781020.303	2779.490	BS
12657	9978839.617	781050.080	2779.309	BS
12658	9978833.691	781096.562	2781.298	BS
12659	9978821.919	781075.180	2779.678	BS
12660	9978820.096	781090.144	2780.772	BS
12661	9978816.489	781096.882	2779.826	BS
12662	9978815.608	781098.115	2778.488	BS
12663	9978834.724	781028.280	2775.215	AUX-A
12664	9978834.754	781028.282	2775.211	AUX-A
12665	9978804.002	781110.680	2769.663	TN
12666	9978808.403	781114.994	2772.020	TN
12667	9978811.305	781117.267	2773.758	TN
12668	9978816.227	781118.846	2775.133	TN
12669	9978813.758	781104.805	2773.378	TN
12670	9978813.420	781105.336	2772.210	TN
12671	9978809.781	781108.674	2770.223	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
12672	9978813.705	781107.943	2772.843	TN
12673	9978820.036	781110.398	2777.338	TN
12674	9978822.894	781121.966	2779.308	TN
12675	9978818.991	781109.069	2778.250	TN
12676	9978821.512	781111.062	2780.358	TN
12677	9978826.971	781125.780	2781.972	TN
12678	9978813.581	781110.886	2773.703	TN
12679	9978825.908	781111.138	2783.491	TN
12680	9978817.721	781113.063	2774.683	TN
12681	9978820.565	781114.732	2774.047	TN
12682	9978828.653	781128.439	2787.764	TN
12683	9978831.930	781129.305	2787.903	TN
12684	9978836.636	781128.363	2786.859	TN
12685	9978841.669	781128.415	2788.551	TN
12686	9978827.914	781111.978	2782.636	TN
12687	9978830.965	781113.109	2781.729	TN
12688	9978821.553	781115.233	2773.913	TN
12689	9978831.308	781115.708	2779.206	TN
12690	9978820.630	781115.884	2772.511	FG
12691	9978826.507	781118.711	2775.283	FG
12692	9978831.333	781116.687	2778.466	BSQ
12693	9978825.852	781119.823	2775.457	BSQ
12694	9978820.913	781115.215	2773.935	BSQ
12695	9978835.237	781121.574	2778.361	FG
12696	9978831.140	781120.738	2777.416	FG
12697	9978835.455	781120.663	2779.786	BSQ
12698	9978831.784	781112.911	2778.264	BSQ
12699	9978835.951	781112.940	2778.597	BSQ
12700	9978827.579	781116.616	2775.507	BSQ
12701	9978818.373	781115.648	2772.918	FG
12702	9978816.389	781117.170	2773.723	BSQ
12703	9978811.695	781112.120	2771.766	BSQ
12704	9978813.831	781113.420	2770.616	BSQ
12705	9978813.179	781114.457	2771.167	FG
12706	9978812.860	781115.939	2771.754	BSQ
12707	9978811.259	781112.939	2769.577	FG
12708	9978866.714	780912.741	2772.584	AUX-B
12711	9978895.401	780789.776	2771.862	AUX-D
12712	9978858.932	780811.736	2772.462	AUX-C
12714	9978899.400	780799.778	2771.851	AUX-D
12715	9978878.559	780969.305	2792.735	BS
12716	9978878.029	780965.038	2789.006	BS
12717	9978886.932	780970.071	2796.140	TN
12718	9978896.413	780977.389	2806.641	TN
12719	9978880.338	780959.668	2792.644	BS
12720	9978886.768	780965.123	2797.020	TN
12721	9978881.779	780953.374	2793.869	BS
12722	9978898.872	780971.942	2803.123	TN
12723	9978882.832	780949.505	2794.741	BS
12724	9978887.882	780959.697	2799.085	TN
12725	9978879.344	780942.330	2793.623	BS
12726	9978898.270	780966.681	2806.452	TN
12727	9978887.351	780955.680	2798.438	TN
12728	9978882.646	780937.506	2795.566	BS
12729	9978880.577	780928.869	2794.454	BS
12730	9978900.034	780960.251	2809.735	TN
12731	9978887.962	780948.664	2798.446	TN
12732	9978880.175	780922.622	2794.707	BS
12733	9978902.203	780956.724	2809.211	TN
12734	9978892.134	780949.513	2808.946	TN
12735	9978879.920	780917.470	2794.723	BS
12736	9978887.724	780941.515	2798.652	TN
12737	9978899.456	780912.903	2794.510	BS
12738	9978875.664	780905.972	2793.693	BS
12739	9978889.986	780935.446	2798.612	TN
12740	9978885.356	780944.349	2800.721	TN
12741	9978876.694	780901.244	2795.366	BS
12742	9978886.905	780928.133	2799.296	TN
12743	9978893.249	780897.471	2796.769	BS
12744	9978879.656	780891.766	2798.333	BS
12745	9978887.817	780924.396	2800.253	TN
12746	9978877.659	780887.543	2797.534	BS
12747	9978899.818	780935.987	2807.262	TN
12748	9978876.621	780882.363	2796.976	BS
12749	9978893.249	780931.462	2802.183	TN
12750	9978876.523	780879.167	2796.940	BS
12751	9978892.579	780925.202	2805.503	BS
12752	9978890.687	780925.847	2800.740	TN
12753	9978875.139	780875.405	2795.300	BS





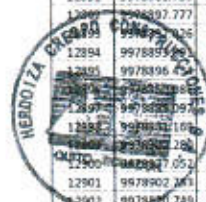
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
12754	9978876.148	780870.903	2793.530	BS
12755	9978890.270	780916.607	2804.755	BV
12756	9978885.838	780918.124	2799.865	TN
12757	9978876.731	780865.718	2791.157	BS
12758	9978885.705	780917.088	2799.887	TN
12759	9978877.510	780860.770	2789.021	BS
12760	9978889.872	780909.073	2804.297	BV
12761	9978888.314	780916.376	2800.176	TN
12762	9978880.347	780856.232	2788.200	BS
12764	9978886.394	780903.693	2801.958	TN
12765	9978884.098	780851.810	2787.585	BS
12766	9978886.897	780896.328	2803.355	TN
12767	9978886.101	780888.207	2801.575	TN
12768	9978889.540	780879.755	2801.714	TN
12769	9978895.717	780871.669	2801.242	TN
12770	9978889.446	780859.602	2792.144	TN
12771	9978894.414	780866.207	2796.978	TN
12772	9978895.075	780856.601	2793.054	TN
12773	9978902.873	780864.905	2800.854	TN
12774	9978898.071	780853.561	2799.088	TN
12775	9978910.437	780858.131	2801.422	TN
12778	9978916.991	780853.707	2800.576	TN
12777	9978925.730	780846.879	2798.664	TN
12778	9978906.605	780843.343	2789.098	BS
12779	9978922.080	780843.648	2795.544	TN
12780	9978901.351	780840.554	2788.709	BS
12781	9978930.982	780841.687	2798.132	TN
12782	9978938.589	780839.429	2798.359	TN
12783	9978906.657	781601.625	2749.270	AUX 4 A
12784	9978750.825	781311.388	2761.514	RF 2
12785	9978700.068	781522.009	2756.124	RF 3
12786	9978599.333	781599.992	2749.776	TOP
12787	9978606.657	781601.625	2749.267	TOP
12788	9978680.516	781218.968	2686.636	BORDE QUEB
12789	9978730.512	781311.413	2761.512	BORDE QUEB
12790	9978953.754	780828.847	2790.838	BS
12791	9978681.833	781247.499	2649.274	FOND QUEBRADA
12792	9978870.600	780938.424	2772.323	PIE
12793	9978671.401	781251.011	2659.883	FOND QUEBRADA
12795	9978976.169	781222.579	2682.330	FOND QUEBRADA
12796	9978660.951	781245.847	2683.641	FOND QUEBRADA
12797	9978682.992	781226.992	2676.171	FOND QUEBRADA
12798	9978667.755	781233.571	2677.467	FOND QUEBRADA
12799	9978863.632	780938.462	2771.826	ASF
12800	9978856.889	780938.478	2771.914	TN
12801	9978682.580	781269.504	2604.827	FOND QUEBRADA
12802	9978852.392	780936.996	2766.145	TN
12803	9978669.753	781309.718	2600.088	FOND QUEBRADA
12804	9978676.787	781288.295	2601.991	FOND QUEBRADA
12805	9978845.853	780947.014	2761.222	TN
12806	9978679.563	781264.112	2605.148	FOND QUEBRADA
12807	9978679.653	781241.970	2650.569	FOND QUEBRADA
12808	9978851.482	780928.041	2763.048	TN
12809	9978669.237	781241.372	2665.713	FOND QUEBRADA
12810	9978670.474	781224.182	2684.141	FOND QUEBRADA
12811	9978676.678	781221.728	2683.326	FOND QUEBRADA
12812	9978681.294	781225.855	2675.592	FOND QUEBRADA
12813	9978855.829	780913.550	2772.967	TN
12814	9978696.523	781247.412	2640.907	BORDE QUEB
12815	9978692.239	781243.428	2677.874	BORDE QUEB
12816	9978688.918	781223.242	2691.091	BORDE QUEB
12817	9978659.162	781238.648	2693.270	BORDE QUEB
12818	9978659.450	781247.026	2685.640	BORDE QUEB
12819	9978657.466	781251.139	2677.149	BORDE QUEB
12820	9978660.105	781235.066	2605.503	BORDE QUEB
12821	9978663.484	781251.561	2654.897	BORDE QUEB
12822	9978670.050	781251.966	2643.732	FOND QUEBRADA
12823	9978706.915	781268.524	2611.832	RELLEN
12824	9978698.350	781267.774	2608.212	RELLEN
12825	9978696.133	781284.047	2604.247	RELLEN
12826	9978706.434	781278.552	2608.529	RELLEN
12827	9978850.319	780906.097	2767.828	TN
12828	9978669.151	781134.334	2615.035	RELLEN
12829	9978697.916	781147.523	2651.095	BORDE QUEB
12830	9978708.937	781250.914	2650.899	BORDE QUEB
12831	9978719.967	781262.201	2651.704	BORDE QUEB
12832	9978713.007	781292.449	2656.970	BORDE QUEB
12833	9978868.043	780890.056	2773.242	PIE
12834	9978866.114	780889.545	2772.398	ASF

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
12835	9978855.635	780892.935	2773.962	ASF
12836	9978694.674	781258.744	2608.015	RELLEN
12837	9978694.652	781273.428	2605.268	RELLEN
12838	9978844.814	780895.489	2767.850	TN
12839	9978847.766	780886.137	2773.598	TN
12840	9978695.022	781280.967	2604.120	RELLEN
12841	9978676.006	781304.564	2600.840	FOND QUEBRADA
12842	9978665.809	781313.203	2599.310	FOND QUEBRADA
12843	9978664.282	781309.943	2599.197	FOND QUEBRADA
12844	9978670.591	781306.881	2600.854	FOND QUEBRADA
12845	9978839.145	780881.590	2770.299	TN
12846	9978838.227	780876.983	2770.585	TN
12847	9978850.061	780875.929	2774.889	TN
12848	9978855.430	780876.616	2773.251	ASF
12849	9978864.458	780874.838	2772.469	ASF
12850	9978867.181	780875.451	2772.402	PIE
12851	9978837.301	780872.020	2770.006	TN
12852	9978867.930	780869.808	2772.147	PIE
12853	9978866.458	780869.382	2772.279	ASF
12854	9978856.383	780866.067	2773.371	ASF
12855	9978835.974	780867.143	2769.002	TN
12856	9978871.626	780859.727	2772.146	PIE
12857	9978871.080	780859.308	2772.056	ASF
12858	9978862.055	780854.120	2773.215	ASF
12859	9978854.862	780852.363	2773.438	TN
12860	9978840.482	780860.527	2769.151	TN
12861	9978848.096	780860.214	2774.915	TN
12862	9978876.280	780852.072	2771.863	PIE
12863	9978875.635	780851.581	2771.936	ASF
12864	9978835.636	780862.714	2766.793	TN
12865	9978845.909	780866.407	2771.673	TN
12866	9978867.564	780845.471	2772.868	ASF
12867	9978865.316	780844.945	2773.179	TN
12868	9978844.855	780873.345	2773.125	TN
12869	9978835.195	780855.718	2763.341	TN
12870	9978860.224	780843.787	2768.204	TN
12871	9978866.242	780836.231	2767.469	TN
12872	9978870.311	780840.107	2773.141	TN
12873	9978871.127	780828.896	2766.123	TN
12874	9978838.659	780847.814	2762.706	TN
12875	9978871.734	780840.817	2772.748	ASF
12876	9978877.210	780824.810	2766.165	TN
12877	9978879.542	780846.833	2771.888	ASF
12878	9978880.423	780847.559	2772.111	PIE
12879	9978886.776	780841.439	2771.927	PIE
12880	9978886.265	780840.797	2771.839	ASF
12881	9978880.878	780811.813	2772.885	ASF
12882	9978879.987	780830.527	2773.001	TN
12883	9978882.493	780818.820	2764.556	TN
12884	9978867.182	780824.458	2772.846	TN
12885	9978889.454	780825.641	2772.407	ASF
12886	9978894.935	780819.927	2771.838	ASF
12887	9978842.906	780845.137	2763.239	TN
12888	9978887.905	780815.133	2765.383	TN
12889	9978895.227	780834.771	2771.772	PIE
12890	9978902.010	780830.968	2771.796	PIE
12891	9978901.785	780830.630	2771.806	ASF
12892	9978907.777	780809.979	2764.436	TN
12893	9978907.777	780809.979	2764.436	TN
12894	9978855.426	780801.707	2763.818	TN
12895	9978896.454	780819.991	2772.098	TN
12896	9978896.454	780819.991	2772.098	TN
12897	9978896.454	780819.991	2772.098	TN
12898	9978896.454	780819.991	2772.098	TN
12899	9978896.454	780819.991	2772.098	TN
12900	9978896.454	780819.991	2772.098	TN
12901	9978896.454	780819.991	2772.098	TN
12902	9978896.454	780819.991	2772.098	TN
12903	9978864.406	780821.440	2759.291	TN
12904	9978859.724	780828.326	2759.933	TN
12905	9978853.710	780836.899	2760.080	TN
12906	9978855.594	780823.155	2755.314	TN
12907	9978861.507	780816.014	2754.992	TN
12908	9978847.508	780834.532	2753.104	TN
12909	9978867.753	780810.075	2753.537	TN
12910	9978872.102	780805.981	2754.049	TN
12911	9978849.621	780825.232	2752.419	TN
12912	9978876.360	780801.875	2758.171	TN
12913	9978854.828	780820.360	2753.547	TN





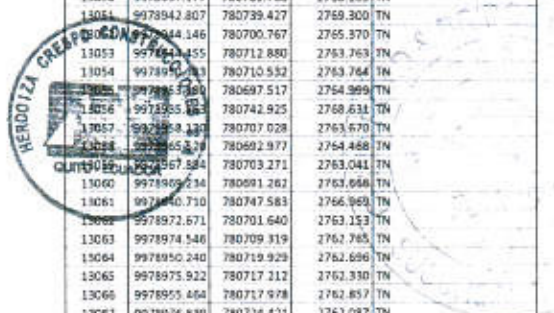
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
12915	9978880.735	780798.379	2761.484	TN
12916	9978884.372	780794.193	2763.509	TN
12917	9978889.565	780788.027	2763.781	TN
12918	9978896.051	780793.575	2763.564	TN
12919	9978901.834	780800.098	2763.519	TN
12920	9978905.527	780807.244	2764.401	TN
12921	9978880.702	780792.522	2761.997	TN
12922	9978859.359	780848.902	2772.829	TN
12923	9978884.544	780785.100	2762.678	TN
12924	9978913.517	780800.806	2761.589	TN
12925	9978910.351	780793.408	2763.487	TN
12926	9978898.637	780792.876	2763.594	TN
12927	9978905.062	780788.547	2763.521	TN
12928	9978914.856	780784.783	2763.145	TN
12929	9978920.520	780793.002	2763.297	TN
12930	9978927.161	780797.818	2763.874	TN
12931	9978911.016	780779.240	2762.909	TN
12932	9978925.044	780780.845	2762.947	TN
12933	9978931.585	780787.814	2763.186	TN
12934	9978937.165	780793.109	2763.558	TN
12935	9978956.907	780846.540	2769.929	TN
12936	9978932.154	780777.118	2762.888	TN
12937	9978938.830	780781.962	2763.211	TN
12938	9978942.666	780788.130	2763.770	TN
12940	9978983.945	780769.705	2772.020	AUX E
12941	9978906.040	780828.346	2771.852	ASF
12942	9978907.951	780819.791	2771.141	ASF
12943	9978911.220	780816.551	2772.003	ASF
12944	9978915.083	780813.837	2771.844	ASF
12945	9978924.539	780819.019	2771.909	ASF
12946	9978922.647	780811.263	2771.961	ASF
12947	9978934.543	780814.763	2771.873	ASF
12948	9978929.752	780805.031	2771.808	ASF
12949	9978937.321	780801.077	2771.672	ASF
12950	9978944.596	780809.285	2771.895	ASF
12951	9978952.775	780804.117	2771.855	ASF
12952	9978944.661	780796.411	2771.240	ASF
12953	9978960.484	780799.028	2771.845	ASF
12954	9978952.620	780790.476	2771.065	ASF
12955	9978959.399	780799.778	2771.863	AUX D
12956	9978997.982	780727.256	2771.783	AUX F
12957	9978989.947	780769.697	2772.016	AUX E
12958	9978977.559	780760.294	2771.553	TN
12959	9978970.383	780750.182	2765.594	TN
12960	9978972.329	780764.838	2771.747	TN
12961	9978971.793	780748.596	2764.000	TN
12962	9978978.605	780743.783	2765.334	TN
12963	9978966.380	780770.604	2771.633	TN
12964	9978973.402	780742.481	2763.961	TN
12965	9978966.702	780753.437	2763.575	TN
12966	9978961.966	780777.633	2771.430	TN
12967	9978957.393	780784.118	2771.517	TN
12968	9978962.363	780747.530	2763.356	TN
12969	9978964.112	780738.681	2763.135	TN
12970	9978954.874	780764.850	2763.176	TN
12971	9978952.620	780799.904	2771.454	TN
12972	9978957.002	780736.007	2763.087	TN
12973	9978946.015	780793.998	2772.158	TN
12974	9978951.979	780735.641	2763.135	TN
12975	9978949.982	780743.397	2763.384	TN
12976	9978944.762	780794.331	2772.262	GVION
12977	9978927.548	780804.497	2772.216	GVION
12978	9978951.844	780755.154	2763.490	TN
12979	9978917.864	780808.323	2772.950	TN
12980	9978945.569	780748.328	2762.414	TN
12981	9978959.090	780762.398	2763.602	TN
12982	9978908.455	780812.878	2772.424	TN
12983	9978951.025	780771.621	2763.715	TN
12984	9978948.354	780784.894	2766.301	TN
12985	9978940.276	780791.778	2762.610	TN
12986	9978945.872	780766.024	2763.481	TN
12987	9978952.223	780778.060	2766.524	TN
12988	9978939.225	780773.908	2763.220	TN
12989	9978943.947	780777.992	2763.441	TN
12990	9978927.321	780771.066	2762.119	TN
12991	9978915.672	780776.796	2763.093	TN
12992	9978940.745	780756.933	2760.295	TN
12993	9978934.381	780762.997	2761.910	TN
12994	9978938.772	780755.243	2765.021	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
12995	9978936.810	780752.879	2768.216	TN
12996	9978930.905	780761.878	2766.202	TN
12997	9978932.652	780748.270	2768.691	TN
12998	9978927.534	780758.936	2765.631	TN
12999	9978930.989	780747.673	2771.142	TN
13000	9978927.948	780767.592	2767.501	TN
13001	9978924.319	780757.079	2773.462	TN
13002	9978928.036	780747.548	2776.217	TN
13003	9978922.721	780763.944	2771.940	TN
13004	9978918.909	780754.974	2778.135	TN
13005	9978921.978	780745.588	2781.028	TN
13006	9978917.680	780761.022	2776.615	TN
13007	9978918.235	780741.508	2783.128	TN
13008	9978914.989	780736.226	2785.334	TN
13009	9978911.839	780756.177	2779.957	TN
13010	9978915.662	780749.203	2780.993	TN
13011	9978910.103	780733.293	2787.307	TN
13012	9978911.950	780753.612	2779.645	TN
13013	9978910.838	780740.944	2785.665	TN
13014	9978905.006	780728.688	2790.361	TN
13015	9978905.134	780736.743	2787.799	TN
13016	9978905.567	780745.588	2784.414	TN
13017	9978899.193	780721.356	2793.681	TN
13018	9978895.195	780727.548	2793.030	TN
13019	9978895.236	780718.458	2797.341	TN
13020	9978892.160	780723.724	2796.749	TN
13021	9978894.693	780712.689	2797.277	TN
13022	9978910.378	780727.509	2787.924	TN
13023	9978906.885	780722.372	2789.937	TN
13024	9978903.507	780711.892	2790.526	TN
13025	9978916.481	780729.379	2785.985	TN
13026	9978914.049	780723.425	2787.187	TN
13027	9978923.111	780726.202	2783.056	TN
13028	9978916.077	780719.695	2785.493	TN
13029	9978922.208	780735.682	2782.009	TN
13030	9978913.142	780709.629	2784.196	TN
13031	9978926.088	780740.255	2777.805	TN
13032	9978921.835	780720.234	2781.818	TN
13033	9978932.154	780741.976	2773.870	TN
13034	9978933.182	780736.436	2774.927	TN
13035	9978927.731	780735.069	2778.731	TN
13036	9978929.422	780728.270	2779.753	TN
13037	9978918.089	780707.571	2779.690	TN
13038	9978932.856	780731.066	2777.981	TN
13039	9978927.756	780717.512	2774.514	TN
13040	9978929.804	780723.591	2777.150	TN
13041	9978932.853	780722.842	2774.527	TN
13042	9978921.908	780704.351	2773.776	TN
13043	9978940.324	780720.296	2779.891	TN
13044	9978941.907	780729.488	2770.546	TN
13045	9978937.014	780712.989	2770.851	TN
13046	9978926.596	780703.467	2771.207	TN
13047	9978936.718	780729.966	2771.624	TN
13048	9978936.802	780738.883	2769.099	TN
13049	9978941.381	780714.205	2768.479	TN
13050	9978937.177	780703.760	2766.165	TN
13051	9978942.807	780739.427	2769.300	TN
13052	9978944.146	780700.767	2765.370	TN
13053	9978943.455	780712.880	2763.763	TN
13054	9978940.281	780710.532	2763.764	TN
13055	9978945.680	780697.517	2764.999	TN
13056	9978945.883	780742.925	2768.631	TN
13057	9978948.129	780707.028	2763.670	TN
13058	9978945.829	780692.977	2764.468	TN
13059	9978945.567	780703.271	2763.041	TN
13060	9978905.234	780891.267	2763.668	TN
13061	9978940.710	780747.583	2766.969	TN
13062	9978927.671	780701.640	2763.153	TN
13063	9978924.546	780709.919	2762.785	TN
13064	9978930.240	780719.929	2762.696	TN
13065	9978925.922	780717.112	2762.330	TN
13066	9978925.464	780717.978	2762.857	TN
13067	9978926.639	780724.421	2762.087	TN
13068	9978926.838	780716.230	2763.308	TN
13069	9978928.688	780727.396	2762.965	TN
13070	9978924.046	780726.234	2762.125	TN
13071	9978929.944	780715.589	2762.202	TN
13072	9978922.399	780728.725	2762.686	TN
13073	9978929.321	780726.457	2763.232	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13074	9978948.800	780728.907	2765.941	TN
13075	9978949.666	780734.602	2766.520	TN
13076	9978946.290	780723.941	2764.902	TN
13077	9978942.906	780717.747	2765.508	TN
13078	9978964.051	780679.852	2764.203	TN
13079	9978959.141	780669.734	2764.735	TN
13080	9978954.372	780660.221	2765.400	TN
13081	9978953.072	780661.133	2765.599	TN
13082	9978957.869	780670.643	2764.878	TN
13083	9978962.272	780680.234	2764.234	TN
13084	9978958.574	780681.436	2766.271	TN
13085	9978953.418	780672.627	2767.506	TN
13086	9978946.918	780663.220	2768.929	TN
13087	9978937.091	780665.748	2769.516	TN
13088	9978942.695	780676.610	2768.211	TN
13089	9978948.285	780684.965	2766.902	TN
13090	9978927.804	780668.299	2769.793	TN
13091	9978935.630	780679.164	2768.481	TN
13092	9978937.919	780687.980	2767.101	TN
13093	9978919.297	780669.413	2770.131	TN
13094	9978931.686	780690.081	2767.157	TN
13095	9978913.947	780671.259	2771.198	TN
13096	9978927.803	780681.180	2769.049	TN
13097	9978910.449	780672.908	2776.377	TN
13098	9978927.568	780690.393	2769.298	TN
13099	9978905.948	780676.064	2778.226	TN
13100	9978925.938	780683.012	2768.889	TN
13101	9978898.224	780681.514	2781.517	TN
13102	9978924.218	780692.053	2771.719	TN
13103	9978894.843	780685.679	2784.972	TN
13104	9978923.561	780683.480	2772.015	TN
13105	9978889.104	780688.098	2790.317	TN
13106	9978918.634	780691.284	2772.382	TN
13107	9978881.038	780689.635	2796.934	TN
13108	9978916.159	780685.853	2773.851	TN
13109	9978908.136	780687.234	2778.681	TN
13110	9978914.662	780695.426	2778.463	TN
13111	9978901.784	780690.912	2784.196	TN
13112	9978904.823	780698.749	2785.698	TN
13113	9978895.053	780694.009	2789.454	TN
13114	9978886.330	780697.699	2796.950	TN
13115	9978889.759	780701.616	2797.228	TN
13116	9978875.456	780679.828	2795.308	TN
13117	9978871.094	780668.032	2793.765	TN
13118	9978872.339	780655.867	2791.668	TN
13119	9978886.790	780676.816	2788.048	TN
13120	9978895.030	780671.939	2780.521	TN
13121	9978878.215	780666.950	2787.544	TN
13122	9978877.440	780656.130	2786.475	TN
13123	9978903.071	780667.447	2778.000	TN
13124	9978907.199	780665.962	2776.098	TN
13125	9978881.835	780652.226	2783.095	TN
13126	9978886.153	780665.103	2782.194	TN
13127	9978911.591	780665.042	2770.595	TN
13128	9978891.745	780667.950	2777.017	TN
13129	9978919.511	780661.931	2770.040	TN
13130	9978927.808	780657.490	2770.075	TN
13131	9978898.083	780659.730	2777.269	TN
13132	9978934.876	780654.459	2769.897	TN
13133	9978940.013	780651.226	2770.035	TN
13134	9978897.985	780646.044	2774.692	TN
13135	9978905.766	780659.254	2773.189	TN
13136	9978947.545	780650.523	2766.282	TN
13137	9978908.207	780656.907	2770.173	TN
13138	9978949.070	780649.465	2766.930	TN
13139	9978911.931	780651.873	2769.965	TN
13140	9978921.076	780646.943	2770.038	TN
13141	9978942.815	780636.939	2766.856	TN
13142	9978893.850	780632.263	2774.298	TN
13143	9978928.105	780641.307	2770.112	TN
13144	9978941.389	780637.292	2767.092	TN
13145	9978936.030	780637.551	2769.969	TN
13146	9978885.737	780636.911	2779.074	TN
13147	9978936.116	780623.288	2767.597	TN
13148	9978934.248	780624.159	2767.761	TN
13149	9978878.527	780641.257	2784.840	TN
13150	9978896.762	780637.565	2770.341	TN
13151	9978930.758	780625.774	2769.916	TN
13152	9978907.216	780634.862	2770.171	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13153	9978914.789	780631.793	2770.243	TN
13154	9978923.441	780628.193	2770.211	TN
13155	9978872.084	780640.730	2789.911	TN
13156	9978884.184	780602.037	2772.585	TN
13157	9978887.931	780606.908	2772.832	TN
13158	9978876.341	780598.194	2777.871	TN
13159	9978887.306	780614.769	2777.978	TN
13160	9978880.609	780604.225	2777.878	TN
13161	9978871.511	780626.363	2788.044	TN
13162	9978882.062	780619.621	2775.846	TN
13163	9978890.424	780622.627	2773.853	TN
13164	9978878.504	780626.633	2781.793	TN
13165	9978881.994	780613.304	2780.194	TN
13166	9978891.763	780627.932	2774.024	TN
13167	9978883.384	780624.985	2780.069	TN
13168	9978883.391	780624.991	2778.065	TN
13169	9978875.252	780621.998	2789.825	TN
13170	9978874.174	780613.892	2785.331	TN
13171	9978870.047	780610.135	2787.532	TN
13172	9978869.517	780616.174	2788.476	TN
13173	9978868.375	780601.251	2796.666	TN
13174	9978865.488	780587.047	2785.443	TN
13175	9978873.085	780590.485	2779.321	TN
13176	9978865.854	780587.468	2785.258	TN
13177	9978867.411	780582.273	2784.450	TN
13178	9978874.517	780584.452	2778.106	TN
13179	9978881.725	780595.219	2772.975	TN
13180	9978866.718	780573.584	2783.415	TN
13181	9978875.166	780577.718	2777.870	TN
13182	9978882.251	780589.037	2772.057	TN
13183	9978868.363	780569.341	2782.772	TN
13184	9978868.621	780569.396	2781.604	TN
13185	9978874.700	780572.248	2776.304	TN
13186	9978883.997	780581.567	2772.430	TN
13187	9978871.920	780564.522	2779.494	TN
13188	9978875.536	780565.829	2776.365	TN
13189	9978882.436	780572.789	2772.249	TN
13190	9978872.584	780557.587	2777.763	TN
13191	9978876.145	780558.508	2775.986	TN
13192	9978875.354	780547.661	2775.559	TN
13193	9978882.021	780563.859	2772.006	TN
13194	9978878.199	780549.497	2773.894	TN
13195	9978882.338	780552.235	2771.297	TN
13196	9978878.797	780540.961	2774.750	TN
13197	9978871.389	780535.209	2780.458	TN
13198	9978871.389	780535.209	2780.452	AUX-G
13199	9978978.976	780728.802	2761.729	VIA-C
13200	9978983.689	780728.185	2761.977	VIA-C
13201	9978988.444	780727.876	2762.124	VIA-C
13202	9978987.648	780717.228	2762.718	VIA-C
13203	9978982.864	780717.866	2762.506	VIA-C
13204	9978978.081	780718.238	2762.234	VIA-C
13205	9978976.514	780709.184	2762.718	VIA-C
13206	9978981.710	780708.325	2762.970	VIA-C
13207	9978986.795	780707.583	2763.235	VIA-C
13208	9978985.433	780697.825	2763.730	VIA-C
13209	9978980.069	780698.957	2763.462	VIA-C
13210	9978974.292	780700.137	2763.144	VIA-C
13211	9978971.968	780691.384	2763.578	VIA-C
13212	9978971.998	780689.723	2763.986	VIA-C
13213	9978974.322	780688.306	2764.217	VIA-C
13214	9978974.322	780678.682	2764.722	VIA-C
13215	9978974.322	780680.595	2764.611	VIA-C
13216	9978974.322	780682.918	2764.005	VIA-C
13217	9978974.322	780674.600	2764.420	VIA-C
13218	9978974.322	780671.950	2764.877	VIA-C
13219	9978979.188	780669.101	2765.227	VIA-C
13220	9978976.426	780659.691	2765.712	VIA-C
13221	9978969.155	780662.667	2765.941	VIA-C
13222	9978959.763	780666.484	2764.828	VIA-C
13223	9978955.773	780658.411	2765.378	VIA-C
13224	9978965.363	780653.945	2765.829	VIA-C
13225	9978973.298	780650.214	2766.062	VIA-C
13226	9978969.704	780640.591	2766.371	VIA-C
13227	9978960.995	780644.935	2766.339	VIA-C
13228	9978951.376	780649.674	2766.015	VIA-C
13229	9978947.025	780640.725	2766.587	VIA-C
13230	9978957.017	780636.974	2766.761	V-PARTER
13231	9978956.156	780637.031	2766.772	V-PART





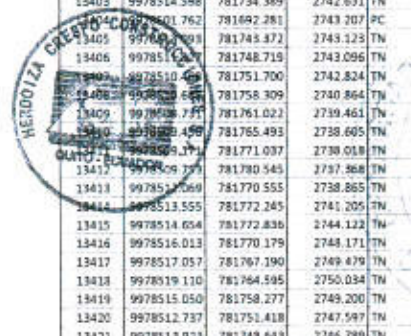
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13232	9978955.578	780636.478	2766.798	V-PART
13233	9978957.658	780636.320	2766.780	V-PART
13234	9978957.566	780635.495	2766.809	V-PART
13235	9978965.830	780631.412	2766.631	VIA-C
13236	9978961.688	780622.516	2767.039	VIA-C
13237	9978993.206	780626.675	2767.250	V-PART
13238	9978951.187	780627.714	2767.236	V-PART
13239	9978938.320	780623.163	2767.415	VIA-C
13240	9978946.803	780618.852	2767.616	V-PART
13241	9978948.864	780617.929	2767.684	V-PART
13242	9978957.348	780613.703	2767.421	VIA-C
13243	9978952.994	780604.901	2767.758	VIA-C
13244	9978944.542	780609.154	2767.966	V-PART
13245	9978942.496	780610.126	2767.941	V-PART
13246	9978933.994	780614.382	2767.729	VIA-C
13247	9978929.645	780605.669	2768.007	VIA-C
13248	9978938.142	780601.268	2768.213	V-PART
13249	9978940.151	780600.312	2768.216	V-PART
13250	9978944.657	780596.117	2768.020	VIA-C
13251	9978944.322	780587.828	2768.215	VIA-C
13252	9978935.772	780591.529	2768.428	V-PART
13253	9978933.789	780592.567	2768.430	V-PART
13254	9978925.825	780596.771	2768.235	VIA-C
13255	9978920.929	780588.025	2768.387	VIA-C
13256	9978929.447	780583.806	2768.563	V-PART
13257	9978931.538	780582.754	2768.562	V-PART
13258	9978940.105	780578.567	2768.360	VIA-C
13259	9978935.314	780569.926	2768.485	VIA-C
13260	9978927.739	780577.890	2768.666	T-PARTER
13261	9978928.315	780577.761	2768.668	V-PART
13262	9978928.819	780577.938	2768.643	V-PART
13263	9978927.176	780578.599	2768.641	V-PART
13264	9978927.306	780579.434	2768.633	V-PART
13265	9978916.546	780579.212	2768.437	VIA-C
13266	9978912.218	780570.399	2768.505	VIA-C
13267	9978924.489	780571.117	2768.915	T-PARTER
13268	9978923.547	780571.252	2768.710	V-PART
13269	9978922.897	780570.603	2768.704	V-PART
13270	9978924.940	780570.540	2768.718	V-PART
13271	9978924.952	780569.830	2768.694	V-PART
13272	9978922.805	780565.211	2768.716	V-PART
13273	9978922.796	780565.213	2768.720	V-PART
13274	9978920.733	780566.228	2768.707	V-PART
13275	9978931.253	780561.009	2768.503	VIA-C
13276	9978926.936	780552.295	2768.487	VIA-C
13277	9978918.357	780556.427	2768.890	V-PART
13278	9978916.398	780557.456	2768.696	V-PART
13279	9978907.839	780561.543	2768.486	VIA-C
13280	9978903.345	780552.627	2768.400	VIA-C
13281	9978911.860	780548.333	2768.594	V-PART
13282	9978913.979	780547.365	2768.609	V-PART
13283	9978903.415	780552.601	2768.396	F-H-C
13284	9978911.925	780548.392	2768.595	F-H-C
13285	9978922.398	780543.209	2768.433	F-H-C
13286	9978922.439	780543.130	2768.418	VIA-C
13287	9978919.926	780534.228	2768.209	VIA-C
13288	9978909.844	780538.056	2768.493	V-PART
13289	9978907.797	780538.760	2768.490	V-PART
13290	9978897.880	780542.805	2768.308	VIA-C
13291	9978895.036	780538.018	2768.232	VIA-C
13292	9978889.851	780529.093	2768.102	VIA-C
13293	9978885.223	780521.040	2767.998	VIA-C
13294	9978879.978	780521.448	2767.965	VIA-C
13295	9978875.687	780502.293	2767.929	VIA-C
13296	9978887.088	780508.479	2768.066	VIA-C
13297	9978886.683	780508.300	2768.054	VIA-C
13298	9978882.425	780499.417	2768.013	VIA-C
13299	9978871.524	780492.946	2767.887	VIA-C
13300	9978868.260	780485.528	2767.916	VIA-C
13301	9978878.191	780489.671	2768.032	VIA-C
13302	9978874.925	780482.291	2768.012	VIA-C
13303	9978874.925	780482.293	2768.012	VIA-C
13304	9978864.478	780476.997	2767.883	VIA-C
13305	9978871.050	780473.538	2768.013	VIA-C
13306	9978867.185	780464.907	2768.016	VIA-C
13307	9978860.656	780468.292	2767.931	VIA-C
13308	9978856.811	780459.712	2767.992	VIA-C
13309	9978863.555	780456.657	2768.026	VIA-C
13310	9978860.112	780448.763	2768.078	VIA-C

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13311	9978853.293	780451.751	2768.073	VIA-C
13312	9978849.344	780442.860	2768.106	VIA-C
13313	9978855.953	780439.356	2768.167	VIA-C
13314	9978852.122	780430.763	2768.279	VIA-C
13315	9978845.569	780434.185	2768.151	VIA-C
13316	9978842.268	780426.716	2768.161	VIA-C
13317	9978848.994	780423.718	2768.296	VIA-C
13318	9978845.806	780416.785	2768.310	VIA-C
13319	9978844.167	780413.055	2768.270	VIA-C
13320	9978839.233	780406.204	2768.219	VIA-C
13321	9978834.820	780414.831	2768.175	VIA-C
13322	9978831.777	780411.971	2768.075	VIA-C
13324	9978856.209	780915.485	2773.129	PC
13325	9978856.124	780915.545	2773.136	PC
13326	9978977.684	780808.110	2743.722	LT
13327	9978979.590	780805.335	2742.999	LT
13328	9978985.478	780797.854	2739.473	LT
13329	9978990.167	780787.670	2740.467	LT
13330	9978991.802	780781.311	2743.583	LT
13331	9978996.770	780773.897	2741.154	LT
13332	9979001.154	780767.908	2742.388	LT
13333	9979003.948	780763.846	2744.340	LT
13334	9979007.416	780760.210	2748.078	LT
13353	9979005.157	780764.178	2736.567	LT
13354	9979001.583	780770.373	2742.500	LT
13355	9978993.512	780780.084	2742.049	LT
13356	9978993.139	780788.745	2728.770	LT
13357	9978992.046	780795.340	2727.620	LT
13358	9978987.779	780804.750	2727.421	LT
13359	9978985.968	780809.188	2726.990	LT
13360	9978979.756	780817.623	2727.797	LT
13361	9978988.367	780817.420	2728.122	LT
13362	9978990.212	780810.512	2728.665	LT
13363	9978986.712	780803.138	2728.791	LT
13364	9978988.075	780796.158	2728.293	LT
13365	9978993.691	780783.368	2729.649	LT
13366	9979000.900	780772.781	2720.029	LT
13383	9979000.000	780779.559	2706.896	LT
13384	9978993.902	780792.927	2706.970	LT
13385	9978994.799	780802.188	2707.065	LT
13386	9978992.304	780810.419	2706.943	PC
13387	9978971.403	780832.218	2709.595	PC
13388	9978958.404	780842.699	2708.734	PC
13389	9978918.581	780804.618	2740.014	LT
13390	9978921.524	780856.873	2741.506	LT
13391	9978921.060	780852.144	2747.458	LT
13392	9978909.580	780873.449	2740.207	LT
13393	9978892.644	780889.787	2742.299	LT
13394	9978889.085	780894.735	2743.022	LT
13395	9978918.316	780805.110	2737.867	LT
13396	9978949.169	781137.739	2739.882	PC
13397	9978534.775	781648.470	2746.183	AUX4-A
13398	9978534.784	781648.446	2746.184	PC
13399	9978521.158	781706.698	2742.849	TN
13400	9978519.520	781712.337	2742.287	TN
13401	9978517.212	781718.975	2742.107	TN
13402	9978514.232	781729.716	2741.051	TN
13403	9978514.598	781734.389	2742.631	TN
13404	9978501.762	781692.281	2743.207	PC
13405	9978501.991	781743.372	2743.123	TN
13406	9978511.000	781748.719	2743.096	TN
13407	9978510.400	781751.700	2742.824	TN
13408	9978509.688	781758.309	2740.864	TN
13409	9978508.735	781761.022	2739.461	TN
13410	9978508.496	781765.493	2738.605	TN
13411	9978509.171	781771.037	2738.018	TN
13412	9978509.171	781780.545	2737.868	TN
13413	9978511.069	781770.555	2738.865	TN
13414	9978513.555	781772.245	2741.205	TN
13415	9978514.654	781772.836	2744.122	TN
13416	9978516.013	781770.179	2748.171	TN
13417	9978517.057	781767.190	2749.479	TN
13418	9978519.110	781764.595	2750.034	TN
13419	9978515.050	781758.277	2749.200	TN
13420	9978512.737	781751.418	2747.597	TN
13421	9978513.923	781748.643	2746.789	TN
13422	9978512.854	781745.934	2747.185	TN
13423	9978513.690	781742.471	2747.756	TN
13424	9978518.517	781741.234	2748.040	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13425	9978521.516	781736.696	2748.528	TN
13426	9978523.681	781729.227	2748.116	TN
13427	9978523.038	781721.969	2745.966	TN
13428	9978527.139	781720.578	2749.689	TN
13429	9978530.481	781719.492	2753.249	TN
13430	9978541.221	781715.209	2759.633	TN
13431	9978536.790	781722.687	2758.923	TN
13432	9978537.245	781727.182	2758.766	TN
13433	9978537.852	781728.334	2760.661	TN
13434	9978537.730	781734.349	2764.570	TN
13435	9978534.282	781734.847	2758.582	TN
13436	9978530.119	781741.900	2757.698	TN
13437	9978519.957	781746.009	2754.215	TN
13438	9978520.683	781750.337	2753.336	TN
13439	9978526.756	781760.512	2757.111	TN
13440	9978528.912	781759.692	2759.959	TN
13441	9978524.925	781752.817	2756.605	TN
13442	9978526.502	781749.049	2758.143	TN
13443	9978533.125	781751.349	2765.081	TN
13444	9978543.193	781744.793	2771.777	TN
13445	9978541.193	781744.793	2771.777	TN
13446	9978537.508	781741.937	2763.625	TN
13447	9978542.059	781737.355	2768.575	TN
13448	9978552.850	781751.457	2773.909	TN
13449	9978551.110	781726.524	2768.215	TN
13450	9978553.051	781720.413	2767.959	TN
13451	9978553.759	781723.173	2773.659	TN
13452	9978556.745	781725.869	2777.995	TN
13453	9978556.114	781729.691	2780.211	TN
13454	9978558.493	781738.862	2781.771	TN
13455	9978544.411	781740.899	2773.225	TN
13456	9978553.378	781751.665	2781.818	TN
13457	9978552.055	781756.621	2780.474	TN
13458	9978558.324	781754.063	2788.814	TN
13459	9978560.188	781745.502	2793.864	TN
13460	9978566.209	781740.081	2797.897	TN
13461	9978563.247	781734.140	2789.793	TN
13462	9978569.837	781735.255	2797.954	TN
13463	9978569.567	781735.916	2800.062	TN
13464	9978584.839	781733.700	2809.329	TN
13465	9978570.559	781743.595	2799.473	TN
13466	9978566.953	781750.136	2796.219	TN
13467	9978570.374	781748.943	2797.798	TN
13468	9978506.855	781812.301	2735.720	FL
13469	9978493.827	781759.296	2738.847	FL
13470	9978505.767	781738.701	2742.020	PL
13471	9978521.343	781662.550	2745.609	PL
13472	9978557.205	781632.054	2747.450	PL
13473	9978503.779	781713.654	2741.245	MH
13474	9978504.832	781713.861	2741.283	MH
13475	9978502.221	781724.598	2740.598	MH
13476	9978501.256	781724.420	2740.593	MH
13477	9978498.499	781735.776	2739.903	MH
13478	9978499.424	781736.031	2739.892	MH
13479	9978494.998	781750.095	2738.997	MH
13480	9978495.980	781750.256	2739.053	MH
13481	9978502.187	781803.466	2736.142	AUX13-A
13482	9978518.851	781669.535	2744.565	AUX14-A
13483	9978518.855	781669.504	2744.569	AUX14-A
13484	9978518.855	781669.503	2744.573	AUX14-A
13485	9978495.170	781750.149	2739.079	SERR
13486	9978493.524	781755.404	2738.804	SERR
13487	9978491.671	781764.444	2738.799	SERR
13488	9978491.688	781777.581	2738.196	SERR
13489	9978492.838	781785.888	2737.761	SERR
13490	9978494.182	781788.651	2737.206	SERR
13491	9978497.729	781798.438	2736.967	SERR
13492	9978500.701	781804.401	2736.475	SERR
13493	9978504.588	781810.131	2735.973	SERR
13494	9978509.458	781815.933	2734.917	SERR
13495	9978519.682	781824.514	2734.022	PM
13496	9978519.622	781824.588	2734.230	MH
13497	9978525.401	781828.577	2734.293	MH
13498	9978525.441	781828.392	2733.410	PM
13499	9978532.060	781832.709	2732.759	PM
13500	9978531.990	781833.012	2734.388	MH
13501	9978536.111	781835.512	2734.308	MH
13502	9978536.149	781835.211	2732.465	PM
13503	9978543.548	781840.292	2731.799	PM

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13504	9978543.287	781840.540	2734.085	MH
13505	9978548.987	781844.565	2733.787	MH
13506	9978549.346	781844.056	2731.194	PM
13507	9978549.349	781844.058	2731.194	PL
13508	9978562.289	781755.746	2731.783	TN
13509	9978570.241	781754.746	2736.040	TN
13510	9978577.532	781752.691	2800.144	TN
13511	9978582.046	781751.365	2802.527	TN
13512	9978579.857	781746.887	2802.995	TN
13513	9978586.301	781745.238	2806.354	TN
13514	9978588.723	781749.821	2805.477	TN
13515	9978598.401	781750.313	2809.076	TN
13516	9978590.513	781743.080	2810.573	TN
13517	9978597.561	781741.017	2814.151	TN
13518	9978603.929	781749.632	2812.661	TN
13519	9978605.454	781755.525	2804.655	TN
13520	9978593.198	781757.609	2801.078	TN
13521	9978513.658	781818.066	2754.528	PC
13522	9978585.227	781760.091	2792.618	TN
13523	9978589.903	781762.369	2792.505	TN
13524	9978510.090	781755.068	2739.294	TN
13525	9978511.284	781753.896	2746.037	TN
13526	9978513.688	781754.863	2748.181	TN
13527	9978511.371	781759.593	2741.376	TN
13528	9978509.368	781762.819	2738.141	TN
13529	9978508.285	781773.724	2737.014	TN
13530	9978513.657	781761.520	2741.213	TN
13531	9978516.308	781760.088	2745.240	TN
13532	9978516.398	781758.528	2749.394	TN
13533	9978518.674	781756.612	2751.689	TN
13534	9978521.560	781754.539	2753.509	TN
13535	9978524.919	781753.025	2756.334	TN
13536	9978524.542	781757.161	2754.795	TN
13537	9978522.811	781764.279	2753.278	TN
13538	9978528.598	781764.529	2756.404	TN
13539	9978523.259	781766.399	2752.813	TN
13540	9978519.512	781766.925	2750.924	TN
13541	9978516.154	781769.960	2748.753	TN
13542	9978581.673	781762.400	2738.687	TN
13543	9978516.250	781765.371	2744.465	TN
13544	9978513.229	781772.414	2738.544	TN
13545	9978508.695	781777.833	2736.701	TN
13546	9978514.672	781773.549	2743.367	TN
13547	9978516.820	781775.366	2743.276	TN
13548	9978520.046	781770.320	2748.447	TN
13549	9978522.730	781770.727	2748.512	TN
13550	9978527.132	781776.820	2747.547	TN
13551	9978527.381	781778.956	2745.736	TN
13552	9978522.053	781772.948	2744.175	TN
13553	9978516.446	781760.545	2744.513	TN
13554	9978520.330	781772.665	2743.821	TN
13555	9978518.686	781781.987	2740.355	TN
13556	9978516.580	781778.254	2739.683	TN
13557	9978516.366	781786.245	2738.787	TN
13558	9978510.274	781785.673	2735.970	TN
13559	9978514.366	781766.052	2733.472	TN
13560	9978512.218	781791.584	2735.677	TN
13561	9978518.842	781788.576	2738.817	TN
13562	9978522.425	781788.207	2741.425	TN
13563	9978522.679	781782.641	2745.403	TN
13564	9978522.412	781787.331	2745.081	TN
13565	9978523.561	781779.300	2748.885	TN
13566	9978524.138	781783.127	2747.639	TN
13567	9978526.465	781786.102	2747.388	TN
13568	9978526.128	781784.016	2749.948	TN
13569	9978523.659	781782.089	2749.684	TN
13570	9978523.793	781778.741	2748.972	TN
13571	9978526.027	781771.182	2750.377	TN
13572	9978527.811	781766.758	2753.826	TN
13573	9978530.111	781764.477	2755.958	TN
13574	9978574.914	781769.293	2785.065	TN
13575	9978526.975	781776.564	2752.959	TN
13576	9978525.480	781780.528	2751.846	TN
13577	9978528.903	781783.063	2752.241	TN
13578	9978531.745	781786.166	2751.166	TN
13579	9978528.968	781759.832	2759.765	TN
13580	9978529.332	781758.472	2763.144	TN
13581	9978529.541	781756.719	2765.666	TN
13582	9978529.457	781755.079	2766.737	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13583	9978529.038	781753.825	2765.299	TN
13584	9978530.579	781753.329	2763.238	TN
13585	9978529.461	781751.843	2762.150	TN
13586	9978528.569	781752.629	2763.192	TN
13587	9978525.161	781751.125	2763.484	TN
13588	9978525.121	781752.648	2760.526	TN
13589	9978524.990	781752.917	2757.460	TN
13590	9978577.192	781770.312	2782.988	TN
13591	9978525.292	781749.916	2756.248	TN
13592	9978524.998	781753.302	2756.474	TN
13593	9978527.940	781753.646	2757.674	TN
13594	9978529.513	781756.127	2758.121	TN
13595	9978529.055	781772.181	2782.597	TN
13596	9978529.205	781768.175	2757.516	TN
13597	9978530.700	781768.141	2755.743	TN
13598	9978533.115	781776.437	2756.783	TN
13599	9978534.513	781776.659	2755.691	TN
13600	9978582.717	781774.646	2783.018	TN
13601	9978537.084	781773.925	2758.320	TN
13602	9978540.458	781772.984	2760.020	TN
13603	9978543.958	781771.459	2762.874	TN
13604	9978547.294	781772.789	2762.893	TN
13605	9978551.859	781776.413	2762.268	TN
13606	9978555.550	781778.418	2764.884	TN
13607	9978561.154	781782.717	2767.610	TN
13608	9978563.928	781784.167	2765.855	TN
13609	9978585.800	781776.452	2781.805	TN
13610	9978570.139	781787.592	2764.884	TN
13611	9978573.286	781792.328	2765.861	TN
13612	9978576.154	781792.506	2766.280	TN
13613	9978580.141	781792.169	2765.177	TN
13614	9978582.121	781793.447	2765.464	TN
13615	9978583.072	781793.887	2767.155	TN
13616	9978590.546	781777.279	2781.814	TN
13617	9978591.697	781797.719	2768.587	TN
13618	9978592.928	781797.090	2768.444	TN
13619	9978596.044	781797.748	2768.701	TN
13620	9978593.997	781777.898	2781.459	TN
13621	9978601.239	781802.540	2769.477	TN
13622	9978595.847	781756.642	2764.597	TN
13623	9978600.160	781805.670	2766.580	TN
13624	9978600.160	781782.475	2782.380	TN
13625	9978598.650	781813.852	2762.843	TN
13626	9978596.587	781814.494	2759.518	TN
13627	9978605.516	781787.937	2782.510	TN
13628	9978598.914	781817.057	2759.291	TN
13629	9978608.107	781790.293	2783.518	TN
13630	9978600.907	781819.097	2759.003	TN
13631	9978600.695	781822.552	2757.246	TN
13632	9978602.224	781819.238	2762.120	TN
13633	9978607.882	781823.716	2762.560	TN
13634	9978611.360	781827.406	2762.099	TN
13635	9978613.661	781830.541	2761.934	TN
13636	9978518.855	781669.504	2744.566	AUX14-A
13637	9978537.322	781756.013	2767.020	TN
13638	9978539.410	781757.324	2768.475	TN
13639	9978543.156	781758.331	2770.849	TN
13640	9978541.372	781762.449	2769.382	TN
13641	9978540.674	781767.382	2768.328	TN
13642	9978542.754	781769.303	2768.147	TN
13643	9978546.068	781769.743	2769.878	TN
13644	9978547.251	781769.395	2771.397	TN
13645	9978535.003	781757.837	2763.597	TN
13646	9978536.658	781758.218	2764.664	TN
13647	9978537.464	781760.825	2763.795	TN
13648	9978539.723	781760.324	2765.409	TN
13649	9978538.096	781765.608	2763.944	TN
13650	9978537.133	781768.984	2762.111	TN
13651	9978538.013	781771.399	2761.618	TN
13652	9978540.006	781772.286	2761.496	TN
13653	9978545.988	781770.679	2764.707	TN
13654	9978548.730	781772.750	2764.837	TN
13655	9978552.174	781765.180	2776.600	TN
13656	9978553.683	781767.073	2776.675	TN
13657	9978554.330	781768.701	2776.625	TN
13658	9978552.006	781767.331	2772.663	TN
13659	9978552.771	781769.441	2772.536	TN
13660	9978554.576	781770.409	2772.751	TN
13661	9978553.408	781771.732	2768.097	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13662	9978556.325	781772.410	2768.792	TN
13663	9978556.169	781769.796	2772.201	TN
13664	9978556.925	781772.367	2771.858	TN
13665	9978560.070	781772.906	2771.866	TN
13666	9978548.648	781750.282	2777.647	TN
13667	9978548.280	781755.025	2775.755	TN
13668	9978544.370	781763.216	2772.583	TN
13669	9978551.442	781749.331	2780.084	TN
13670	9978542.316	781764.047	2771.231	TN
13671	9978544.745	781764.682	2772.057	TN
13672	9978548.329	781766.677	2773.266	TN
13673	9978558.851	781745.533	2789.523	TN
13674	9978556.378	781752.735	2786.029	TN
13675	9978557.902	781757.382	2786.224	TN
13676	9978560.447	781744.706	2793.889	TN
13677	9978560.199	781749.800	2792.157	TN
13678	9978560.029	781755.941	2790.414	TN
13679	9978566.685	781757.209	2791.967	TN
13680	9978580.002	781755.755	2797.292	TN
13681	9978584.555	781757.585	2796.720	TN
13682	9978592.328	781757.979	2800.096	TN
13683	9978554.755	781758.264	2780.898	TN
13684	9978559.070	781762.997	2781.776	TN
13685	9978558.432	781768.907	2775.413	TN
13686	9978562.401	781771.066	2775.148	TN
13687	9978599.670	781782.476	2753.550	TN
13688	9978545.214	781786.653	2754.820	TN
13689	9978544.279	781791.295	2753.267	TN
13690	9978526.416	781788.138	2743.501	TN
13691	9978529.961	781793.969	2744.082	TN
13692	9978593.810	781797.681	2744.752	TN
13693	9978520.424	781789.804	2738.481	TN
13694	9978522.046	781796.222	2739.942	TN
13695	9978532.983	781804.563	2739.568	TN
13696	9978521.438	781789.549	2735.754	TN
13697	9978516.170	781796.148	2735.196	TN
13698	9978517.795	781801.858	2734.647	TN
13699	9978522.129	781806.295	2734.194	TN
13700	9978526.640	781810.414	2733.767	TN
13701	9978533.978	781815.547	2733.151	TN
13702	9978537.214	781811.246	2736.931	TN
13703	9978539.830	781811.024	2739.469	TN
13704	9978536.710	781807.430	2740.661	TN
13705	9978536.241	781800.435	2744.518	TN
13706	9978535.641	781803.040	2743.172	TN
13707	9978536.879	781807.322	2741.995	TN
13708	9978542.779	781809.584	2743.098	TN
13709	9978542.665	781807.819	2745.641	TN
13710	9978539.111	781805.170	2745.670	TN
13711	9978536.928	781803.294	2744.630	TN
13712	9978535.919	781800.213	2746.247	TN
13713	9978536.405	781796.664	2748.516	TN
13714	9978544.053	781792.767	2754.913	TN
13715	9978541.678	781795.270	2752.448	TN
13716	9978545.489	781797.858	2752.543	TN
13717	9978538.700	781799.488	2747.903	TN
13718	9978540.437	781801.348	2749.127	TN
13719	9978591.861	781813.770	2757.204	TN
13720	9978593.627	781818.360	2754.591	TN
13721	9978597.940	781824.042	2753.513	TN
13722	9978597.163	781818.208	2752.768	TN
13723	9978597.940	781823.635	2750.971	TN
13724	9978599.939	781834.768	2753.998	TN
13725	9978611.167	781841.441	2755.388	TN
13726	9978614.796	781847.161	2756.183	TN
13727	9978616.769	781852.705	2755.191	TN
13728	9978618.690	781854.865	2749.469	TN
13729	9978612.994	781846.868	2749.283	TN
13730	9978609.879	781839.589	2743.436	TN
13731	9978544.782	781839.728	2731.495	PC
13732	9978502.170	781803.467	2736.144	AUX15-A
13733	9978540.439	781811.684	2738.158	TN
13734	9978547.553	781806.995	2744.402	TN
13735	9978551.724	781800.860	2748.428	TN
13736	9978548.220	781799.870	2752.660	TN
13737	9978551.750	781794.138	2755.789	TN
13738	9978554.306	781792.561	2759.615	TN
13739	9978557.451	781791.727	2761.357	TN
13740	9978568.418	781783.224	2766.765	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO-NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13741	9978563.453	781792.442	2758.386	TN
13742	9978557.644	781802.001	2750.409	TN
13743	9978552.315	781809.227	2746.463	TN
13744	9978547.610	781809.679	2740.736	TN
13745	9978553.056	781809.213	2743.359	TN
13746	9978561.236	781805.246	2749.177	TN
13747	9978564.110	781801.615	2754.236	TN
13748	9978566.816	781797.539	2759.551	TN
13749	9978572.535	781793.109	2765.118	TN
13750	9978576.210	781784.575	2773.769	TN
13751	9978582.477	781786.813	2773.044	TN
13752	9978583.342	781789.020	2769.801	TN
13753	9978575.982	781794.189	2764.545	TN
13754	9978568.910	781802.417	2755.281	TN
13755	9978580.901	781795.238	2763.023	TN
13756	9978582.383	781795.215	2765.864	TN
13757	9978584.648	781801.404	2761.890	TN
13758	9978589.596	781800.384	2765.719	TN
13759	9978589.021	781806.784	2760.193	TN
13760	9978584.447	781804.290	2759.745	TN
13761	9978577.036	781803.628	2756.585	TN
13762	9978568.474	781808.355	2749.483	TN
13763	9978574.920	781807.559	2751.341	TN
13764	9978580.144	781808.312	2752.992	TN
13765	9978586.796	781809.917	2751.241	TN
13766	9978588.283	781812.477	2755.961	TN
13767	9978598.527	781777.550	2785.878	TN
13768	9978537.561	781811.997	2734.645	TN
13769	9978535.677	781815.477	2733.772	TN
13770	9978540.867	781819.491	2733.865	TN
13771	9978547.045	781811.279	2734.671	TN
13772	9978547.173	781824.356	2734.670	TN
13773	9978552.289	781825.942	2735.098	TN
13774	9978547.753	781812.068	2737.022	TN
13775	9978559.308	781828.579	2730.974	TN
13776	9978555.749	781809.938	2741.876	TN
13777	9978568.085	781831.642	2757.531	TN
13778	9978561.806	781808.579	2743.618	TN
13779	9978561.041	781816.424	2740.190	TN
13780	9978568.508	781811.640	2744.503	TN
13781	9978568.335	781810.005	2745.543	TN
13782	9978574.394	781834.977	2738.589	TN
13783	9978570.919	781809.302	2747.621	TN
13784	9978571.474	781811.660	2746.171	TN
13785	9978578.572	781836.667	2739.137	TN
13786	9978578.791	781809.942	2748.660	TN
13787	9978585.556	781838.379	2740.004	TN
13788	9978592.969	781842.091	2741.251	TN
13789	9978599.038	781846.614	2741.741	TN
13790	9978602.698	781852.062	2741.712	TN
13791	9978606.303	781857.763	2741.885	TN
13792	9978608.015	781861.651	2741.517	TN
13793	9978572.497	781816.323	2744.248	TN
13794	9978609.938	781865.740	2741.592	TN
13795	9978608.803	781868.066	2741.430	TN
13796	9978609.383	781876.941	2741.592	TN
13797	9978582.977	781818.611	2747.313	TN
13798	9978610.148	781884.767	2741.627	TN
13799	9978579.746	781820.759	2745.876	TN
13800	9978609.205	781888.627	2740.695	TN
13801	9978584.862	781824.468	2746.254	TN
13802	9978606.303	781894.396	2738.459	TN
13803	9978589.098	781821.224	2747.634	TN
13804	9978603.066	781899.833	2755.977	TN
13805	9978595.122	781827.506	2747.279	TN
13806	9978616.176	781904.035	2735.951	TN
13807	9978592.739	781826.637	2746.129	TN
13808	9978599.728	781830.645	2747.253	TN
13809	9978598.059	781831.826	2746.021	TN
13810	9978620.075	781897.190	2759.546	TN
13811	9978624.037	781890.091	2742.336	TN
13813	9978834.724	781028.280	2775.215	AUX-A
13814	9978834.761	781028.287	2775.207	AUX-A
13815	9978852.766	781126.518	2796.745	BSQ
13816	9978852.068	781128.914	2788.519	FQ
13817	9978858.768	781136.542	2792.822	FQ
13818	9978859.651	781137.235	2800.581	FQ
13819	9978860.944	781138.125	2801.102	FQ
13820	9978861.357	781139.179	2804.091	FQ

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13821	9978860.893	781139.380	2807.987	FQ
13822	9978861.172	781139.693	2807.729	FQ
13823	9978861.643	781140.646	2808.418	FQ
13824	9978858.454	781125.569	2704.178	BSQ
13825	9978861.649	781128.069	2809.219	BSQ
13826	9978858.929	781119.791	2804.435	TN
13827	9978861.986	781132.484	2810.097	BSQ
13828	9978862.839	781138.776	2811.974	BSQ
13829	9978855.686	781115.676	2806.931	TN
13830	9978853.217	781110.308	2806.672	TN
13831	9978866.279	781141.964	2814.801	BSQ
13832	9978865.430	781145.657	2808.310	FQ
13833	9978865.990	781145.473	2809.858	BSQ
13834	9978858.404	781107.860	2809.109	TN
13835	9978870.399	781144.386	2816.070	TN
13836	9978863.741	781101.834	2811.571	TN
13837	9978871.945	781140.092	2821.175	TN
13838	9978871.695	781139.901	2822.261	TN
13839	9978874.880	781125.524	2820.981	TN
13840	9978866.448	781094.719	2811.416	TN
13841	9978876.547	781114.733	2820.686	TN
13842	9978871.664	781088.770	2812.705	TN
13843	9978876.814	781106.451	2819.263	TN
13844	9978875.152	781082.595	2813.694	TN
13845	9978880.965	781097.611	2822.162	TN
13846	9978879.013	781073.180	2813.474	TN
13847	9978880.234	781145.473	2806.280	TN
13848	9978945.371	781140.507	2803.162	TN
13849	9978851.923	781138.274	2803.278	TN
13850	9978856.009	781139.431	2807.887	TN
13851	9978853.186	781140.958	2811.845	TN
13852	9978848.119	781144.728	2812.732	TN
13853	9978881.814	781087.067	2822.538	TN
13854	9978888.066	781078.915	2822.376	TN
13855	9978884.626	781065.141	2814.674	TN
13856	9978894.321	781070.545	2823.467	TN
13857	9978900.670	781060.032	2823.515	TN
13858	9978890.669	781059.296	2815.754	TN
13859	9978905.352	781048.219	2825.002	TN
13860	9978908.692	781039.586	2823.702	TN
13861	9978910.732	781031.894	2822.958	TN
13862	9978992.871	781049.015	2816.975	TN
13863	9978911.903	781028.768	2824.639	TN
13864	9978913.234	781018.369	2824.875	TN
13865	9978917.515	781008.603	2827.900	TN
13866	9978997.038	781035.425	2814.875	TN
13867	9978900.146	781024.205	2815.115	TN
13868	9978903.830	781010.876	2816.115	TN
13869	9978922.328	781002.565	2827.493	TN
13870	9978924.707	780997.217	2828.201	TN
13871	9978925.827	780992.360	2830.565	TN
13872	9978906.706	781000.257	2814.455	TN
13873	9978933.183	780983.985	2824.437	TN
13874	9978905.085	780988.592	2814.165	TN
13875	9978931.514	780978.418	2827.377	TN
13876	9978905.885	780982.907	2815.452	TN
13877	9978933.500	780976.327	2828.518	TN
13878	9978934.016	780973.092	2829.458	TN
13879	9978909.893	780982.918	2817.715	TN
13880	9978934.864	780964.449	2829.064	TN
13881	9978935.236	780956.839	2828.129	TN
13882	9978935.699	780957.989	2827.899	TN
13883	9978936.891	780957.036	2825.395	TN
13884	9978933.113	780953.232	2820.599	TN
13885	9978937.724	780952.245	2819.474	TN
13886	9978937.740	780962.508	2820.164	TN
13887	9978937.963	780949.253	2813.125	TN
13888	9978932.970	780949.158	2815.118	TN
13889	9978915.034	780979.033	2814.350	TN
13890	9978916.436	780975.778	2816.067	TN
13891	9978916.342	780972.621	2819.083	TN
13892	9978917.513	780967.493	2821.260	TN
13893	9978915.720	780961.663	2820.215	TN
13895	9978959.401	780799.776	2771.862	AUX-O
13896	9978867.391	780843.963	2773.152	AUX-O
13897	9978959.412	780799.756	2771.845	AUX-O
13898	9978885.264	780797.409	2764.179	PC1
13899	9978870.491	780799.289	2756.465	PC1
13900	9978812.569	780829.056	2748.198	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13901	9978822.354	780823.762	2749.360	TN
13902	9978840.650	780811.527	2751.659	TN
13903	9978844.350	780805.575	2755.691	TN
13904	9978853.214	780797.896	2755.711	TN
13905	9978860.421	780794.232	2760.591	TN
13906	9978866.110	780793.855	2759.558	TN
13907	9978872.904	780788.606	2762.278	TN
13908	9978879.443	780782.356	2766.671	TN
13909	9978888.620	780774.950	2770.391	TN
13910	9978895.537	780774.924	2769.901	TN
13911	9978901.056	780776.282	2767.654	TN
13912	9978904.003	780764.969	2776.617	TN
13913	9978894.271	780769.965	2774.325	TN
13914	9978886.549	780774.600	2771.911	TN
13915	9978878.981	780779.821	2769.388	TN
13916	9978869.413	780784.053	2769.359	TN
13917	9978861.306	780787.720	2767.248	TN
13918	9978854.276	780786.438	2767.599	TN
13919	9978841.296	780794.889	2764.443	TN
13920	9978831.588	780800.819	2766.472	TN
13921	9978824.071	780808.364	2763.679	TN
13922	9978818.757	780813.092	2759.535	TN
13923	9978811.442	780821.210	2751.479	TN
13924	9978810.934	780815.512	2761.826	TN
13925	9978817.300	780811.164	2768.229	TN
13926	9978824.305	780806.936	2764.842	TN
13927	9978832.776	780800.782	2764.900	TN
13928	9978831.499	780805.967	2758.515	TN
13929	9978828.268	780808.231	2759.500	TN
13930	9978821.754	780811.861	2759.213	TN
13931	9978810.212	780812.989	2764.910	TN
13932	9978815.983	780808.971	2765.730	TN
13933	9978824.468	780803.917	2767.863	TN
13934	9978828.587	780801.617	2769.979	TN
13935	9978832.527	780795.068	2770.088	TN
13936	9978838.550	780792.093	2770.759	TN
13937	9978842.938	780788.413	2770.744	TN
13938	9978849.551	780785.642	2770.701	TN
13939	9978855.604	780783.326	2770.644	TN
13940	9978863.677	780783.072	2770.890	TN
13941	9978869.982	780781.495	2770.149	TN
13942	9978871.927	780776.846	2773.005	TN
13943	9978876.904	780772.623	2775.748	TN
13944	9978883.501	780768.859	2777.081	TN
13945	9978888.845	780766.565	2778.139	TN
13946	9978894.410	780769.211	2777.418	TN
13947	9978902.503	780767.246	2775.713	TN
13948	9978860.116	780793.961	2760.618	TN
13949	9978846.481	780802.493	2758.719	TN
13950	9978836.372	780814.148	2751.184	TN
13951	9978830.946	780817.688	2750.872	TN
13952	9978827.597	780821.083	2748.830	TN
13953	9978820.151	780821.794	2750.726	TN
13954	9978816.537	780822.834	2750.540	TN
13955	9978819.470	780820.448	2751.985	TN
13956	9978816.505	780817.000	2755.658	TN
13957	9978824.365	780814.194	2756.312	TN
13958	9978828.683	780810.320	2757.315	TN
13959	9978836.316	780803.632	2760.724	TN
13960	9978846.637	780795.205	2762.589	TN
13961	9978851.665	780790.655	2763.835	TN
13962	9978823.191	781623.675	2750.363	AUX 3 TANQUE
13964	9978823.191	781623.675	2750.363	AUX 3 TANQUE
13966	9978643.721	781459.961	0.000	PI 1
13969	9978617.194	781498.355	2682.548	TN
13970	9978617.201	781498.323	2681.538	TN
13971	9978614.088	781500.840	2680.587	TN
13972	9978619.540	781497.336	2679.959	TN
13973	9978621.714	781497.641	2683.020	TN
13974	9978613.519	781495.167	2678.251	TN
13975	9978623.575	781497.362	2681.661	TN
13976	9978617.392	781493.548	2675.961	TN
13977	9978626.089	781494.876	2680.837	TN
13978	9978629.218	781491.816	2680.848	TN
13979	9978621.460	781489.943	2675.236	TN
13980	9978621.378	781489.927	2675.318	TN
13981	9978632.053	781489.282	2684.045	TN
13982	9978621.948	781488.008	2677.448	TN
13983	9978627.293	781485.599	2679.850	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
13984	9978630.005	781485.874	2681.372	EJE
13985	9978632.593	781480.547	2680.822	EJE
13986	9978639.466	781482.464	2684.527	TN
13987	9978630.967	781481.193	2680.545	TN
13988	9978641.224	781479.544	2685.208	TN
13989	9978642.908	781477.181	2686.679	TN
13990	9978645.430	781475.622	2686.287	TN
13991	9978638.466	781478.674	2679.179	TN
13992	9978649.593	781475.246	2686.331	TN
13993	9978649.593	781475.248	2686.334	TN
13994	9978639.436	781477.191	2681.418	TN
13995	9978652.144	781470.585	2687.442	TN
13996	9978646.078	781469.947	2681.618	TN
13997	9978650.121	781466.964	2680.341	TN
13998	9978637.525	781470.832	2677.984	EJE
13999	9978634.763	781469.652	2675.213	TN
14000	9978629.755	781477.062	2677.758	TN
14001	9978625.047	781479.549	2676.014	TN
14002	9978633.546	781474.571	2672.881	TN
14003	9978621.338	781481.862	2675.129	TN
14004	9978631.346	781466.978	2673.648	TN
14005	9978630.403	781471.982	2669.061	TN
14006	9978618.754	781485.163	2679.065	TN
14007	9978623.339	781474.828	2671.161	TN
14008	9978617.975	781487.588	2670.828	TN
14009	9978618.198	781478.000	2672.308	TN
14010	9978615.321	781488.588	2670.360	TN
14011	9978615.068	781481.193	2670.001	TN
14012	9978613.877	781490.147	2671.788	TN
14013	9978611.178	781486.357	2665.581	TN
14014	9978611.256	781492.015	2670.718	TN
14015	9978607.758	781488.019	2663.816	TN
14016	9978608.736	781494.340	2670.912	TN
14017	9978608.301	781494.819	2667.114	TN
14018	9978608.294	781494.781	2667.151	FO
14019	9978605.743	781495.544	2663.611	FO
14020	9978605.584	781490.443	2663.947	TN
14021	9978601.715	781488.216	2662.159	TN
14022	9978603.853	781486.832	2662.030	TN
14023	9978597.556	781485.905	2659.354	TN
14024	9978606.486	781485.182	2661.605	TN
14025	9978608.810	781481.349	2663.409	TN
14026	9978599.384	781483.274	2655.828	FO
14027	9978609.840	781477.837	2665.466	TN
14028	9978601.602	781476.332	2659.526	TN
14029	9978612.776	781474.845	2669.016	TN
14030	9978604.547	781470.102	2659.768	TN
14031	9978612.214	781471.879	2665.152	TN
14032	9978598.159	781467.886	2656.040	TN
14033	9978606.201	781473.962	2662.579	TN
14034	9978607.072	781471.280	2661.653	TN
14035	9978598.699	781481.225	2654.444	FO
14036	9978603.751	781466.684	2656.020	TN
14037	9978603.747	781466.786	2655.935	TN
14038	9978593.467	781483.185	2655.637	TN
14039	9978600.021	781466.751	2654.409	TN
14040	9978588.428	781480.751	2651.595	TN
14041	9978599.558	781463.673	2651.600	TN
14042	9978594.985	781466.624	2654.356	TN
14043	9978593.003	781477.824	2649.178	FO
14044	9978591.529	781467.183	2652.161	TN
14045	9978591.159	781471.765	2652.596	TN
14046	9978591.517	781476.370	2648.384	FO
14047	9978590.899	781478.772	2648.051	FO
14048	9978588.412	781471.399	2648.198	FO
14049	9978589.111	781468.712	2650.275	TN
14050	9978585.517	781475.070	2647.619	FO
14051	9978589.458	781467.430	2649.317	TN
14052	9978585.580	781466.772	2646.211	TN
14053	9978584.186	781470.889	2646.237	TN
14054	9978580.325	781474.864	2641.063	FO
14055	9978580.397	781470.146	2643.991	TN
14056	9978581.847	781465.316	2644.495	TN
14057	9978578.175	781463.235	2643.070	TN
14058	9978577.710	781467.022	2641.799	TN
14059	9978576.429	781473.392	2638.502	FO
14060	9978576.853	781470.949	2639.832	TN
14061	9978576.217	781480.857	2649.138	TN
14062	9978583.440	781480.577	2649.805	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14063	9978538.679	781481.653	2652.457	TN
14064	9978595.660	781484.965	2659.067	TN
14065	9978602.433	781495.303	2667.635	TN
14066	9978594.765	781487.422	2664.956	TN
14067	9978601.471	781486.234	2673.349	TN
14068	9978592.232	781492.548	2670.741	TN
14069	9978617.175	781506.031	2688.967	TN
14070	9978618.064	781508.250	2692.367	EJE
14071	9978618.175	781510.374	2694.412	TN
14072	9978621.311	781502.712	2689.709	EJE
14073	9978620.834	781507.473	2692.733	TN
14074	9978626.459	781499.206	2686.895	TN
14075	9978624.228	781504.879	2691.554	TN
14076	9978631.499	781496.023	2687.187	TN
14077	9978628.098	781502.535	2689.951	TN
14078	9978634.531	781494.405	2686.477	TN
14079	9978632.481	781499.027	2689.669	TN
14080	9978637.783	781497.369	2691.824	TN
14081	9978636.388	781490.595	2688.173	TN
14082	9978639.527	781493.303	2693.653	TN
14083	9978638.601	781486.975	2687.825	TN
14084	9978642.288	781490.183	2693.860	TN
14085	9978642.786	781484.649	2688.678	TN
14086	9978645.034	781487.321	2692.507	TN
14087	9978644.889	781480.076	2688.278	TN
14088	9978647.421	781484.568	2691.591	TN
14089	9978647.987	781483.886	2690.585	TN
14090	9978650.120	781479.069	2689.690	TN
14091	9978653.417	781474.139	2690.053	TN
14092	9978650.396	781481.263	2693.415	TN
14093	9978656.055	781470.231	2691.080	TN
14094	9978654.312	781478.245	2695.197	TN
14095	9978659.805	781472.666	2696.984	TN
14096	9978664.172	781480.511	2705.395	TN
14097	9978660.049	781481.366	2700.048	TN
14098	9978661.783	781491.521	2705.019	TN
14099	9978658.739	781495.192	2706.005	TN
14100	9978656.249	781488.413	2699.566	TN
14101	9978654.705	781497.626	2705.827	TN
14102	9978651.350	781491.971	2698.917	TN
14103	9978650.338	781499.309	2705.315	TN
14104	9978648.611	781494.597	2700.976	TN
14105	9978648.123	781504.324	2705.043	TN
14106	9978644.232	781498.954	2701.226	TN
14107	9978642.933	781503.675	2699.940	TN
14108	9978633.815	781518.492	2703.464	TN
14109	9978638.029	781507.320	2699.867	TN
14110	9978632.491	781511.727	2700.268	TN
14111	9978643.732	781516.473	2707.891	TN
14112	9978645.752	781521.652	2711.801	TN
14113	9978657.216	781499.927	2708.669	TN
14114	9978665.135	781490.483	2710.064	TN
14115	9978652.119	781514.854	2710.761	TN
14116	9978653.386	781512.041	2712.041	TN
14117	9978666.527	781479.056	2710.811	TN
14118	9978668.247	781472.739	2711.062	TN
14119	9978657.805	781505.863	2712.926	TN
14120	9978668.700	781461.608	2713.592	TN
14121	9978668.059	781455.247	2712.941	TN
14122	9978668.403	781500.269	2715.339	TN
14123	9978669.388	781449.386	2713.827	TN
14124	9978672.380	781443.917	2714.214	TN
14125	9978673.523	781439.801	2714.886	TN
14126	9978670.320	781490.390	2716.781	TN
14127	9978676.730	781466.347	2721.045	TN
14128	9978679.575	781455.567	2722.605	TN
14129	9978677.752	781437.628	2718.120	TN
14130	9978681.182	781448.227	2722.657	TN
14131	9978678.091	781431.007	2714.031	TN
14132	9978682.990	781443.639	2723.188	TN
14133	9978682.852	781427.411	2722.990	TN
14134	9978686.427	781430.445	2727.304	TN
14135	9978689.781	781425.988	2730.419	TN
14136	9978679.249	781444.176	2720.747	TN
14137	9978677.145	781449.707	2718.562	TN
14138	9978674.369	781454.461	2718.309	TN
14139	9978673.188	781460.740	2717.212	TN
14140	9978672.128	781465.999	2717.101	TN
14141	9978690.176	781443.702	2729.657	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14142	9978671.411	781471.436	2715.491	TN
14143	9978670.805	781477.606	2714.930	TN
14144	9978668.546	781447.878	2729.168	TN
14145	9978670.323	781483.770	2725.162	TN
14146	9978664.652	781457.323	2727.315	TN
14147	9978662.430	781465.127	2725.814	TN
14148	9978673.831	781486.637	2721.195	TN
14149	9978674.700	781484.106	2721.901	TN
14150	9978662.468	781470.640	2726.938	TN
14151	9978673.607	781488.231	2721.855	TN
14152	9978662.372	781475.521	2726.700	TN
14153	9978660.683	781479.679	2727.628	TN
14154	9978677.947	781484.185	2727.736	TN
14155	9978675.335	781493.189	2719.051	TN
14156	9978672.318	781499.903	2718.585	TN
14157	9978669.802	781504.898	2717.535	TN
14158	9978665.306	781508.166	2718.296	TN
14159	9978662.721	781512.214	2718.749	TN
14160	9978659.288	781516.808	2718.516	TN
14161	9978676.443	781501.572	2727.051	TN
14162	9978656.596	781519.617	2717.279	TN
14163	9978652.043	781523.351	2717.774	TN
14164	9978672.803	781509.350	2725.378	TN
14165	9978648.872	781528.410	2717.661	TN
14166	9978667.204	781517.795	2724.052	TN
14167	9978665.521	781521.796	2724.525	TN
14168	9978663.071	781524.648	2724.050	TN
14169	9978661.678	781529.832	2726.126	TN
14170	9978658.021	781537.940	2727.605	TN
14171	9978662.313	781552.715	2728.086	TN
14172	9978661.761	781540.788	2731.166	TN
14173	9978665.843	781532.816	2730.271	TN
14174	9978669.708	781532.652	2732.152	TN
14175	9978665.085	781543.588	2734.928	TN
14176	9978670.783	781532.194	2732.329	TN
14177	9978672.437	781534.078	2734.461	TN
14178	9978674.003	781536.336	2736.737	TN
14179	9978670.254	781546.711	2740.307	TN
14180	9978676.857	781538.178	2739.694	TN
14181	9978679.830	781540.288	2741.897	TN
14182	9978672.293	781548.988	2743.740	TN
14183	9978681.852	781541.978	2745.234	TN
14184	9978675.186	781550.346	2746.287	TN
14185	9978683.331	781544.814	2748.192	TN
14186	9978676.133	781553.080	2748.952	TN
14187	9978683.522	781544.582	2748.216	TN
14188	9978685.409	781547.093	2751.064	TN
14189	9978677.537	781553.861	2750.144	TN
14190	9978688.387	781547.688	2754.242	TN
14191	9978682.321	781555.979	2754.525	TN
14194	9978623.191	781623.675	2750.363	AUX 3 TANQUE
14195	9978623.191	781623.675	2750.363	AUX 3 TANQUE
14196	9978700.136	781522.072	2756.150	TOP
14197	9978631.506	781626.763	2751.826	PIE
14198	9978630.080	781622.801	2751.164	TN
14199	9978620.169	781627.644	2750.468	TN
14200	9978629.520	781638.638	2752.970	PIE
14201	9978610.063	781631.142	2750.086	TN
14202	9978625.810	781643.686	2751.944	PIE
14203	9978627.272	781636.272	2750.408	TN
14204	9978627.288	781649.849	2751.657	PIE
14205	9978629.285	781641.126	2749.697	TN
14206	9978627.458	781653.174	2751.363	PIE
14207	9978622.092	781644.592	2750.033	TN
14208	9978610.811	781655.069	2753.755	PIE
14209	9978627.936	781660.808	2754.267	PIE
14210	9978631.936	781647.148	2750.011	TN
14211	9978625.230	781667.075	2755.684	TN
14212	9978572.127	781651.888	2750.049	TN
14213	9978601.178	781669.984	2755.962	PIE
14214	9978603.142	781660.113	2752.455	PIE
14215	9978595.965	781653.627	2750.255	TN
14216	9978588.934	781657.381	2747.907	TN
14217	9978598.493	781659.988	2751.731	PIE
14218	9978598.079	781673.188	2751.506	PIE
14219	9978575.972	781666.419	2747.338	TN
14220	9978586.940	781676.136	2748.953	PIE
14221	9978579.011	781679.260	2748.218	PIE
14222	9978571.850	781678.026	2747.876	PIE





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14223	9978601.826	781649.537	2750.388	TN
14224	9978605.927	781647.253	2749.747	TN
14225	9978610.910	781645.184	2751.452	TN
14226	9978614.715	781643.149	2750.175	TN
14227	9978612.652	781643.548	2750.678	TN
14228	9978619.990	781636.626	2752.587	TN
14229	9978625.764	781629.885	2751.620	TN
14230	9978768.305	781329.416	2804.727	TN
14231	9978771.257	781323.154	2805.891	TN
14232	9978772.652	781319.144	2805.121	TN
14233	9978774.847	781313.181	2805.619	TN
14234	9978775.646	781306.303	2805.447	TN
14235	9978773.886	781299.173	2802.230	TN
14236	9978773.054	781292.712	2801.879	TN
14237	9978757.469	781332.095	2799.582	TN
14238	9978755.768	781338.906	2800.505	TN
14239	9978760.197	781341.205	2804.146	TN
14240	9978761.304	781346.806	2807.558	TN
14241	9978762.274	781353.778	2811.120	TN
14242	9978761.834	781300.061	2812.725	TN
14243	9978765.158	781364.908	2816.771	TN
14244	9978763.400	781373.434	2815.449	TN
14245	9978760.562	781382.435	2813.984	TN
14246	9978759.415	781389.553	2812.826	TN
14247	9978758.332	781394.726	2812.232	TN
14248	9978760.385	781400.254	2811.157	TN
14249	9978761.182	781407.949	2810.305	TN
14250	9978756.838	781417.389	2805.532	TN
14251	9978757.441	781424.593	2808.679	TN
14252	9978755.081	781434.388	2806.913	TN
14253	9978754.634	781439.600	2806.341	TN
14254	9978751.204	781445.275	2803.791	TN
14255	9978749.551	781451.960	2802.753	TN
14256	9978748.129	781457.569	2803.368	TN
14257	9978745.853	781462.637	2804.752	TN
14258	9978745.198	781464.714	2805.583	TN
14259	9978744.803	781468.755	2803.295	TN
14260	9978744.190	781473.918	2801.980	TN
14261	9978743.213	781477.411	2802.928	TN
14262	9978742.678	781482.482	2800.980	TN
14263	9978743.548	781488.519	2800.762	TN
14264	9978743.758	781492.690	2799.489	TN
14265	9978740.550	781497.342	2798.813	TN
14266	9978738.925	781505.126	2794.671	TN
14267	9978736.002	781511.500	2794.406	TN
14268	9978735.983	781516.115	2794.057	TN
14269	9978730.513	781519.847	2792.261	TN
14270	9978844.421	781104.839	2815.011	CRUSE CABLE
14273	9978843.980	781024.850	2775.519	EJE
14274	9978834.859	781042.706	2777.192	EJE
14275	9978830.120	781051.639	2778.247	EJE
14276	9978852.920	781007.170	2774.537	EJE
14277	9978865.950	780969.422	2772.361	EJE
14278	9978867.779	780949.455	2771.950	EJE
14279	9978867.408	780929.360	2772.327	EJE
14280	9978866.124	780909.503	2772.604	EJE
14281	9978864.968	780889.513	2772.836	EJE
14282	9978865.105	780869.598	2772.459	EJE
14283	9978617.194	781498.355	2682.548	TN
14284	9978617.201	781498.321	2681.538	TN
14285	9978614.088	781500.840	2680.587	TN
14286	9978619.540	781497.336	2679.959	TN
14287	9978621.714	781497.641	2682.020	TN
14288	9978613.519	781495.187	2678.251	TN
14289	9978623.575	781497.362	2681.661	TN
14290	9978617.392	781493.548	2675.961	TN
14291	9978626.089	781494.876	2680.837	TN
14292	9978628.228	781491.816	2680.848	TN
14293	9978621.460	781489.943	2675.236	TN
14294	9978621.378	781489.927	2675.318	TN
14295	9978668.976	780850.040	2772.625	TN
14296	9978632.052	781489.282	2684.045	TN
14297	9978623.948	781488.008	2677.448	TN
14298	9978627.293	781485.599	2679.850	TN
14299	9978630.005	781485.874	2681.372	EJE
14300	9978632.593	781480.647	2680.822	EJE
14301	9978639.466	781482.464	2684.527	TN
14302	9978630.967	781481.199	2680.545	TN
14303	9978641.224	781479.544	2685.208	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14304	9978642.308	781477.181	2686.679	TN
14305	9978645.830	781475.622	2686.247	TN
14306	9978638.466	781478.874	2679.179	TN
14307	9978649.593	781475.246	2686.331	TN
14308	9978649.593	781475.248	2686.334	TN
14309	9978639.436	781472.191	2681.413	TN
14310	9978652.244	781470.585	2687.442	TN
14311	9978646.078	781469.947	2681.613	TN
14312	9978650.122	781466.664	2680.341	TN
14313	9978637.525	781470.832	2677.984	EJE
14314	9978634.761	781469.652	2675.213	TN
14315	9978629.753	781477.062	2677.758	TN
14316	9978625.047	781479.549	2676.014	TN
14317	9978635.546	781474.571	2672.881	TN
14318	9978621.338	781481.862	2675.129	TN
14319	9978631.346	781466.974	2673.648	TN
14320	9978630.401	781471.982	2669.061	TN
14321	9978618.754	781485.181	2673.065	TN
14322	9978623.339	781474.828	2671.181	TN
14323	9978617.975	781487.588	2670.828	TN
14324	9978618.198	781478.000	2672.308	TN
14325	9978615.321	781488.588	2670.360	TN
14326	9978615.068	781481.191	2670.001	TN
14327	9978613.677	781490.147	2671.788	TN
14328	9978611.128	781486.357	2665.581	TN
14329	9978612.256	781492.105	2670.718	TN
14330	9978607.758	781488.013	2663.316	TN
14331	9978608.736	781494.340	2670.912	TN
14332	9978608.501	781494.819	2667.114	TN
14333	9978608.294	781494.781	2667.151	FQ
14334	9978605.743	781493.544	2663.611	FQ
14335	9978605.984	781490.443	2663.947	TN
14336	9978601.715	781488.216	2662.159	TN
14337	9978603.853	781486.832	2662.030	TN
14338	9978597.556	781485.903	2659.354	TN
14339	9978606.486	781485.182	2661.605	TN
14340	9978608.810	781481.349	2663.409	TN
14341	9978599.384	781483.274	2655.828	FQ
14342	9978609.840	781477.837	2665.466	TN
14343	9978601.602	781476.332	2659.526	TN
14344	9978612.776	781474.845	2669.036	TN
14345	9978604.542	781470.102	2659.768	TN
14346	9978612.214	781471.879	2665.152	TN
14347	9978598.158	781467.886	2656.040	TN
14348	9978606.203	781473.962	2662.579	TN
14349	9978607.072	781471.230	2661.653	TN
14350	9978598.699	781481.225	2654.434	FQ
14351	9978603.751	781486.694	2656.020	TN
14352	9978603.747	781466.786	2655.935	TN
14353	9978593.462	781483.185	2655.637	TN
14354	9978600.021	781466.751	2654.409	TN
14355	9978598.428	781480.751	2651.595	TN
14356	9978599.558	781463.679	2651.600	TN
14357	9978594.989	781466.624	2654.356	TN
14358	9978593.003	781477.324	2649.178	FQ
14359	9978591.529	781467.183	2652.161	TN
14360	9978592.159	781471.765	2652.596	TN
14361	9978591.217	781478.570	2648.584	FQ
14362	9978590.899	781478.772	2648.051	FQ
14363	9978598.413	781471.393	2648.198	FQ
14364	9978592.113	781468.712	2650.275	TN
14365	9978592.77	781475.070	2642.619	FQ
14366	9978588.438	781467.430	2649.347	TN
14367	9978585.440	781466.772	2646.211	TN
14368	9978584.886	781470.889	2646.227	TN
14369	9978589.325	781474.864	2641.063	FQ
14370	9978580.397	781470.146	2643.491	TN
14371	9978581.847	781465.516	2644.495	TN
14372	9978578.175	781463.235	2643.070	TN
14373	9978577.710	781467.022	2641.799	TN
14374	9978576.429	781475.392	2638.502	FQ
14375	9978576.853	781470.949	2638.832	TN
14376	9978576.217	781480.857	2649.138	TN
14377	9978583.440	781480.577	2649.805	TN
14378	9978588.679	781481.653	2652.457	TN
14379	9978595.660	781484.965	2659.067	TN
14380	9978602.433	781495.303	2667.635	TN
14381	9978594.765	781487.422	2664.956	TN
14382	9978601.471	781496.234	2673.349	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14383	9978592.292	781492.548	2670.741	TN
14384	9978617.175	781506.031	2689.967	TN
14385	9978618.054	781508.250	2692.367	EJE
14386	9978618.175	781510.374	2694.412	TN
14387	9978621.911	781502.712	2689.709	EJE
14388	9978620.934	781507.478	2692.733	TN
14389	9978626.459	781499.206	2686.895	TN
14390	9978624.228	781504.879	2691.554	TN
14391	9978631.499	781496.023	2687.187	TN
14392	9978628.098	781502.535	2689.951	TN
14393	9978634.531	781494.405	2686.477	TN
14394	9978632.481	781499.027	2689.649	TN
14395	9978637.783	781497.369	2681.826	TN
14396	9978636.388	781490.595	2688.175	TN
14397	9978639.527	781493.303	2693.653	TN
14398	9978638.801	781486.975	2687.825	TN
14399	9978642.288	781490.183	2693.860	TN
14400	9978642.786	781484.649	2688.678	TN
14401	9978645.034	781487.321	2692.507	TN
14402	9978644.889	781480.076	2688.278	TN
14403	9978647.421	781484.568	2691.592	TN
14404	9978647.987	781483.886	2690.585	TN
14405	9978650.120	781479.069	2689.690	TN
14406	9978653.417	781474.199	2690.053	TN
14407	9978650.396	781481.263	2693.415	TN
14408	9978656.055	781470.231	2691.080	TN
14409	9978654.312	781478.245	2695.197	TN
14410	9978659.803	781472.666	2696.984	TN
14411	9978664.272	781480.511	2705.395	TN
14412	9978660.049	781461.968	2700.048	TN
14413	9978677.343	780931.742	2711.218	TN
14414	9978661.783	781491.521	2705.019	TN
14415	9978658.739	781495.192	2706.005	TN
14416	9978656.249	781488.413	2699.566	TN
14417	9978654.705	781497.628	2705.827	TN
14418	9978651.350	781491.971	2698.917	TN
14419	9978650.838	781499.309	2705.315	TN
14420	9978648.611	781494.597	2700.976	TN
14421	9978648.123	781504.324	2705.043	TN
14422	9978644.232	781498.954	2701.226	TN
14423	9978647.939	781503.675	2699.940	TN
14424	9978633.815	781516.492	2703.464	TN
14425	9978638.029	781507.320	2699.867	TN
14426	9978632.491	781511.727	2700.268	TN
14427	9978643.732	781516.473	2707.891	TN
14428	9978645.752	781521.652	2711.801	TN
14429	9978657.218	781499.827	2708.649	TN
14430	9978665.135	781490.488	2710.064	TN
14431	9978652.119	781514.854	2710.763	TN
14432	9978653.986	781512.041	2712.041	TN
14433	9978666.527	781479.056	2710.811	TN
14434	9978668.247	781472.739	2711.062	TN
14435	9978657.405	781505.863	2712.926	TN
14436	9978668.700	781461.608	2713.592	TN
14437	9978668.059	781455.247	2712.941	TN
14438	9978668.403	781500.269	2715.339	TN
14439	9978669.988	781449.386	2713.827	TN
14440	9978672.380	781443.917	2714.214	TN
14441	9978673.329	781439.801	2714.886	TN
14442	9978670.320	781490.390	2716.781	TN
14443	9978676.730	781466.347	2721.045	TN
14444	9978679.575	781455.567	2722.605	TN
14445	9978677.752	781437.628	2718.120	TN
14446	9978681.182	781448.227	2722.657	TN
14447	9978678.091	781431.007	2718.032	TN
14448	9978682.990	781443.639	2723.188	TN
14449	9978682.852	781427.411	2722.990	TN
14450	9978686.427	781430.445	2727.304	TN
14451	9978689.781	781425.988	2730.419	TN
14452	9978679.249	781444.176	2720.747	TN
14453	9978677.145	781449.707	2718.562	TN
14454	9978674.969	781454.461	2718.309	TN
14455	9978673.188	781460.740	2717.212	TN
14456	9978672.128	781465.999	2717.101	TN
14457	9978690.176	781443.702	2729.657	TN
14458	9978671.411	781471.438	2715.491	TN
14459	9978670.805	781477.606	2714.930	TN
14460	9978688.346	781447.878	2729.168	TN
14461	9978670.323	781483.770	2715.162	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14462	9978684.652	781457.323	2727.315	TN
14463	9978682.430	781465.127	2725.814	TN
14464	9978673.831	781486.617	2721.195	TN
14465	9978674.700	781484.106	2721.901	TN
14466	9978682.468	781470.640	2726.938	TN
14467	9978673.607	781488.231	2721.855	TN
14468	9978682.372	781475.521	2726.705	TN
14469	9978680.683	781479.639	2727.628	TN
14470	9978677.947	781484.185	2727.736	TN
14471	9978673.335	781493.189	2719.651	TN
14472	9978672.318	781499.903	2718.585	TN
14473	9978669.802	781504.898	2717.535	TN
14474	9978665.306	781508.168	2718.296	TN
14475	9978662.721	781512.214	2718.749	TN
14476	9978659.288	781516.808	2718.516	TN
14477	9978676.443	781501.572	2727.051	TN
14478	9978656.596	781519.617	2717.279	TN
14479	9978652.045	781523.351	2717.774	TN
14480	9978672.803	781509.350	2725.378	TN
14481	9978648.872	781528.410	2717.661	TN
14482	9978667.204	781517.755	2724.052	TN
14483	9978665.521	781521.796	2724.525	TN
14484	9978663.071	781528.648	2724.090	TN
14485	9978661.678	781529.832	2726.136	TN
14486	9978658.021	781537.940	2727.605	TN
14487	9978662.513	781532.715	2728.086	TN
14488	9978661.761	781540.748	2731.166	TN
14489	9978665.843	781532.816	2730.271	TN
14490	9978669.708	781532.652	2732.152	TN
14491	9978665.085	781543.588	2734.928	TN
14492	9978670.783	781532.194	2732.325	TN
14493	9978672.437	781534.078	2734.461	TN
14494	9978674.003	781536.336	2736.737	TN
14495	9978670.254	781546.711	2740.307	TN
14496	9978676.857	781538.718	2739.694	TN
14497	9978679.830	781540.288	2741.897	TN
14498	9978672.291	781548.988	2743.740	TN
14499	9978681.851	781541.978	2745.224	TN
14500	9978675.186	781550.346	2746.287	TN
14501	9978683.331	781544.814	2748.192	TN
14502	9978676.139	781553.080	2748.952	TN
14503	9978683.322	781544.832	2748.216	TN
14504	9978685.409	781547.093	2751.064	TN
14505	9978677.557	781553.861	2750.144	TN
14506	9978688.387	781547.688	2754.242	TN
14507	9978682.321	781555.979	2754.525	TN
14508	9978530.694	781708.927	2749.192	TN
14509	9978533.932	781719.512	2755.470	TN
14510	9978534.175	781702.710	2749.342	TN
14511	9978541.943	781713.609	2758.516	TN
14512	9978537.791	781697.189	2749.580	TN
14513	9978547.668	781707.809	2761.856	TN
14514	9978542.531	781693.088	2749.837	TN
14515	9978555.535	781703.435	2760.075	TN
14516	9978546.064	781690.050	2750.083	TN
14517	9978563.568	781698.823	2761.008	TN
14518	9978569.266	781692.808	2760.586	TN
14519	9978562.905	781686.290	2750.671	TN
14520	9978575.752	781686.462	2761.197	TN
14521	9978569.986	781687.573	2761.358	TN
14522	9978563.686	781684.099	2750.666	TN
14523	9978561.291	781682.686	2763.136	TN
14524	9978560.899	781678.010	2748.959	TN
14525	9978560.767	781683.622	2763.459	TN
14526	9978560.418	781681.639	2763.471	TN
14527	9978560.320	781681.179	2763.619	TN
14528	9978560.421	781679.231	2752.488	TN
14529	9978564.411	781695.572	2765.180	TN
14530	9978572.005	781681.415	2754.320	TN
14531	9978581.648	781701.918	2767.364	TN
14532	9978581.481	781701.924	2767.401	TN
14533	9978567.429	781687.247	2755.163	TN
14534	9978577.078	781706.251	2772.565	TN
14535	9978563.374	781692.240	2755.608	TN
14536	9978561.888	781693.549	2755.788	TN
14537	9978575.818	781710.191	2776.021	TN
14538	9978555.886	781698.692	2757.019	TN
14539	9978542.957	781706.610	2760.029	TN
14540	9978550.546	781702.354	2757.975	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14541	9978546.815	781704.050	2759.587	TN
14542	9978507.299	781675.912	2744.981	BD
14543	9978507.919	781671.381	2742.519	TN
14544	9978511.546	781671.123	2744.945	BD
14545	9978511.096	781665.810	2741.352	TN
14546	9978515.770	781666.341	2744.969	BD
14547	9978512.853	781661.550	2741.342	TN
14548	9978518.626	781661.030	2745.950	BD
14549	9978517.798	781656.350	2741.220	TN
14550	9978524.413	781655.439	2745.673	BD
14551	9978522.834	781648.958	2740.432	TN
14552	9978530.903	781650.095	2746.014	BD
14553	9978528.381	781642.261	2738.779	TN
14554	9978536.938	781643.434	2746.465	BD
14555	9978529.774	781639.667	2738.131	TN
14556	9978542.027	781635.047	2746.495	BD
14557	9978545.028	781628.045	2746.578	BD
14558	9978550.547	781625.051	2747.348	BD
14559	9978555.435	781622.268	2746.907	BD
14560	9978535.510	781634.301	2740.147	TN
14561	9978559.598	781620.840	2746.511	BD
14562	9978539.389	781627.369	2740.303	TN
14563	9978543.429	781619.560	2739.644	TN
14564	9978549.477	781615.071	2738.654	TN
14565	9978558.524	781611.964	2739.789	TN
14566	9978553.896	781610.944	2737.102	TN
14567	9978548.383	781600.815	2728.638	TN
14568	9978552.291	781605.869	2733.164	TN
14569	9978544.323	781611.092	2733.631	TN
14570	9978545.140	781603.428	2727.431	TN
14571	9978599.213	781613.928	2733.076	TN
14572	9978536.664	781608.344	2728.249	TN
14573	9978532.258	781620.576	2732.124	TN
14574	9978532.159	781613.052	2727.084	TN
14575	9978527.429	781618.263	2726.271	TN
14576	9978529.211	781629.981	2732.439	TN
14577	9978534.209	781624.813	2726.690	TN
14578	9978526.060	781626.166	2733.370	TN
14579	9978518.648	781629.021	2722.649	TN
14580	9978522.574	781641.267	2733.028	TN
14581	9978517.796	781646.409	2733.576	TN
14582	9978512.416	781651.950	2734.240	TN
14583	9978516.186	781634.914	2723.610	TN
14584	9978512.966	781641.610	2724.942	TN
14585	9978512.009	781656.819	2736.044	TN
14586	9978507.466	781648.658	2723.442	TN
14587	9978506.205	781653.169	2733.038	TN
14588	9978504.578	781634.349	2726.050	TN
14589	9978502.184	781646.177	2732.120	TN
14590	9978502.201	781658.794	2725.815	TN
14591	9978498.778	781670.616	2731.560	TN
14592	9978496.125	781674.451	2730.966	TN
14593	9978496.799	781663.571	2725.779	TN
14594	9978497.676	781663.347	2725.583	TN
14595	9978492.490	781670.479	2727.052	TN
14596	9978491.370	781664.795	2719.261	TN
14597	9978489.162	781662.923	2713.592	TN
14598	9978490.014	781656.601	2710.088	TN
14599	9978480.244	781662.052	2701.200	TN
14600	9978404.522	781651.433	2709.315	TN
14601	9978484.438	781650.884	2699.831	TN
14602	9978488.801	781645.165	2702.421	TN
14603	9978493.469	781636.423	2704.485	TN
14604	9978495.284	781629.819	2703.052	TN
14605	9978499.803	781638.436	2710.374	TN
14606	9978500.273	781622.235	2705.932	TN
14607	9978505.993	781629.604	2711.349	TN
14608	9978505.410	781612.261	2709.790	TN
14609	9978509.112	781619.504	2713.247	TN
14610	9978514.007	781613.132	2713.298	TN
14611	9978519.090	781605.843	2714.488	TN
14612	9978513.595	781598.651	2708.022	TN
14613	9978521.052	781602.400	2713.884	TN
14614	9978517.546	781598.403	2709.557	TN
14615	9978504.797	781596.303	2700.897	TN
14616	9978498.023	781593.643	2695.625	TN
14617	9978500.410	781604.876	2698.957	TN
14618	9978498.504	781607.664	2699.574	TN
14619	9978495.086	781604.468	2694.601	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14620	9978493.562	781609.828	2693.755	TN
14621	9978499.702	781614.419	2701.420	TN
14622	9978499.567	781616.717	2691.116	TN
14623	9978484.108	781623.491	2691.996	TN
14624	9978492.650	781623.447	2696.575	TN
14625	9978481.195	781629.853	2694.057	TN
14626	9978489.248	781630.485	2699.371	TN
14627	9978478.773	781635.116	2694.470	TN
14628	9978489.645	781637.472	2701.691	TN
14629	9978475.969	781641.860	2693.248	TN
14630	9978485.753	781645.459	2700.334	TN
14631	9978474.301	781647.859	2692.047	TN
14632	9978474.555	781647.907	2692.825	TN
14633	9978479.510	781652.423	2696.115	TN
14634	9978473.335	781653.196	2691.704	TN
14635	9978552.884	781713.283	2766.352	TN
14636	9978567.627	781704.209	2698.220	TN
14637	9978571.573	781708.973	2775.087	TN
14638	9978558.509	781710.858	2774.586	TN
14639	9978575.803	781710.565	2776.045	BD
14640	9978565.932	781725.081	2773.884	TN
14641	9978569.499	781717.451	2777.532	TN
14642	9978582.714	781702.580	2778.222	BD
14643	9978572.978	781714.246	2778.533	TN
14644	9978585.919	781703.951	2781.734	TN
14645	9978587.191	781693.265	2776.213	BD
14646	9978590.487	781698.826	2780.635	TN
14647	9978596.546	781691.174	2781.670	TN
14648	9978592.603	781689.296	2777.557	BD
14649	9978599.995	781687.081	2780.264	TN
14650	9978596.512	781683.460	2775.653	BD
14651	9978603.182	781684.709	2780.801	TN
14652	9978606.318	781678.083	2780.094	TN
14653	9978602.156	781674.240	2774.693	BD
14654	9978610.495	781673.852	2779.848	TN
14655	9978615.635	781669.387	2779.604	TN
14656	9978608.110	781666.475	2770.987	BD
14657	9978613.213	781657.360	2768.465	BD
14658	9978621.238	781663.388	2777.834	TN
14659	9978624.426	781660.025	2778.093	TN
14660	9978625.958	781657.650	2777.325	TN
14661	9978619.844	781653.777	2768.984	BD
14662	9978625.657	781651.617	2772.078	BD
14663	9978629.229	781653.191	2774.713	TN
14664	9978633.062	781649.294	2773.300	TN
14665	9978630.707	781646.910	2769.950	BD
14666	9978631.057	781646.409	2769.451	BD
14667	9978729.329	781472.474	2786.372	BD
14668	9978726.320	781485.182	2783.603	BD
14669	9978630.832	781641.734	2763.466	BD
14670	9978636.359	781644.197	2771.164	TN
14671	9978703.085	781542.479	2788.490	BD
14672	9978707.538	781556.067	2771.926	BD
14673	9978715.901	781545.254	2780.040	BD
14674	9978638.581	781638.706	2769.941	TN
14675	9978632.923	781634.148	2761.717	BD
14676	9978718.825	781534.823	2783.995	BD
14677	9978722.877	781535.551	2784.122	BD
14678	9978722.889	781521.982	2782.928	BD
14679	9978724.735	781513.800	2784.373	BD
14680	9978721.621	781500.618	2779.810	BD
14681	9978721.625	781488.650	2779.861	BD
14682	9978721.629	781481.099	2783.516	BD
14683	9978721.628	781631.477	2766.906	TN
14684	9978721.628	781628.821	2760.485	BD
14685	9978721.628	781480.156	2783.273	BD
14686	9978721.628	781471.704	2786.799	BD
14687	9978721.628	781480.753	2783.528	BD
14688	9978730.062	781470.872	2787.052	BD
14689	9978729.800	781462.369	2783.216	BD
14690	9978738.448	781450.336	2789.616	BD
14691	9978742.711	781441.728	2794.803	BD
14692	9978741.163	781424.813	2788.710	BD
14693	9978742.468	781410.687	2789.457	BD
14694	9978744.126	781404.381	2793.418	BD
14695	9978743.788	781394.198	2793.141	BD
14696	9978743.795	781382.228	2792.138	BD
14697	9978746.877	781372.781	2794.047	BD
14698	9978728.827	781318.033	2747.958	BD





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14699	9978752.262	781268.885	2786.175	BD
14700	9978756.268	781262.067	2787.836	BD
14701	9978748.977	781276.773	2785.039	BD
14702	9978747.818	781283.128	2784.123	BD
14703	9978746.903	781286.387	2783.639	BD
14704	9978747.549	781291.857	2784.250	BD
14705	9978748.852	781300.391	2786.007	BD
14706	9978749.086	781307.265	2786.700	BD
14707	9978749.358	781310.304	2787.585	BD
14708	9978748.186	781316.197	2788.995	BD
14709	9978749.983	781326.762	2793.512	BD
14710	9978748.326	781335.596	2795.815	BD
14711	9978752.450	781341.971	2799.947	BD
14712	9978756.654	781347.771	2805.156	BD
14713	9978757.389	781355.689	2808.608	BD
14714	9978759.676	781366.663	2812.421	BD
14715	9978758.817	781376.864	2811.971	BD
14716	9978837.239	781624.358	2760.911	BD
14717	9978846.371	781628.820	2769.198	TN
14718	9978851.643	781622.471	2769.820	TN
14719	9978702.402	781563.567	2767.686	BD
14720	9978699.556	781568.827	2763.605	BD
14721	9978695.629	781571.375	2760.924	BD
14722	9978658.229	781617.006	2771.236	TN
14723	9978641.875	781617.424	2760.170	BD
14724	9978687.615	781578.132	2762.402	BD
14725	9978673.112	781590.810	2762.498	BD
14726	9978667.023	781595.566	2761.397	BD
14727	9978663.008	781599.299	2761.031	BD
14728	9978664.286	781612.245	2772.482	BD
14729	9978646.540	781613.886	2761.091	BD
14730	9978653.664	781606.297	2761.444	BD
14731	9978669.585	781607.987	2772.202	TN
14732	9978652.797	781609.702	2762.481	BD
14733	9978674.356	781604.088	2773.291	TN
14734	9978655.197	781611.230	2764.480	TN
14735	9978683.342	781605.942	2779.308	TN
14736	9978686.739	781604.993	2778.926	TN
14737	9978692.958	781606.749	2778.850	BD Q
14738	9978662.922	781608.560	2767.415	TN
14739	9978698.178	781604.300	2773.146	FC
14740	9978678.132	781590.663	2773.564	TN
14741	9978700.785	781601.004	2775.971	BD Q
14742	9978680.036	781596.524	2773.015	BD Q
14743	9978680.835	781594.803	2771.280	BD Q
14744	9978704.206	781595.718	2782.972	BD
14745	9978713.005	781586.894	2787.051	TN
14746	9978689.449	781595.697	2767.149	FC
14747	9978722.133	781580.981	2791.146	TN
14748	9978697.748	781589.815	2775.126	B Q
14749	9978704.628	781583.826	2777.084	TN
14750	9978725.101	781575.772	2791.654	TN
14751	9978708.198	781577.400	2777.303	TN
14752	9978727.364	781566.286	2794.363	TN
14753	9978712.396	781576.421	2778.971	TN
14754	9978730.414	781559.377	2796.718	TN
14755	9978713.445	781567.243	2781.644	TN
14756	9978734.875	781552.408	2800.232	TN
14757	9978738.671	781547.149	2801.624	TN
14758	9978713.896	781569.329	2784.177	TN
14759	9978741.359	781540.037	2802.864	TN
14760	9978742.066	781542.895	2802.761	TN
14761	9978743.526	781527.915	2803.588	TN
14762	9978745.755	781522.708	2805.070	TN
14763	9978746.455	781514.838	2804.872	TN
14764	9978720.311	781559.051	2790.043	TN
14765	9978721.710	781551.434	2790.153	TN
14766	9978747.783	781505.925	2804.004	TN
14767	9978750.876	781499.334	2807.002	TN
14768	9978725.166	781543.966	2791.488	TN
14769	9978752.332	781487.803	2807.654	TN
14770	9978726.572	781538.530	2791.761	TN
14771	9978727.222	781529.654	2790.383	TN
14772	9978753.226	781475.716	2811.681	TN
14773	9978729.318	781525.521	2790.852	TN
14774	9978759.614	781267.643	2782.790	TN
14775	9978767.390	781265.347	2796.662	TN
14776	9978754.182	781466.794	2812.783	TN
14777	9978759.892	781276.258	2792.970	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
14778	9978757.204	781285.776	2792.421	TN
14779	9978756.995	781456.826	2811.947	TN
14780	9978755.817	781272.818	2796.460	TN
14781	9978761.920	781450.991	2812.639	TN
14782	9978765.083	781443.168	2815.675	TN
14783	9978764.761	781436.682	2814.918	TN
14784	9978756.884	781292.105	2791.280	TN
14785	9978765.858	781431.036	2817.266	TN
14786	9978767.909	781422.542	2816.815	TN
14787	9978770.060	781415.860	2818.692	TN
14788	9978768.419	781278.097	2798.657	TN
14789	9978756.278	781300.866	2791.120	TN
14790	9978768.089	781403.537	2819.512	TN
14791	9978768.155	781393.640	2821.804	TN
14792	9978768.094	781380.960	2820.668	TN
14793	9978754.540	781313.664	2792.013	TN
14794	9978769.009	781371.584	2820.157	TN
14795	9978768.309	781284.223	2799.251	TN
14796	9978772.052	781360.421	2819.634	TN
14797	9978773.824	781352.008	2817.738	TN
14798	9978753.732	781321.434	2793.594	TN
14799	9978768.441	781290.081	2799.355	TN
14800	9978752.820	781326.808	2795.232	TN
14801	9978775.064	781343.207	2815.268	PIE
14802	9978888.724	780815.504	2765.723	EJE
14803	9978901.754	780800.185	2763.516	EJE
16118	9978730.675	781111.888	2761.514	PC
16119	9978700.068	781522.009	2756.124	PC
16121	9978730.617	781311.407	2761.478	PC
16122	9978586.492	781290.489	2746.216	TOP
16123	9978581.806	781300.680	2744.237	TOP
16124	9978577.372	781305.971	2743.211	TOP
16125	9978577.349	781305.205	2738.706	TOP
16126	9978581.800	781300.162	2739.581	TOP
16127	9978586.498	781289.771	2741.415	TOP
16128	9978591.387	781286.996	2741.921	TOP
16129	9978597.220	781267.610	2745.382	TOP
16130	9978602.711	781264.397	2746.006	TOP
16131	9978615.932	781341.615	2744.257	TOP
16132	9978591.360	781287.954	2744.208	TOP
16133	9978586.487	781290.939	2743.777	TOP
16134	9978581.799	781300.096	2741.965	TOP
16135	9978577.366	781305.781	2740.910	TOP
16136	9978573.558	781319.243	2743.914	TOP
16137	9978577.385	781306.075	2733.942	TOP
16138	9978611.811	781300.591	2734.789	TOP
16139	9978586.507	781288.918	2736.609	TOP
16140	9978591.438	781285.534	2737.152	TOP
16141	9978596.996	781272.109	2738.279	TOP
16142	9978602.857	781265.173	2740.411	TOP
16143	9978608.240	781262.373	2740.923	TOP
16144	9978615.928	781241.645	2744.260	TOP
16145	9978635.582	781229.944	2737.184	TOP
16146	9978628.344	781237.115	2736.144	TOP
16147	9978621.953	781240.318	2735.628	TOP
16148	9978613.575	781263.085	2732.668	TOP
16149	9978608.329	781261.379	2732.816	TOP
16150	9978602.730	781264.052	2732.428	TOP
16151	9978596.978	781272.909	2731.318	TOP
16152	9978591.452	781284.648	2729.770	TOP
16153	9978596.910	781288.555	2729.268	TOP
16154	9978591.806	781299.595	2727.885	TOP
16155	9978577.445	781309.511	2726.647	TOP
16156	9978573.578	781318.574	2725.533	BDP
16157	9978585.243	781326.583	2724.558	TOP
16158	9978591.776	781332.956	2723.848	TOP
16159	9978596.854	781326.665	2718.360	TOP
16160	9978573.498	781317.953	2719.163	TOP
16161	9978577.524	781310.448	2719.862	TOP
16162	9978581.822	781301.161	2720.741	TOP
16163	9978586.474	781292.833	2721.532	TOP
16164	9978591.479	781284.130	2722.368	TOP
16165	9978596.900	781274.034	2723.347	TOP
16166	9978602.628	781265.775	2724.162	TOP
16167	9978608.113	781268.921	2724.886	TOP
16168	9978613.583	781262.892	2724.535	TOP
16169	9978619.051	781262.623	2724.622	TOP
16170	9978628.201	781238.109	2727.050	TOP
16171	9978634.930	781233.839	2727.559	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16172	9978641.885	781229.487	2728.085	TOP
16173	9978647.568	781232.115	2727.947	TOP
16174	9978696.819	781221.136	2720.348	TOP
16175	9978656.512	781220.649	2719.614	TOP
16176	9978647.289	781233.461	2718.672	TOP
16177	9978640.970	781234.144	2718.548	TOP
16178	9978694.433	781236.657	2718.304	TOP
16179	9978625.129	781258.529	2716.808	TOP
16180	9978619.106	781262.154	2716.520	TOP
16181	9978613.585	781262.993	2716.423	TOP
16182	9978608.086	781264.232	2716.301	TOP
16183	9978602.587	781266.261	2716.142	TOP
16184	9978596.683	781278.579	2715.325	TOP
16185	9978591.462	781283.839	2714.962	TOP
16186	9978586.445	781295.852	2714.177	TOP
16187	9978581.825	781302.045	2713.775	TOP
16188	9978577.535	781310.999	2713.196	TOP
16189	9978573.503	781318.162	2712.736	TOP
16190	9978569.855	781326.745	2712.201	TOP
16191	9978566.311	781332.757	2711.837	TOP
16192	9978563.101	781339.794	2711.399	TOP
16193	9978560.044	781345.896	2705.442	TOP
16194	9978563.487	781344.957	2705.459	TOP
16195	9978566.613	781336.030	2705.762	TOP
16196	9978570.131	781330.529	2705.943	TOP
16197	9978573.651	781320.885	2706.270	TOP
16198	9978577.636	781314.133	2706.498	TOP
16199	9978581.892	781307.430	2706.728	TOP
16200	9978586.432	781297.830	2707.067	TOP
16201	9978591.409	781286.679	2707.458	TOP
16202	9978596.467	781282.864	2707.598	TOP
16203	9978602.382	781269.796	2708.080	TOP
16204	9978607.903	781266.328	2708.199	TOP
16205	9978613.299	781265.533	2708.251	TOP
16206	9978618.156	781261.919	2708.400	TOP
16207	9978625.128	781258.535	2708.546	TOP
16208	9978631.514	781253.739	2708.751	TOP
16209	9978639.433	781242.263	2709.195	TOP
16210	9978646.657	781236.470	2709.442	TOP
16211	9978654.254	781230.338	2709.702	TOP
16212	9978661.857	781221.580	2710.447	TOP
16213	9978701.860	781226.344	2710.355	TOP
16214	9978705.384	781234.911	2710.131	TOP
16215	9978713.223	781248.447	2700.506	TOP
16216	9978708.155	781242.208	2700.526	TOP
16217	9978704.227	781237.728	2700.537	TOP
16218	9978700.496	781229.844	2700.566	TOP
16219	9978695.501	781224.772	2700.572	TOP
16220	9978690.354	781219.697	2700.587	TOP
16221	9978681.658	781226.180	2700.510	TOP
16222	9978653.437	781238.110	2700.436	TOP
16223	9978643.616	781250.725	2700.368	TOP
16224	9978637.053	781254.657	2700.345	TOP
16225	9978630.566	781259.312	2700.315	TOP
16226	9978624.575	781262.115	2700.291	TOP
16227	9978618.942	781263.459	2700.281	TOP
16228	9978613.183	781266.644	2700.256	TOP
16229	9978607.554	781270.141	2700.237	TOP
16230	9978601.950	781275.392	2700.210	TOP
16231	9978596.389	781284.590	2700.165	TOP
16232	9978591.320	781289.497	2700.135	TOP
16233	9978586.406	781299.907	2700.085	TOP
16234	9978581.514	781310.089	2700.037	TOP
16235	9978577.738	781317.524	2700.001	TOP
16236	9978573.842	781324.687	2699.969	TOP
16237	9978570.135	781330.855	2699.942	TOP
16238	9978567.716	781348.315	2699.853	TOP
16239	9978564.204	781349.628	2699.851	TOP
16240	9978560.756	781351.320	2699.845	TOP
16241	9978561.143	781354.279	2694.518	TOP
16242	9978564.793	781354.951	2694.546	TOP
16243	9978568.246	781354.116	2694.534	TOP
16244	9978571.519	781350.247	2694.443	TOP
16245	9978573.884	781325.513	2693.823	TOP
16246	9978577.851	781320.907	2693.711	TOP
16247	9978581.929	781311.055	2693.468	TOP
16248	9978586.377	781303.457	2693.278	TOP
16249	9978591.236	781292.499	2692.999	TOP
16250	9978596.294	781286.603	2692.845	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16251	9978601.695	781279.225	2692.607	TOP
16252	9978607.370	781272.253	2692.470	TOP
16253	9978613.119	781267.282	2692.331	TOP
16254	9978618.773	781264.856	2692.253	TOP
16255	9978624.467	781262.915	2692.191	TOP
16256	9978630.742	781258.322	2692.052	TOP
16257	9978636.356	781258.356	2692.028	TOP
16258	9978643.419	781251.682	2691.828	TOP
16259	9978650.208	781247.678	2691.699	TOP
16260	9978657.838	781241.261	2691.496	TOP
16261	9978671.587	781234.570	2690.760	TOP
16262	9978684.578	781216.300	2690.714	TOP
16263	9978689.096	781223.419	2690.849	TOP
16264	9978692.812	781232.147	2691.024	TOP
16265	9978698.267	781235.619	2691.066	TOP
16266	9978703.583	781239.296	2691.102	TOP
16267	9978708.059	781244.767	2691.185	TOP
16268	9978712.316	781250.426	2691.278	TOP
16269	9978716.734	781255.340	2691.342	TOP
16270	9978719.786	781262.883	2691.478	TOP
16271	9978705.388	781313.173	2685.300	TOP
16272	9978708.334	781297.122	2684.439	TOP
16273	9978717.499	781267.373	2682.750	TOP
16274	9978714.891	781259.224	2682.411	TOP
16275	9978711.568	781252.040	2682.123	TOP
16276	9978706.951	781247.303	2681.988	TOP
16277	9978700.550	781245.688	2682.035	TOP
16278	9978695.611	781242.472	2681.979	TOP
16279	9978690.600	781238.115	2681.849	TOP
16280	9978687.530	781227.975	2681.371	TOP
16281	9978681.922	781234.573	2681.291	TOP
16282	9978675.779	781222.785	2681.297	TOP
16283	9978667.330	781229.229	2681.760	TOP
16284	9978656.069	781248.133	2682.929	TOP
16285	9978649.654	781250.014	2683.114	TOP
16286	9978643.039	781253.469	2683.375	TOP
16287	9978636.221	781259.021	2683.748	TOP
16288	9978630.328	781260.706	2683.898	TOP
16289	9978624.458	781262.981	2684.074	TOP
16290	9978618.931	781263.581	2684.141	TOP
16291	9978612.951	781268.804	2684.460	TOP
16292	9978607.046	781275.925	2684.899	TOP
16293	9978601.428	781282.951	2685.299	TOP
16294	9978596.173	781288.906	2685.645	TOP
16295	9978591.187	781294.148	2685.946	TOP
16296	9978586.392	781304.958	2686.548	TOP
16297	9978581.054	781313.501	2687.021	TOP
16298	9978577.901	781322.906	2687.532	TOP
16299	9978573.968	781327.296	2687.765	TOP
16300	9978571.362	781348.070	2688.905	TOP
16301	9978568.472	781356.520	2689.357	TOP
16302	9978565.272	781359.381	2689.491	TOP
16303	9978561.580	781357.580	2689.374	TOP
16304	9978561.831	781359.495	2684.292	TOP
16305	9978565.271	781359.265	2684.308	TOP
16306	9978568.246	781354.023	2683.888	TOP
16307	9978571.508	781350.013	2683.568	TOP
16308	9978574.438	781336.431	2682.424	TOP
16309	9978576.267	781324.732	2681.437	TOP
16310	9978571.853	781313.580	2680.496	TOP
16311	9978566.407	781301.353	2679.451	TOP
16312	9978559.299	781291.688	2678.617	TOP
16313	9978556.281	781288.982	2678.198	TOP
16314	9978551.405	781282.606	2677.795	TOP
16315	9978546.282	781277.656	2677.348	TOP
16316	9978541.954	781269.025	2676.581	TOP
16317	9978538.867	781264.133	2676.085	TOP
16318	9978534.564	781262.319	2675.864	TOP
16319	9978530.196	781261.511	2675.719	TOP
16320	9978526.021	781260.093	2675.511	TOP
16321	9978522.850	781254.390	2674.918	TOP
16322	9978528.850	781253.514	2674.740	TOP
16323	9978525.198	781251.804	2674.453	TOP
16324	9978521.400	781250.762	2674.254	TOP
16325	9978517.085	781228.496	2672.128	TOP
16326	9978511.941	781226.414	2671.775	TOP
16327	9978507.583	781227.889	2671.727	TOP
16328	9978503.613	781243.681	2672.977	TOP
16329	9978499.290	781245.901	2672.983	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16330	9978699.767	781248.607	2673.025	TOP
16331	9978706.117	781249.261	2672.865	TOP
16332	9978711.242	781252.786	2672.962	TOP
16333	9978714.681	781259.694	2673.378	TOP
16334	9978715.556	781271.233	2674.227	TOP
16335	9978706.484	781300.593	2676.814	TOP
16336	9978705.267	781313.426	2677.824	TOP
16337	9978701.136	781328.595	2679.080	TOP
16338	9978684.088	781374.077	2677.584	TOP
16339	9978690.818	781355.970	2675.395	TOP
16340	9978701.658	781329.399	2672.112	TOP
16341	9978705.299	781313.344	2670.291	TOP
16342	9978711.954	781290.331	2667.587	TOP
16343	9978716.000	781270.328	2665.312	TOP
16344	9978715.091	781258.827	2664.168	TOP
16345	9978711.280	781252.688	2663.711	TOP
16346	9978705.378	781250.942	2663.797	TOP
16347	9978699.740	781248.673	2663.808	TOP
16348	9978694.006	781246.636	2663.838	TOP
16349	9978687.436	781246.931	2664.120	TOP
16350	9978686.759	781230.272	2662.337	TOP
16351	9978680.222	781229.913	2662.535	TOP
16352	9978669.040	781245.369	2664.626	TOP
16353	9978660.214	781255.000	2665.972	TOP
16354	9978654.576	781254.015	2666.030	TOP
16355	9978647.920	781257.460	2666.600	TOP
16356	9978642.095	781257.941	2666.801	TOP
16357	9978635.882	781260.824	2667.264	TOP
16358	9978629.900	781265.235	2667.662	TOP
16359	9978624.414	781265.312	2667.772	TOP
16360	9978618.778	781264.817	2668.035	TOP
16361	9978612.887	781269.446	2668.643	TOP
16362	9978606.954	781276.959	2669.576	TOP
16363	9978601.459	781282.603	2670.279	TOP
16364	9978596.180	781288.885	2671.041	TOP
16365	9978591.224	781292.913	2671.530	TOP
16366	9978586.414	781300.236	2672.388	TOP
16367	9978581.818	781300.238	2672.456	TOP
16368	9978578.034	781327.257	2675.503	TOP
16369	9978574.302	781333.821	2676.245	TOP
16370	9978570.375	781334.051	2676.306	TOP
16371	9978568.307	781354.688	2678.607	TOP
16372	9978565.310	781359.617	2679.140	TOP
16373	9978562.007	781360.836	2679.234	TOP
16374	9978562.091	781361.444	2674.123	TOP
16375	9978565.285	781359.359	2673.876	TOP
16376	9978568.265	781354.182	2673.166	TOP
16377	9978571.490	781349.704	2672.551	TOP
16378	9978574.781	781343.076	2671.617	TOP
16379	9978577.691	781315.630	2667.623	TOP
16380	9978581.918	781308.972	2666.667	TOP
16381	9978586.408	781300.822	2665.475	TOP
16382	9978591.201	781294.079	2664.476	TOP
16383	9978596.125	781288.110	2663.574	TOP
16384	9978601.552	781281.357	2662.542	TOP
16385	9978607.239	781273.781	2661.371	TOP
16386	9978613.002	781268.400	2660.511	TOP
16387	9978618.673	781265.670	2660.013	TOP
16388	9978624.193	781264.827	2659.781	TOP
16389	9978630.357	781260.648	2659.041	TOP
16390	9978636.047	781259.997	2658.799	TOP
16391	9978641.469	781260.913	2658.773	TOP
16392	9978647.644	781258.673	2658.257	TOP
16393	9978654.038	781256.181	2657.688	TOP
16394	9978660.035	781255.096	2657.394	TOP
16395	9978667.385	781250.966	2656.440	TOP
16396	9978678.156	781236.394	2653.941	TOP
16397	9978684.440	781237.073	2653.746	TOP
16398	9978687.096	781247.887	2655.107	TOP
16399	9978693.482	781247.982	2654.798	TOP
16400	9978699.926	781248.237	2654.485	TOP
16401	9978705.860	781249.869	2654.367	TOP
16402	9978711.407	781252.462	2654.390	TOP
16403	9978715.743	781257.493	2654.786	TOP
16404	9978719.393	781263.688	2655.160	TOP
16405	9978716.520	781281.778	2657.905	TOP
16406	9978705.179	781313.583	2662.776	TOP
16407	9978700.807	781330.888	2665.287	TOP
16408	9978691.164	781355.440	2669.088	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16409	9978681.492	781378.138	2672.652	TOP
16410	9978681.773	781384.206	2673.371	TOP
16411	9978682.451	781389.362	2673.936	TOP
16412	9978666.179	781421.865	2674.979	TOP
16413	9978679.945	781398.637	2670.252	TOP
16414	9978682.304	781380.567	2668.701	TOP
16415	9978681.558	781384.542	2668.042	TOP
16416	9978680.546	781379.607	2667.410	TOP
16417	9978683.219	781368.416	2665.478	TOP
16418	9978699.859	781332.486	2658.515	TOP
16419	9978704.307	781315.143	2655.462	TOP
16420	9978723.301	781269.056	2646.499	TOP
16421	9978721.043	781260.407	2645.518	TOP
16422	9978716.129	781256.694	2645.316	TOP
16423	9978711.955	781251.233	2644.749	TOP
16424	9978706.104	781249.307	2644.860	TOP
16425	9978700.524	781246.726	2644.877	TOP
16426	9978699.377	781245.719	2645.061	TOP
16427	9978687.689	781246.239	2645.563	TOP
16429	9978673.145	781252.054	2647.362	TOP
16430	9978667.561	781250.402	2647.767	TOP
16431	9978660.110	781255.402	2648.582	TOP
16432	9978654.167	781255.646	2648.894	TOP
16433	9978647.506	781259.261	2649.788	TOP
16434	9978641.501	781260.759	2650.278	TOP
16435	9978636.215	781259.091	2650.174	TOP
16436	9978630.516	781259.687	2650.458	TOP
16437	9978624.075	781265.558	2651.659	TOP
16438	9978618.421	781267.606	2652.157	TOP
16439	9978612.892	781269.574	2652.620	TOP
16440	9978607.320	781272.961	2653.308	TOP
16441	9978601.578	781280.902	2654.866	TOP
16442	9978596.167	781289.269	2656.326	TOP
16443	9978591.251	781295.732	2657.504	TOP
16444	9978586.402	781302.060	2658.635	TOP
16445	9978581.506	781307.751	2659.648	TOP
16446	9978577.774	781318.703	2661.566	TOP
16447	9978574.657	781340.878	2665.466	TOP
16448	9978571.459	781349.319	2666.919	TOP
16449	9978568.353	781355.204	2667.914	TOP
16450	9978565.700	781363.146	2669.266	TOP
16451	9978562.176	781362.093	2669.006	TOP
16452	9978562.217	781362.411	2663.804	TOP
16453	9978565.575	781361.940	2663.791	TOP
16454	9978568.940	781361.647	2663.800	TOP
16455	9978572.183	781359.672	2663.415	TOP
16456	9978574.802	781343.402	2660.171	TOP
16457	9978578.207	781332.524	2657.868	TOP
16458	9978581.901	781307.186	2652.611	TOP
16459	9978586.445	781298.197	2650.746	TOP
16460	9978591.256	781292.393	2649.519	TOP
16461	9978596.277	781287.052	2648.366	TOP
16462	9978601.409	781283.485	2647.562	TOP
16463	9978607.257	781273.646	2645.423	TOP
16464	9978612.800	781270.716	2644.598	TOP
16465	9978618.506	781267.006	2643.800	TOP
16466	9978624.085	781265.537	2643.335	TOP
16467	9978629.985	781262.857	2642.596	TOP
16468	9978636.616	781262.383	2642.270	TOP
16469	9978641.125	781262.494	2642.085	TOP
16470	9978647.271	781260.351	2641.371	TOP
16471	9978649.308	781256.421	2640.253	TOP
16472	9978654.821	781256.142	2639.879	TOP
16473	9978666.633	781253.506	2638.974	TOP
16474	9978674.929	781251.550	2638.182	TOP
16475	9978689.690	781240.771	2634.973	TOP
16476	9978695.959	781241.636	2634.690	TOP
16477	9978701.514	781244.410	2634.808	TOP
16478	9978707.151	781246.914	2634.829	TOP
16479	9978712.003	781251.163	2635.233	TOP
16480	9978716.220	781256.537	2635.878	TOP
16481	9978719.787	781262.929	2636.740	TOP
16482	9978722.916	781269.795	2637.705	TOP
16483	9978703.825	781316.018	2648.045	TOP
16484	9978691.995	781345.936	2654.667	TOP
16485	9978679.310	781374.795	2661.165	TOP
16486	9978678.956	781382.106	2662.492	TOP
16487	9978680.134	781386.663	2663.150	TOP
16488	9978681.051	781391.575	2663.855	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16489	9978665.673	781418.220	2670.254	TOP
16490	9978659.942	781430.333	2672.984	TOP
16491	9978658.941	781435.635	2673.981	TOP
16492	9978659.254	781439.041	2674.491	TOP
16493	9978663.966	781420.557	2666.590	TOP
16494	9978677.577	781396.347	2659.980	TOP
16495	9978676.882	781391.536	2659.124	TOP
16496	9978678.265	781388.176	2657.269	TOP
16497	9978678.869	781375.515	2655.639	TOP
16498	9978679.580	781367.128	2653.826	TOP
16499	9978694.688	781332.411	2644.823	TOP
16500	9978696.479	781319.389	2641.881	TOP
16501	9978718.442	781285.563	2628.030	TOP
16502	9978715.453	781258.139	2626.753	TOP
16503	9978710.785	781253.803	2626.284	TOP
16504	9978705.431	781250.859	2626.163	TOP
16505	9978699.820	781248.516	2626.169	TOP
16506	9978695.073	781244.072	2625.607	TOP
16507	9978688.857	781241.057	2625.899	TOP
16508	9978682.458	781242.912	2626.385	TOP
16509	9978673.331	781251.521	2629.034	TOP
16510	9978666.723	781253.236	2629.908	TOP
16511	9978659.326	781258.314	2631.571	TOP
16512	9978652.618	781261.773	2632.783	TOP
16513	9978646.615	781263.096	2633.424	TOP
16514	9978641.136	781262.539	2633.580	TOP
16515	9978635.046	781265.316	2634.513	TOP
16516	9978629.438	781266.045	2634.931	TOP
16517	9978623.601	781268.834	2635.805	TOP
16518	9978617.964	781271.154	2636.549	TOP
16519	9978612.433	781278.677	2637.800	TOP
16520	9978606.868	781278.044	2638.459	TOP
16521	9978601.268	781285.511	2640.340	TOP
16522	9978596.254	781287.634	2640.907	TOP
16523	9978591.268	781292.011	2641.995	TOP
16524	9978586.450	781297.725	2643.879	TOP
16525	9978582.093	781305.486	2650.020	TOP
16526	9978578.712	781349.219	2655.684	TOP
16527	9978575.747	781362.279	2658.776	TOP
16528	9978572.583	781365.208	2659.426	TOP
16529	9978569.192	781364.979	2659.159	TOP
16530	9978565.951	781365.152	2659.265	TOP
16531	9978562.405	781363.810	2658.840	TOP
16532	9978563.021	781368.488	2654.575	TOP
16533	9978566.255	781368.006	2654.745	TOP
16534	9978569.440	781367.070	2654.579	TOP
16535	9978572.799	781368.189	2654.954	TOP
16536	9978576.058	781368.394	2655.067	TOP
16537	9978579.305	781368.456	2655.119	TOP
16538	9978582.459	781360.965	2653.104	TOP
16539	9978585.990	781345.176	2648.819	TOP
16540	9978591.169	781295.714	2635.369	TOP
16541	9978596.105	781290.739	2633.966	TOP
16542	9978601.088	781288.257	2633.213	TOP
16543	9978606.340	781283.905	2631.921	TOP
16544	9978611.735	781280.013	2630.724	TOP
16545	9978617.146	781277.516	2629.870	TOP
16546	9978622.763	781274.388	2628.823	TOP
16547	9978628.484	781271.654	2627.843	TOP
16548	9978634.212	781269.625	2627.023	TOP
16549	9978640.344	781266.258	2625.798	TOP
16550	9978646.583	781263.297	2624.644	TOP
16551	9978652.101	781263.801	2624.421	TOP
16552	9978658.624	781260.852	2623.193	TOP
16553	9978666.206	781254.948	2621.084	TOP
16554	9978674.861	781246.785	2618.274	TOP
16555	9978681.997	781244.281	2617.028	TOP
16556	9978688.745	781243.407	2615.193	TOP
16557	9978694.761	781244.727	2615.954	TOP
16558	9978699.523	781249.752	2616.762	TOP
16559	9978704.650	781252.711	2616.938	TOP
16560	9978709.821	781255.941	2617.175	TOP
16561	9978714.195	781260.750	2617.461	TOP
16562	9978716.142	781270.125	2619.896	TOP
16563	9978686.756	781337.638	2639.829	TOP
16564	9978682.304	781354.180	2644.327	TOP
16565	9978675.699	781373.773	2649.859	TOP
16566	9978659.537	781407.064	2659.852	TOP
16567	9978661.745	781408.978	2659.984	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16568	9978676.015	781392.823	2654.195	TOP
16569	9978659.937	781406.425	2654.942	TOP
16570	9978672.459	781379.297	2645.911	TOP
16571	9978672.235	781372.556	2644.166	TOP
16572	9978671.871	781365.560	2642.353	TOP
16573	9978684.615	781332.223	2631.573	TOP
16574	9978708.858	781271.790	2611.944	TOP
16575	9978704.637	781267.350	2611.142	TOP
16576	9978700.871	781261.412	2609.980	TOP
16577	9978696.487	781256.688	2609.176	TOP
16578	9978691.673	781252.757	2608.809	TOP
16579	9978686.589	781249.818	2608.167	TOP
16581	9978673.320	781251.576	2610.123	TOP
16582	9978665.226	781258.235	2612.776	TOP
16583	9978658.346	781261.807	2614.397	TOP
16584	9978651.960	781264.353	2615.643	TOP
16585	9978641.820	781283.626	2622.060	TOP
16586	9978638.405	781275.985	2619.835	TOP
16587	9978632.559	781278.261	2621.051	TOP
16588	9978626.604	781282.582	2622.661	TOP
16589	9978621.997	781279.461	2621.947	TOP
16590	9978616.468	781282.834	2623.136	TOP
16591	9978611.148	781285.542	2624.147	TOP
16592	9978605.906	781288.798	2625.851	TOP
16593	9978600.793	781292.312	2626.534	TOP
16594	9978595.829	781296.270	2627.826	TOP
16595	9978589.670	781345.675	2642.906	TOP
16596	9978585.706	781373.891	2651.509	TOP
16597	9978582.588	781374.886	2651.659	TOP
16598	9978579.472	781374.458	2651.662	TOP
16599	9978576.311	781373.518	2651.338	TOP
16600	9978573.126	781372.954	2651.104	TOP
16601	9978569.960	781371.763	2650.663	TOP
16602	9978566.690	781372.013	2650.643	TOP
16603	9978563.508	781372.225	2650.590	TOP
16604	9978563.956	781375.645	2646.494	TOP
16605	9978567.154	781376.171	2646.799	TOP
16606	9978570.335	781377.017	2647.190	TOP
16607	9978573.475	781377.747	2647.525	TOP
16608	9978576.595	781379.059	2648.033	TOP
16609	9978579.619	781379.070	2648.074	TOP
16610	9978582.632	781378.436	2647.881	TOP
16611	9978585.657	781379.246	2648.154	TOP
16612	9978589.637	781347.051	2637.294	TOP
16613	9978595.385	781305.072	2623.063	TOP
16614	9978600.384	781298.314	2620.687	TOP
16615	9978605.273	781295.891	2619.742	TOP
16616	9978610.278	781293.291	2618.708	TOP
16617	9978615.491	781290.191	2617.461	TOP
16618	9978620.425	781289.920	2617.138	TOP
16619	9978625.342	781289.973	2616.892	TOP
16620	9978629.316	781295.138	2618.372	TOP
16621	9978634.665	781293.928	2617.628	TOP
16622	9978639.402	781293.992	2617.286	TOP
16623	9978646.292	781286.598	2614.320	TOP
16624	9978653.586	781279.119	2611.253	TOP
16625	9978657.046	781285.711	2613.067	TOP
16626	9978669.043	781264.938	2605.183	TOP
16627	9978674.462	781266.317	2605.057	TOP
16628	9978680.453	781266.178	2604.340	TOP
16629	9978688.425	781268.875	2604.600	TOP
16630	9978696.714	781271.714	2604.878	TOP
16631	9978695.023	781274.856	2605.256	TOP
16632	9978695.214	781279.099	2605.974	TOP
16633	9978698.832	781324.675	2622.149	TOP
16634	9978666.314	781364.352	2636.377	TOP
16635	9978669.110	781370.748	2638.165	TOP
16636	9978675.800	781340.703	2621.045	TOP
16637	9978675.090	781331.714	2618.105	TOP
16638	9978687.744	781291.648	2602.826	TOP
16639	9978683.111	781289.262	2602.480	TOP
16640	9978678.228	781287.422	2602.510	TOP
16641	9978670.933	781292.235	2605.133	TOP
16642	9978664.238	781296.163	2607.334	TOP
16643	9978659.380	781295.127	2607.536	TOP
16644	9978654.646	781293.778	2607.570	TOP
16645	9978648.830	781296.249	2609.045	TOP
16646	9978642.480	781301.538	2611.540	TOP
16647	9978637.079	781303.922	2612.880	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTO TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16648	9978632.152	781304.759	2613.575	TOP
16649	9978627.198	781306.133	2614.440	TOP
16650	9978622.507	781306.478	2614.870	TOP
16651	9978616.765	781314.133	2618.012	TOP
16652	9978614.133	781300.555	2613.161	TOP
16653	9978609.240	781302.709	2614.171	TOP
16654	9978604.204	781307.690	2616.190	TOP
16655	9978599.554	781310.117	2617.224	TOP
16656	9978593.068	781351.695	2632.758	TOP
16657	9978588.975	781369.016	2639.239	TOP
16658	9978585.626	781382.383	2644.220	TOP
16659	9978582.674	781382.449	2644.245	TOP
16660	9978579.724	781382.609	2644.300	TOP
16661	9978576.804	781385.917	2644.495	TOP
16662	9978573.820	781382.770	2644.227	TOP
16663	9978570.775	781381.871	2643.805	TOP
16664	9978567.697	781381.074	2643.996	TOP
16665	9978564.567	781380.315	2642.973	TOP
16666	9978565.132	781384.629	2639.530	TOP
16667	9978568.212	781385.698	2640.111	TOP
16668	9978571.234	781386.941	2640.735	TOP
16669	9978574.230	781388.493	2641.463	TOP
16670	9978577.050	781388.142	2641.390	TOP
16671	9978579.894	781388.056	2641.401	TOP
16672	9978582.717	781386.335	2640.727	TOP
16673	9978585.600	781385.107	2640.227	TOP
16674	9978588.587	781382.402	2639.113	TOP
16675	9978592.236	781368.460	2633.406	TOP
16676	9978598.591	781318.320	2612.951	TOP
16677	9978603.494	781315.627	2611.716	TOP
16678	9978608.136	781312.269	2610.582	TOP
16679	9978612.682	781311.804	2609.774	TOP
16680	9978616.555	781315.555	2611.060	TOP
16681	9978620.795	781316.524	2611.175	TOP
16682	9978625.584	781314.563	2610.051	TOP
16683	9978630.045	781314.686	2609.741	TOP
16684	9978634.932	781313.148	2608.703	TOP
16685	9978639.652	781312.644	2608.054	TOP
16686	9978644.916	781310.443	2606.644	TOP
16687	9978650.137	781308.901	2605.459	TOP
16688	9978655.137	781308.378	2604.664	TOP
16689	9978660.878	781305.999	2603.017	TOP
16690	9978666.311	781304.918	2601.870	TOP
16691	9978671.851	781303.900	2600.700	TOP
16692	9978665.496	781332.121	2612.278	TOP
16693	9978663.521	781347.420	2618.300	TOP
16694	9978662.223	781316.127	2598.656	TOP
16695	9978656.789	781317.943	2600.209	TOP
16696	9978652.029	781318.106	2600.936	TOP
16697	9978646.244	781321.953	2603.302	TOP
16698	9978642.138	781320.504	2603.189	TOP
16699	9978637.384	781321.533	2604.165	TOP
16700	9978632.830	781322.110	2604.889	TOP
16701	9978628.187	781323.382	2605.876	TOP
16702	9978623.926	781323.196	2606.168	TOP
16703	9978619.511	781323.988	2606.860	TOP
16704	9978615.362	781323.463	2606.922	TOP
16705	9978610.845	781325.791	2608.210	TOP
16706	9978606.620	781326.560	2608.768	TOP
16707	9978602.364	781328.234	2609.690	TOP
16708	9978595.969	781361.408	2624.485	TOP
16709	9978592.066	781371.877	2629.194	TOP
16710	9978588.717	781377.938	2631.922	TOP
16711	9978585.554	781360.163	2637.334	TOP
16712	9978582.759	781350.484	2637.475	TOP
16713	9978580.010	781352.022	2638.128	TOP
16714	9978577.310	781353.303	2638.644	TOP
16715	9978574.495	781352.359	2638.154	TOP
16716	9978571.646	781351.428	2637.641	TOP
16717	9978568.717	781350.242	2636.991	TOP
16718	9978565.724	781349.120	2636.342	TOP
16719	9978566.908	781353.554	2633.908	TOP
16720	9978569.298	781355.510	2634.406	TOP
16721	9978572.068	781356.904	2634.815	TOP
16722	9978574.796	781356.543	2635.137	TOP
16723	9978577.468	781356.392	2635.141	TOP
16724	9978580.138	781355.945	2634.980	TOP
16725	9978582.786	781361.701	2633.458	TOP
16726	9978585.528	781362.750	2633.481	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16727	9978588.614	781381.635	2628.153	TOP
16728	9978591.840	781376.394	2625.593	TOP
16729	9978595.288	781371.310	2623.078	TOP
16730	9978598.940	781366.233	2620.525	TOP
16731	9978605.260	781338.903	2607.249	TOP
16732	9978609.393	781336.946	2606.087	TOP
16733	9978613.931	781333.039	2603.945	TOP
16734	9978618.091	781332.298	2603.280	TOP
16735	9978622.471	781330.815	2602.210	TOP
16736	9978626.591	781330.876	2601.948	TOP
16737	9978630.782	781330.885	2601.423	TOP
16738	9978635.177	781330.204	2600.609	TOP
16739	9978639.887	781328.664	2599.321	TOP
16740	9978644.249	781328.659	2598.744	TOP
16741	9978647.988	781330.762	2599.182	TOP
16742	9978653.152	781338.117	2597.106	TOP
16743	9978629.412	781336.759	2596.885	TOP
16744	9978625.426	781336.419	2597.161	TOP
16745	9978621.217	781337.317	2598.044	TOP
16746	9978616.359	781342.397	2601.056	TOP
16747	9978612.180	781344.570	2602.502	TOP
16748	9978608.399	781344.539	2602.767	TOP
16749	9978604.448	781346.266	2603.876	TOP
16750	9978598.667	781369.270	2615.949	TOP
16751	9978595.071	781374.290	2618.671	TOP
16752	9978591.664	781379.940	2621.673	TOP
16753	9978588.560	781383.202	2623.413	TOP
16754	9978585.493	781396.997	2630.341	TOP
16755	9978582.827	781396.882	2630.482	TOP
16756	9978580.226	781399.089	2631.586	TOP
16757	9978577.833	781399.741	2631.867	TOP
16758	9978575.060	781400.341	2632.096	TOP
16759	9978572.396	781399.730	2631.672	TOP
16760	9978569.665	781398.811	2631.062	TOP
16761	9978566.790	781396.784	2629.841	TOP
16762	9978567.254	781400.773	2626.892	TOP
16763	9978569.977	781401.626	2627.540	TOP
16764	9978572.640	781402.360	2628.092	TOP
16765	9978575.198	781402.267	2628.158	TOP
16766	9978577.832	781403.572	2628.966	TOP
16767	9978580.309	781401.603	2627.933	TOP
16768	9978582.875	781401.259	2627.771	TOP
16769	9978585.466	781399.436	2626.767	TOP
16770	9978588.260	781393.465	2623.435	TOP
16771	9978591.507	781383.235	2617.711	TOP
16772	9978595.012	781375.253	2613.188	TOP
16773	9978598.478	781371.358	2610.894	TOP
16774	9978602.971	781359.693	2604.228	TOP
16775	9978605.618	781363.962	2607.494	TOP
16776	9978610.419	781355.267	2601.816	TOP
16777	9978587.934	781404.288	2624.408	TOP
16778	9978585.414	781404.658	2624.663	TOP
16779	9978582.915	781405.383	2625.086	TOP
16780	9978580.438	781406.105	2625.481	TOP
16781	9978577.991	781406.810	2625.840	TOP
16782	9978575.392	781405.020	2624.688	TOP
16783	9978573.042	781406.831	2625.647	TOP
16784	9978570.324	781404.735	2624.249	TOP
16785	9978572.752	781404.580	2623.971	TOP
16786	9978570.941	781410.347	2622.618	TOP
16787	9978572.262	781409.488	2622.224	TOP
16788	9978573.230	781290.234	2762.038	PC
16789	9978574.769	781267.903	2637.038	TOP
16790	9978574.185	783332.749	2636.136	TOP
16791	9978573.976	782893.423	2651.223	AUX 23 A
16792	9978574.284	782684.437	2665.935	CARIL PEAJ 1
16793	9978575.561	782681.703	2666.182	CARIL PEAJ 1
16794	9978901.550	782961.488	2643.413	ALIX 24 A
16795	9978757.927	782709.872	2663.312	ASFLATO
16796	9978741.767	782681.995	2666.288	CARIL PEAJ 1
16797	9978742.958	782685.444	2665.952	CARIL PEAJ 1
16798	9978747.177	782684.401	2666.189	CARIL PEAJ 2
16799	9978758.152	782687.358	2665.977	CARIL PEAJ 2
16800	9978736.400	782687.903	2665.923	CARIL PEAJ 3
16801	9978735.447	782685.037	2666.190	CARIL PEAJ 3
16802	9978740.944	782685.414	2666.004	CARIL PEAJ 2
16803	9978740.345	782683.666	2666.170	CARIL PEAJ 2
16804	9978732.374	782686.001	2666.184	CARIL PEAJ 3
16805	9978733.335	782688.888	2665.946	CARIL PEAJ 1





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16806	9978731.547	782689.528	2665.933	CARIL PEAI 4
16807	9978730.610	782688.716	2666.207	CARIL PEAI 4
16808	9978728.487	782690.482	2665.914	CARIL PEAI 4
16809	9978727.517	782687.649	2666.192	CARIL PEAI 4
16810	9978726.713	782691.100	2665.934	CARIL PEAI 5
16811	9978725.780	782688.312	2666.206	CARIL PEAI 5
16812	9978723.378	782691.298	2665.975	CARIL PEAI 5
16813	9978722.817	782689.472	2666.188	CARIL PEAI 5
16814	9978720.991	782690.161	2666.178	CARIL PEAI 6
16815	9978721.562	782691.867	2666.008	CARIL PEAI 6
16816	9978718.498	782692.543	2666.024	CARIL PEAI 6
16817	9978717.916	782691.063	2666.180	CARIL PEAI 6
16818	9978716.695	782693.137	2666.024	CARIL PEAI 6
16819	9978716.208	782691.667	2666.157	CARIL PEAI 6
16820	9978714.104	782692.089	2666.156	ASFLATO
16821	9978718.537	782702.194	2665.272	ASFLATO
16822	9978725.802	782713.185	2664.448	ASFLATO
16823	9978739.625	782726.943	2663.324	ASFLATO
16824	9978746.055	782733.200	2662.702	ASFLATO
16825	9978743.092	782737.215	2662.813	TERR NATUR
16826	9978760.701	782744.652	2661.183	ASFLATO
16827	9978757.753	782748.528	2661.653	TERR NATUR
16828	9978771.892	782753.747	2659.705	ASFLATO
16829	9978771.630	782754.128	2659.627	CUNETA
16830	9978771.387	782754.387	2660.101	BORDILL
16831	9978768.878	782757.015	2660.099	TERR NATUR
16832	9978786.100	782765.156	2657.827	ASFLATO
16833	9978785.666	782765.278	2657.697	CUNETA
16834	9978785.348	782765.804	2658.070	BORDILL
16835	9978784.073	782766.029	2658.237	TERR NATUR
16836	9978758.006	782709.875	2663.663	BORDILL
16837	9978759.425	782709.578	2663.650	TERR NATUR
16838	9978766.978	782721.909	2661.881	ASFLATO
16839	9978767.051	782721.886	2662.246	BORDILL
16840	9978767.981	782721.290	2662.252	TERR NATUR
16841	9978776.557	782734.548	2660.639	ASFLATO
16842	9978776.642	782734.477	2660.912	BORDILL
16843	9978777.395	782734.013	2661.045	TERR NATUR
16844	9978787.054	782745.207	2659.425	ASFLATO
16845	9978787.109	782745.134	2659.713	BORDILL
16846	9978787.583	782744.774	2659.986	TERR NATUR
16847	9978794.638	782752.385	2658.565	TERR NATUR
16848	9978794.838	782752.392	2658.887	BORDILL
16849	9978796.069	782751.413	2658.999	TERR NATUR
16850	9978790.843	782778.309	2656.131	ASFLATO
16851	9978799.332	782778.639	2656.025	CUNETA
16852	9978799.215	782778.850	2656.406	BORDILL
16853	9978797.546	782780.704	2657.051	TERR NATUR
16854	9978804.636	782782.057	2657.419	ASFLATO
16855	9978804.768	782782.063	2657.891	BORDILL
16856	9978806.080	782780.983	2657.883	TERR NATUR
16857	9978814.344	782773.653	2656.201	ASFLATO
16858	9978814.714	782773.420	2656.176	CUNETA
16859	9978814.853	782773.354	2656.940	BORDILL
16860	9978815.614	782772.831	2657.013	TERR NATUR
16861	9978822.879	782786.503	2654.750	ASFLATO
16862	9978823.260	782786.325	2654.713	CUNETA
16863	9978823.482	782786.455	2655.003	BORDILL
16864	9978808.655	782789.777	2654.921	ASFLATO
16865	9978808.302	782790.003	2654.815	CUNETA
16866	9978808.068	782790.284	2655.179	BORDILL
16867	9978807.353	782790.550	2655.121	TERR NATUR
16868	9978830.604	782800.810	2653.490	ASFLATO
16869	9978837.942	782814.263	2652.450	ASFLATO
16870	9978831.097	782800.724	2653.426	CUNETA
16871	9978838.312	782818.178	2652.396	CUNETA
16872	9978838.526	782814.121	2652.755	BORDILL
16873	9978839.912	782813.447	2653.174	TERR NATUR
16874	9978832.359	782800.140	2654.064	TERR NATUR
16875	9978818.320	782805.751	2654.160	ASFLATO
16876	9978817.817	782805.956	2653.984	CUNETA
16877	9978817.567	782806.065	2654.416	BORDILL
16878	9978816.206	782806.714	2654.299	TERR NATUR
16879	9978844.793	782826.960	2652.028	ASFLATO
16880	9978845.191	782826.754	2651.973	CUNETA
16881	9978845.493	782826.749	2652.826	BORDILL
16882	9978846.514	782826.260	2652.506	TERR NATUR
16883	9979083.046	784058.185	2534.109	TOP
16884	9978823.235	782819.302	2653.546	TERR NATUR

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16885	9979071.713	784024.079	2536.492	TOP
16886	9978832.547	782832.521	2651.415	ASFLATO
16887	9978832.095	782832.762	2651.302	ASFLATO
16888	9978832.101	782832.762	2651.302	CUNETA
16889	9978831.904	782832.884	2651.700	BORDILL
16890	9978830.264	782833.560	2651.676	TERR NATUR
16891	9978839.068	782844.761	2650.495	ASFLATO
16892	9978838.628	782845.085	2650.302	CUNETA
16893	9978838.456	782845.145	2650.791	BORDILL
16894	9978837.255	782845.831	2650.940	TERR NATUR
16895	9978852.597	782840.949	2650.283	ASFLATO
16896	9978852.595	782840.733	2650.225	CUNETA
16897	9978853.049	782840.506	2650.575	BORDILL
16898	9978853.631	782840.208	2650.763	TERR NATUR
16899	9978847.160	782860.269	2649.255	ASFLATO
16900	9978846.657	782860.552	2649.129	CUNETA
16901	9978846.517	782860.738	2649.548	BORDILL
16902	9978846.411	782861.899	2650.205	TERR NATUR
16903	9978860.364	782855.175	2649.194	ASFLATO
16904	9978860.732	782854.902	2649.172	CUNETA
16905	9978860.986	782854.817	2649.475	BORDILL
16906	9978868.100	782869.218	2648.191	ASFLATO
16907	9978868.489	782869.067	2648.120	CUNETA
16908	9978868.599	782868.824	2648.477	BORDILL
16909	9978869.332	782868.445	2648.781	TERR NATUR
16910	9978854.310	782873.961	2648.190	ASFLATO
16911	9978853.902	782874.230	2648.001	CUNETA
16912	9978853.726	782874.930	2648.450	BORDILL
16913	9978853.030	782874.754	2648.810	TERR NATUR
16914	9978883.002	782895.457	2646.540	ASFLATO
16915	9978883.118	782895.270	2646.883	CUNETA
16916	9978889.108	782907.767	2646.900	ASFLATO
16917	9978889.555	782907.531	2646.953	CUNETA
16918	9978889.729	782907.441	2646.333	BORDILL
16919	9978894.860	782919.914	2646.360	ASFLATO
16920	9978861.790	782888.171	2647.014	ASFLATO
16921	9978861.308	782888.260	2646.804	CUNETA
16922	9978861.056	782888.212	2647.268	BORDILL
16923	9978860.112	782888.877	2647.750	TERR NATUR
16924	9978895.233	782919.730	2645.310	CUNETA
16925	9978895.372	782919.646	2645.799	BORDILL
16926	9978898.055	782928.387	2644.448	ASFLATO
16927	9978898.833	782928.186	2644.875	CUNETA
16928	9978898.520	782927.971	2644.300	BORDILL
16929	9978899.396	782928.116	2645.378	TERR NATUR
16930	9978868.683	782900.958	2645.929	ASFLATO
16931	9978868.195	782901.222	2645.691	CUNETA
16932	9978868.129	782901.558	2645.971	BORDILL
16933	9978866.334	782902.326	2646.022	TERR NATUR
16934	9978900.593	782943.331	2643.994	ASFLATO
16935	9978900.677	782943.315	2644.110	BORDILL
16936	9978903.975	782942.993	2644.580	TERR NATUR
16937	9978901.977	782942.995	2644.580	TERR NATUR
16938	9978875.586	782914.990	2644.790	ASFLATO
16939	9978875.577	782915.271	2644.633	CUNETA
16940	9978875.428	782915.327	2645.045	BORDILL
16941	9978874.192	782916.223	2645.154	TERR NATUR
16942	9978901.169	782955.493	2643.454	ASFLATO
16943	9978901.220	782955.476	2643.586	BORDILL
16944	9978901.745	782955.635	2643.869	CASA
16945	9978901.990	782928.240	2643.813	ASFLATO
16946	9978901.999	782928.332	2643.651	CUNETA
16947	9978901.889	782928.396	2644.022	BORDILL
16948	9978901.912	782928.916	2644.057	TERR NATUR
16949	9978901.945	782928.914	2642.878	ASFLATO
16950	9978899.988	782968.705	2643.104	BORDILL
16951	9978903.160	782969.166	2643.992	CASA
16952	9978884.639	782941.389	2642.964	ASFLATO
16953	9978884.077	782941.533	2642.795	CUNETA
16954	9978883.906	782941.523	2643.002	BORDILL
16955	9978883.282	782941.886	2643.082	TERR NATUR
16956	9978896.409	782884.412	2642.194	ASFLATO
16957	9978896.466	782884.496	2642.333	BORDILL
16958	9978898.129	782884.949	2642.388	CASA
16959	9978796.971	783187.087	2639.260	AUX 25 A
16960	9978884.714	782958.367	2641.811	ASFLATO
16961	9978884.282	782958.259	2641.629	CUNETA
16962	9978884.121	782958.263	2641.828	BORDILL
16963	9978881.608	782958.245	2642.538	TERR NATUR





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
16964	9978887.082	782899.287	2646.854	TERR NATUR
16965	9978893.237	782910.957	2646.576	TERR NATUR
16966	9978880.670	782974.614	2640.582	CUNETA
16967	9978880.458	782974.544	2641.046	BORDIL
16968	9978878.908	782973.916	2641.229	TERR NATUR
16969	9978892.654	782995.859	2641.673	ASFLATO
16970	9978892.702	782995.860	2641.864	BORDIL
16971	9978893.849	782996.931	2641.944	CASA
16972	9978873.951	782991.267	2640.269	ASFLATO
16973	9978872.026	782990.239	2640.797	TERR NATUR
16974	9978867.519	783003.836	2639.877	ASFLATO
16975	9978864.845	783002.035	2640.141	TERR NATUR
16976	9978888.517	783006.446	2641.135	ASFLATO
16977	9978890.338	783006.508	2641.536	CASA
16978	9978860.907	783016.340	2639.445	ASFLATO
16979	9978857.329	783014.865	2640.177	TERR NATUR
16980	9978853.073	783029.047	2639.011	ASFLATO
16981	9978849.771	783028.124	2640.001	TERR NATUR
16982	9978874.611	782983.638	2640.519	BORDE
16983	9978845.052	783043.004	2638.757	ASFLATO
16984	9978842.315	783040.923	2639.714	TERR NATUR
16985	9978878.520	782973.563	2640.968	BORDE
16986	9978884.800	783015.072	2640.680	ASFLATO
16987	9978885.775	783015.676	2641.031	TERR NATUR
16988	9978881.594	782962.559	2641.564	BORDE
16989	9978838.611	783054.115	2638.691	ASFLATO
16990	9978855.152	783052.465	2639.235	TERR NATUR
16991	9978879.351	782951.356	2643.076	BORDE
16992	9978879.179	783027.558	2639.927	ASFLATO
16993	9978880.405	783028.093	2640.410	TERR NATUR
16994	9978830.925	783067.451	2638.711	ASFLATO
16995	9978829.061	783067.224	2638.926	TERR NATUR
16996	9978873.620	782940.296	2643.533	BORDE
16997	9978868.322	782926.495	2643.849	BORDE
16998	9978873.713	783038.922	2639.661	ASFLATO
16999	9978875.311	783039.370	2639.855	TERR NATUR
17000	9978874.855	783038.958	2638.636	ASFLATO
17001	9978839.025	783051.247	2639.880	TERR NATUR
17002	9978820.857	783075.370	2638.908	TERR NATUR
17003	9978862.730	782912.882	2644.862	BORDE
17004	9978868.054	783050.261	2639.062	ASFLATO
17005	9978864.226	782902.100	2645.546	BORDE
17006	9978869.532	783050.496	2639.222	TERR NATUR
17007	9978858.269	782891.264	2647.415	BORDE
17008	9978816.932	783091.823	2638.570	ASFLATO
17009	9978811.605	783088.587	2639.537	TERR NATUR
17010	9978861.499	783064.468	2638.520	ASFLATO
17011	9978865.476	782996.640	2639.861	BORDE
17012	9979062.252	783463.199	2631.957	AUX 26
17013	9978862.799	783065.185	2638.781	TERR NATUR
17014	9978810.144	783103.722	2638.640	ASFLATO
17015	9978807.024	783103.913	2639.820	TERR NATUR
17016	9978855.275	783077.510	2638.395	ASFLATO
17017	9978848.909	783090.920	2638.255	ASFLATO
17018	9978850.471	783091.928	2638.388	TERR NATUR
17019	9978800.457	783120.505	2638.823	ASFLATO
17020	9978797.827	783118.673	2639.030	TERR NATUR
17021	9978843.166	783102.902	2638.119	ASFLATO
17022	9978844.564	783103.766	2638.295	TERR NATUR
17023	9978837.474	783114.637	2637.879	ASFLATO
17024	9978838.988	783115.426	2638.087	TERR NATUR
17025	9978790.892	783137.070	2638.888	ASFLATO
17026	9978790.879	783137.094	2638.887	ASFLATO
17027	9978789.809	783136.747	2639.056	CERAMIEN
17028	9978832.480	783125.016	2637.521	ASFLATO
17029	9978834.014	783125.991	2637.804	TERR NATUR
17030	9978826.738	783117.227	2637.135	ASFLATO
17031	9978828.487	783138.512	2637.480	TERR NATUR
17032	9978784.476	783149.095	2638.014	ASFLATO
17033	9978783.571	783148.616	2638.845	CERAMIEN
17034	9978781.242	783157.567	2638.334	ASFLATO
17035	9978781.119	783157.477	2638.334	ASFLATO 1
17036	9978798.505	783135.691	2638.887	ASFLATO 1
17037	9978779.806	783157.055	2638.603	CERAMIEN
17038	9978796.113	783141.357	2639.051	ASFLATO 1
17039	9978796.108	783141.366	2639.047	ASFLATO
17040	9978778.722	783108.131	2637.721	ASFLATO
17041	9978795.650	783141.208	2638.814	ASFLATO
17042	9978778.568	783174.446	2637.208	ASFLATO

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17043	9978792.540	783148.293	2638.627	ASFLATO
17044	9978776.870	783173.690	2637.536	CERAMIEN
17045	9978792.871	783148.548	2638.732	BORDIL
17046	9978788.329	783157.006	2638.105	ASFLATO
17047	9978789.985	783157.380	2638.097	BORDIL
17048	9978785.905	783168.627	2637.129	ASFLATO
17049	9978787.042	783168.947	2637.340	BORDIL
17050	9978786.565	783180.767	2635.825	ASFLATO
17051	9978787.853	783180.491	2636.133	BORDIL
17052	9979062.252	783463.199	2631.788	AUX 26
17053	9979999.129	783592.842	2634.961	ASFLATO SALID PUENT
17054	9978968.204	783395.135	2634.998	ASFLATO SALID PUENT
17055	9978968.724	783395.257	2635.138	BORDIL SALID PUENT
17056	9978999.726	783392.782	2635.181	BORDIL SALID PUENT
17057	9978968.733	783395.227	2635.131	BORDIL
17058	9978957.451	783344.201	2635.884	ASFLAT ENTRAD PUENTE
17059	9978927.411	783346.262	2635.930	ASFLAT ENTRAD PUENTE
17060	9978926.868	783346.286	2636.100	BORDIL ENTRAD PUENTE
17061	9978957.998	783344.122	2636.069	BORDIL ENTRAD PUENTE
17062	9978822.506	783149.282	2636.811	ASFLATO
17063	9978824.432	783149.773	2637.071	TERR NATUR
17064	9978821.760	783160.561	2636.628	ASFLATO
17065	9978823.515	783160.390	2636.846	TERR NATUR
17066	9978823.500	783172.718	2636.539	ASFLATO
17067	9978824.626	783172.323	2636.709	TERR NATUR
17068	9978827.154	783183.046	2636.545	ASFLATO
17069	9978828.710	783182.618	2636.574	TERR NATUR
17070	9978834.077	783195.002	2636.785	ASFLATO
17071	9978835.785	783194.132	2636.933	TERR NATUR
17072	9978842.432	783206.039	2637.007	ASFLATO
17073	9978844.140	783205.119	2637.285	TERR NATUR
17074	9978850.869	783216.095	2637.100	ASFLATO
17075	9978852.815	783214.464	2637.435	TERR NATUR
17076	9978860.695	783227.525	2637.080	ASFLATO
17077	9978862.414	783226.087	2637.368	TERR NATUR
17078	9978860.385	783236.477	2636.975	ASFLATO
17079	9978871.195	783234.095	2637.274	TERR NATUR
17080	9978880.710	783242.763	2636.994	ASFLATO
17081	9978881.478	783240.292	2637.399	TERR NATUR
17082	9978793.070	783153.800	2639.285	ASFLATO
17083	9978791.249	783153.727	2639.374	BORDE
17084	9978792.863	783164.323	2639.248	ASFLATO
17085	9978787.845	783164.620	2639.015	BORDE
17086	9978787.398	783177.258	2638.519	BORDE
17087	9978794.244	783176.008	2639.176	ASFLATO
17088	9978797.891	783189.378	2639.081	ASFLATO
17089	9978794.809	783190.966	2639.043	BORDE
17090	9978798.714	783198.102	2637.918	BORDE
17091	9978800.974	783196.571	2638.964	ASFLATO
17092	9978806.269	783206.273	2638.691	ASFLATO
17093	9978805.362	783207.077	2638.911	BORDE
17094	9978813.004	783215.955	2638.177	ASFLATO
17095	9978812.188	783216.681	2638.584	BORDE
17096	9978819.968	783226.493	2638.250	BORDE
17097	9978820.831	783225.834	2638.025	ASFLATO
17098	9978829.825	783236.472	2637.426	ASFLATO
17099	9978829.038	783237.522	2637.820	BORDE
17100	9978837.636	783247.334	2637.346	BORDE
17101	9978838.476	783246.604	2637.323	ASFLATO
17102	9978835.527	783255.929	2637.138	ASFLATO
17103	9978834.424	783256.647	2637.306	BORDE
17104	9978833.373	783265.798	2637.166	BORDE
17105	9978834.352	783265.042	2636.962	ASFLATO
17106	9978835.548	783278.135	2636.790	ASFLATO
17107	9978834.913	783279.047	2636.541	BORDE
17108	9978866.772	783279.735	2636.683	ASFLATO
17109	9978858.329	783277.569	2635.903	ASFLATO
17110	9978858.322	783277.491	2636.118	BORDE
17111	9978849.952	783276.844	2635.171	ASFLATO
17112	9978849.935	783276.700	2635.366	BORDE
17113	9978842.381	783252.527	2636.905	ASFLATO
17114	9978884.563	783253.717	2637.069	TERR NATUR
17115	9978891.466	783253.838	2637.298	ASFLATO
17116	9978891.248	783255.093	2637.406	TERR NATUR
17117	9978902.527	783256.593	2637.659	TERR NATUR
17118	9978839.494	783278.494	2634.060	ASFLATO
17119	9978796.939	783187.102	2636.143	BORDIL
17120	9978839.214	783277.168	2634.362	TERR NATUR
17121	9978830.125	783281.273	2633.510	TERR NATUR





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17122	9978830.914	783282.442	2633.286	ASFLATO
17123	9978835.094	783288.128	2632.880	ASFLATO
17124	9978835.754	783289.344	2632.979	TERR NATUR
17125	9978842.732	783284.916	2633.980	ASFLATO
17126	9978843.276	783286.191	2634.113	TERR NATUR
17127	9978851.563	783283.830	2635.139	ASFLATO
17128	9978852.331	783285.183	2635.260	TERR NATUR
17129	9978861.707	783285.812	2636.033	ASFLATO
17130	9978862.419	783287.321	2636.199	TERR NATUR
17131	9978870.450	783291.425	2636.569	TERR NATUR
17132	9978886.363	783257.453	2636.871	ASFLATO
17133	9978887.755	783256.411	2637.088	TERR NATUR
17134	9978881.018	783297.454	2636.584	ASFLATO
17135	9978880.165	783298.319	2636.710	TERR NATUR
17136	9978889.023	783304.861	2636.520	ASFLATO
17137	9978892.751	783246.471	2637.111	ASFLATO
17138	9978893.310	783244.093	2637.435	TERR NATUR
17139	9979099.535	783541.085	2621.571	ASFLATO
17140	9979066.449	783563.910	2622.863	ASFLATO
17141	9979063.782	783564.224	2622.801	TERR NATUR
17142	9979098.470	783524.319	2623.467	PARTERR
17143	9979094.279	783534.284	2622.964	PARTERR
17144	9979090.904	783546.824	2622.906	PARTERR
17145	9979087.865	783560.554	2621.587	PARTERR
17146	9979085.585	783571.978	2620.978	PARTERR
17147	9979083.436	783580.739	2620.513	PARTERR
17148	9978992.133	783695.662	2608.392	ASFLATO
17149	9978784.743	783451.781	2593.361	ASFLATO
17150	9978991.851	783694.448	2608.588	TERR NATUR
17151	9978980.923	783696.646	2607.521	ASFLATO
17152	9978980.870	783695.431	2607.445	TERR NATUR
17153	9978969.987	783696.092	2606.304	ASFLATO
17154	9978970.348	783694.423	2606.570	TERR NATUR
17155	9978784.716	783451.996	2593.889	ALIX 29
17156	9978995.800	783692.582	2605.077	ASFLATO
17157	9978967.276	783690.883	2605.233	TERR NATUR
17158	9978784.849	783451.599	2593.426	ASFLATO
17159	9978947.229	783688.309	2604.122	ASFLATO
17160	9978948.046	783686.683	2604.274	TERR NATUR
17161	9978795.239	783451.512	2593.833	ASFLATO
17162	9978796.950	783454.430	2594.824	TERR NATUR
17163	9978997.113	783681.825	2603.119	ASFLATO
17164	9978938.057	783680.830	2603.213	TERR NATUR
17165	9978805.322	783463.528	2594.073	ASFLATO
17166	9978806.421	783462.875	2594.271	TERR NATUR
17167	9978928.772	783674.181	2602.270	ASFLATO
17168	9978815.266	783472.303	2594.583	ASFLATO
17169	9978816.128	783471.219	2594.623	TERR NATUR
17170	9978929.858	783673.295	2602.447	TERR NATUR
17171	9978823.279	783482.354	2594.885	ASFLATO
17172	9978825.781	783484.046	2594.927	TERR NATUR
17173	9978920.943	783664.659	2601.459	ASFLATO
17174	9978922.266	783663.496	2601.595	TERR NATUR
17175	9978831.691	783493.601	2595.139	TERR NATUR
17176	9978830.778	783494.231	2595.131	ASFLATO
17177	9978913.566	783653.204	2600.642	ASFLATO
17178	9978915.040	783652.081	2600.721	TERR NATUR
17179	9978837.644	783455.670	2595.229	ASFLATO
17180	9978907.858	783643.051	2599.993	ASFLATO
17181	9978904.469	783641.934	2600.169	TERR NATUR
17182	9978844.890	783518.744	2599.318	ASFLATO
17183	9978901.300	783610.255	2599.531	ASFLATO
17184	9978902.978	783619.174	2599.340	TERR NATUR
17185	9978852.201	783533.763	2599.699	ASFLATO
17186	9978853.605	783532.979	2599.718	TERR NATUR
17187	9978894.096	783618.159	2598.719	ASFLATO
17188	9978896.877	783616.927	2598.821	TERR NATUR
17189	9978858.556	783546.907	2598.010	ASFLATO
17190	9978859.401	783545.550	2598.040	TERR NATUR
17191	9978888.854	783606.819	2598.220	ASFLATO
17192	9978863.602	783558.030	2598.361	ASFLATO
17193	9978865.876	783556.646	2598.442	TERR NATUR
17194	9978891.148	783605.663	2598.286	TERR NATUR
17195	9978869.919	783570.588	2598.797	ASFLATO
17196	9978882.902	783595.558	2597.758	ASFLATO
17197	9978871.974	783589.198	2596.912	TERR NATUR
17198	9978885.273	783594.345	2597.802	TERR NATUR
17199	9978876.636	783583.436	2597.295	ASFLATO
17200	9978879.151	783582.215	2597.328	TERR NATUR

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17201	9978815.320	783499.254	2594.069	ASFLATO
17202	9978813.675	783500.525	2593.480	TERR NATUR
17203	9978822.428	783510.599	2594.486	ASFLATO
17204	9978820.829	783512.421	2594.351	TERR NATUR
17205	9978831.190	783526.439	2595.086	ASFLATO
17206	9978829.004	783527.893	2594.993	TERR NATUR
17207	9978837.605	783538.426	2595.500	ASFLATO
17208	9978835.384	783539.597	2595.378	TERR NATUR
17209	9978914.189	783682.872	2602.959	PARTERR
17210	9978844.312	783551.499	2595.936	ASFLATO
17211	9978841.668	783552.969	2595.652	TERR NATUR
17212	9978915.764	783681.979	2603.277	PARTERR
17213	9978851.062	783564.157	2596.374	ASFLATO
17214	9978849.839	783565.763	2596.587	TERR NATUR
17215	9978923.504	783689.653	2604.148	PARTERR
17216	9978856.751	783575.330	2596.761	ASFLATO
17217	9978854.565	783576.439	2596.465	TERR NATUR
17218	9978921.628	783682.190	2603.848	PARTERR
17219	9978863.372	783587.908	2597.208	TERR NATUR
17220	9978861.035	783588.485	2596.730	TERR NATUR
17221	9978929.915	783699.850	2604.592	PARTERR
17222	9978868.943	783598.833	2597.610	ASFLATO
17223	9978867.170	783602.255	2597.631	TERR NATUR
17224	9978932.284	783696.611	2604.990	PARTERR
17225	9978875.905	783612.813	2598.158	ASFLATO
17226	9978873.083	783614.628	2598.018	TERR NATUR
17227	9978880.913	783623.853	2598.682	ASFLATO
17228	9978878.240	783625.364	2598.744	TERR NATUR
17229	9978942.501	783702.547	2605.894	PARTERR
17230	9978885.309	783635.454	2599.273	ASFLATO
17231	9978883.329	783636.739	2599.544	TERR NATUR
17232	9978940.818	783707.248	2605.482	PARTERR
17233	9978888.359	783648.409	2600.188	TERR NATUR
17234	9978895.394	783659.437	2600.966	ASFLATO
17235	9978893.543	783660.402	2600.932	TERR NATUR
17236	9978901.152	783673.198	2602.014	ASFLATO
17237	9978899.645	783673.349	2602.124	TERR NATUR
17238	9978906.140	783683.347	2602.810	ASFLATO
17239	9978904.565	783683.423	2602.970	CERAMIENT
17240	9978911.219	783693.028	2603.796	CERAMIENT
17241	9978920.123	783700.859	2604.343	ASFLATO
17242	9978919.386	783702.110	2604.516	CERAMIENT
17243	9978930.741	783709.228	2605.271	ASFLATO
17244	9978935.156	783713.677	2605.944	CERAMIENT
17245	9978940.812	783715.095	2606.075	ASFLATO
17246	9978940.273	783716.425	2606.320	CERAMIENT
17247	9978951.490	783712.202	2606.344	PARTERR
17248	9978951.486	783707.154	2606.777	PARTERR
17249	9978951.824	783719.777	2606.868	ASFLATO
17250	9978952.142	783721.309	2607.122	CERAMIENT
17251	9978963.793	783709.860	2607.558	PARTERR
17252	9978968.878	783709.487	2610.146	PARTERR
17253	9979011.027	783705.799	2611.059	PARTERR
17254	9978943.904	783717.495	2606.467	TOP
17255	9978713.957	783454.221	2589.568	AUX 30
17256	9978714.101	783454.637	2589.696	ASFLATO
17257	9978711.284	783452.977	2589.833	TERR NATUR
17258	9978712.260	783450.161	2590.477	ASFLATO
17259	9978712.320	783448.741	2590.643	TERR NATUR
17260	9978712.512	783446.853	2591.194	ASFLATO
17261	9978713.149	783445.704	2591.388	TERR NATUR
17262	9978713.775	783444.858	2591.968	TERR NATUR
17263	9978713.754	783446.458	2592.599	ASFLATO
17264	9978713.549	783445.329	2592.578	TERR NATUR
17265	9978713.421	783448.004	2592.898	ASFLATO
17266	9978713.243	783446.670	2592.947	TERR NATUR
17267	9978806.652	783487.964	2593.505	ASFLATO
17268	9978805.031	783489.743	2593.016	TERR NATUR
17269	9978797.295	783479.786	2592.965	ASFLATO
17270	9978796.569	783481.423	2592.715	TERR NATUR
17271	9978789.004	783473.221	2592.498	ASFLATO
17272	9978787.635	783475.317	2591.997	TERR NATUR
17273	9978780.129	783468.538	2591.979	ASFLATO
17274	9978779.247	783470.808	2591.523	TERR NATUR
17275	9978769.341	783464.574	2591.315	ASFLATO
17276	9978768.505	783466.685	2590.878	TERR NATUR
17277	9978758.383	783462.427	2590.719	ASFLATO
17278	9978757.143	783464.583	2590.246	TERR NATUR
17279	9978748.519	783461.765	2590.214	ASFLATO





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17280	9978747.913	783464.195	2589.747	TERR NATUR
17281	9978736.945	783463.158	2589.340	ASFLATO
17282	9978736.412	783465.018	2588.863	TERR NATUR
17283	9978724.592	783466.056	2588.444	ASFLATO
17284	9978724.744	783468.318	2588.074	TERR NATUR
17285	9978784.708	783452.000	2593.423	TERR NATUR
17286	9978714.439	783470.475	2587.688	ASFLATO
17287	9978715.297	789472.299	2587.316	TERR NATUR
17288	9978706.419	783477.920	2586.644	TERR NATUR
17289	9978705.023	783476.175	2587.034	ASFLATO
17290	9978698.971	783483.969	2586.026	TERR NATUR
17291	9978697.311	783482.479	2586.421	ASFLATO
17292	9978713.954	783454.220	2589.568	30-A
17293	9978678.294	783475.154	2587.973	31-A
17294	9979174.483	784342.350	2518.224	TOP
17295	9979118.488	784389.710	2513.362	PC
17296	9979077.469	784388.811	2511.151	PC
17297	9978982.897	784250.352	2500.716	PC
17298	9978909.860	784272.456	2496.294	PC
17299	9978907.071	784361.176	2490.290	PC
17300	9979021.399	784536.633	2480.951	PC
17301	9979190.982	784648.373	2468.160	PC
17302	9979189.894	784768.306	2459.276	PC
17303	9979078.326	784836.833	2452.925	PC
17304	9979000.259	784809.311	2448.754	PC
17306	9978659.041	783541.785	2583.508	PC
17307	9978713.958	783454.220	2589.568	PC-REMI
17308	9978678.300	783475.151	2587.984	PC-REMI
17309	9978301.943	784755.066	2425.274	J-0
17310	9978281.106	784755.242	2424.801	A-1
17311	9978308.381	784758.151	2425.137	A-2
17312	9978308.219	784747.187	2425.356	A-2
17313	9978283.880	784745.534	2424.954	A-1
17314	9978286.446	784735.141	2425.060	A-1
17315	9978308.018	784737.047	2425.521	A-2
17316	9978307.918	784725.979	2425.590	A-2
17317	9978288.590	784724.059	2425.175	A-1
17318	9978290.067	784713.085	2425.256	A-1
17319	9978307.823	784714.878	2425.580	A-2
17320	9978307.582	784705.891	2425.640	A-2
17321	9978290.776	784705.504	2425.296	A-1
17322	9978291.897	784693.896	2425.307	A-1
17323	9978307.404	784694.754	2425.659	A-2
17324	9978307.086	784685.433	2425.556	A-2
17325	9978292.150	784684.542	2425.283	A-2
17326	9978292.039	784666.144	2425.038	A-1
17327	9978306.808	784666.001	2425.298	A-2
17328	9978306.010	784647.939	2424.800	A-2
17329	9978291.695	784648.335	2424.614	A-1
17330	9978291.338	784630.799	2424.176	A-1
17331	9978306.268	784630.557	2424.034	A-2
17332	9978306.219	784613.317	2423.072	A-2
17333	9978291.140	784611.935	2423.534	A-1
17334	9978290.984	784598.052	2422.681	A-1
17335	9978306.250	784595.357	2421.945	A-2
17336	9978306.061	784580.927	2420.926	A-2
17337	9978292.074	784579.387	2421.802	A-1
17338	9978294.156	784562.754	2420.834	A-1
17339	9978309.563	784563.821	2419.566	A-2
17340	9978291.075	784557.942	2420.595	J-2
17341	9978320.530	784476.626	2427.832	J-3
17342	9978292.300	784483.649	2425.353	J-1
17343	9978312.714	784550.291	2418.443	A-1
17344	9978297.764	784546.032	2419.676	A-2
17345	9978303.042	784529.962	2418.358	A-1
17346	9978312.678	784550.316	2418.444	A-2
17347	9978317.421	784535.489	2417.244	A-2
17348	9978303.035	784529.973	2418.355	A-1
17349	9978309.820	784514.923	2417.000	A-1
17350	9978323.633	784521.477	2418.133	A-1
17351	9978330.561	784507.983	2415.002	A-2
17352	9978317.313	784501.230	2415.056	A-1
17353	9978325.763	784486.760	2414.155	A-2
17354	9978338.379	784493.387	2413.754	A-2
17355	9978345.979	784478.895	2412.608	A-2
17356	9978333.853	784472.737	2412.786	A-1
17357	9978341.190	784460.102	2411.589	A-1
17358	9978353.040	784466.514	2411.432	A-2
17359	9978361.507	784451.683	2409.950	A-2

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17360	9978349.712	784445.542	2410.065	A-1
17361	9978361.361	784425.799	2408.168	A-1
17362	9978372.850	784431.841	2408.105	A-2
17363	9978381.798	784418.255	2406.948	A-2
17364	9978381.810	784418.236	2406.947	A-2
17365	9978369.455	784411.157	2406.868	A-1
17366	9978377.134	784397.183	2405.533	A-1
17367	9978391.110	784404.616	2405.758	A-2
17368	9978399.776	784389.400	2404.278	A-2
17369	9978386.433	784381.101	2403.960	A-1
17370	9978395.488	784385.242	2402.500	A-1
17371	9978408.512	784373.299	2402.682	A-2
17372	9978417.138	784356.995	2400.933	A-2
17373	9978404.499	784349.438	2401.079	A-1
17374	9978555.977	784280.668	2399.029	J-4
17375	9978410.184	784338.557	2400.685	J-3-P
17376	9978424.591	784342.941	2399.457	F-P
17377	9978411.999	784335.894	2400.019	F-P
17378	9978417.439	784325.936	2399.281	A-1
17379	9978429.404	784334.517	2398.552	A-2
17380	9978433.938	784327.430	2397.886	A-2
17381	9978422.681	784317.701	2398.690	A-1
17382	9978429.015	784309.646	2398.140	A-1
17383	9978438.629	784321.409	2397.383	A-2
17384	9978445.687	784313.997	2396.506	A-2
17385	9978435.459	784303.112	2397.549	A-1
17386	9978442.862	784296.891	2396.874	A-1
17387	9978431.467	784309.132	2395.796	A-2
17388	9978459.117	784303.998	2395.042	A-2
17389	9978450.645	784291.495	2395.255	A-1
17390	9978458.522	784287.101	2395.693	A-1
17391	9978466.824	784299.941	2394.338	A-2
17392	9978467.126	784283.403	2395.004	A-1
17393	9978473.410	784297.175	2393.732	A-2
17394	9978467.126	784283.343	2395.006	A-1
17395	9978476.246	784280.649	2394.348	A-1
17396	9978480.755	784294.718	2391.095	A-2
17397	9978487.449	784278.040	2393.600	F-P
17398	9978492.144	784292.798	2392.175	F-P
17399	9978492.597	784293.384	2392.155	A-2
17400	9978498.432	784276.220	2392.994	A-1
17401	9978500.263	784293.158	2391.549	A-2
17402	9978511.172	784293.632	2390.804	A-2
17403	9978513.306	784276.868	2392.152	A-1
17404	9978532.958	784281.394	2391.423	A-1
17405	9978528.558	784298.824	2390.122	A-2
17406	9978540.489	784304.324	2390.088	A-2
17407	9978549.681	784288.922	2391.136	A-1
17408	9978561.900	784297.316	2391.057	A-1
17409	9978552.158	784312.027	2390.210	A-2
17410	9978563.219	784321.479	2390.718	A-2
17411	9978575.624	784309.995	2391.641	A-1
17412	9978585.738	784324.295	2392.534	A-1
17413	9978571.194	784332.695	2391.546	A-1
17414	9978576.977	784346.279	2392.757	A-2
17415	9978593.556	784340.712	2393.664	A-1
17416	9978597.977	784358.904	2394.789	A-1
17417	9978581.631	784379.267	2395.182	A-2
17418	9978599.214	784378.540	2395.995	A-1
17419	9978580.423	784585.346	2412.512	J-5
17420	9978583.097	784397.481	2396.531	A-1
17421	9978589.940	784397.109	2397.098	A-2
17422	9978597.249	784415.127	2398.296	A-1
17423	9978579.860	784415.214	2398.066	A-2
17424	9978578.308	784433.222	2399.385	A-2
17425	9978595.703	784434.588	2399.477	A-1
17426	9978594.507	784452.606	2400.636	A-1
17427	9978576.775	784451.192	2400.712	A-2
17428	9978575.135	784468.877	2401.945	A-2
17429	9978593.170	784471.897	2401.894	A-1
17430	9978591.332	784490.816	2403.211	A-1
17431	9978572.867	784488.876	2403.358	A-2
17432	9978571.106	784507.903	2404.945	A-2
17433	9978589.071	784508.853	2404.399	A-1
17434	9978586.014	784527.472	2405.485	A-1
17435	9978569.432	784524.740	2406.413	A-2
17436	9978569.149	784543.972	2408.178	A-2
17437	9978586.542	784545.770	2406.779	A-1
17438	9978589.567	784563.255	2408.261	A-2





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17439	9978571.624	784580.910	2408.448	A-1
17440	9978576.774	784574.690	2410.375	A-1
17441	9978582.329	784584.396	2411.183	A-1
17442	9978585.116	784588.199	2411.625	A-1
17443	9978599.414	784578.732	2410.015	A-1
17444	9978594.349	784597.446	2412.478	A-2
17445	9978671.113	784614.109	2417.626	A-6
17446	9978613.571	784589.503	2411.652	A-1
17447	9978603.776	784604.694	2413.228	A-2
17448	9978613.012	784610.604	2413.919	A-2
17449	9978621.381	784593.336	2412.478	A-1
17450	9978629.372	784596.358	2413.103	A-1
17451	9978623.532	784614.498	2414.654	A-2
17452	9978635.409	784616.097	2415.386	A-2
17453	9978638.162	784598.812	2414.029	A-1
17454	9978647.128	784616.647	2416.148	A-2
17455	9978657.003	784616.015	2416.771	A-2
17456	9978655.496	784599.842	2415.709	A-1
17457	9978664.303	784599.040	2416.651	A-1
17458	9978667.107	784614.295	2417.400	A-2
17459	9978676.508	784611.893	2417.964	A-2
17460	9978673.758	784597.816	2417.456	A-1
17461	9978683.210	784595.743	2418.231	A-1
17462	9978685.735	784609.892	2418.477	A-2
17463	9978695.610	784607.832	2419.134	A-2
17464	9978692.246	784593.583	2419.020	A-1
17465	9978701.741	784591.018	2419.917	A-1
17466	9978704.648	784605.753	2419.781	A-2
17467	9978714.018	784601.794	2420.373	A-2
17468	9978711.080	784588.595	2420.747	A-1
17469	9978720.067	784585.885	2421.503	A-1
17470	9978724.517	784601.407	2421.185	A-2
17471	9978733.747	784599.353	2421.875	A-2
17472	9978730.026	784583.022	2422.525	A-1
17473	9978739.441	784581.034	2423.528	A-1
17474	9978742.736	784597.854	2422.599	A-2
17475	9978750.844	784597.171	2423.249	A-2
17476	9978740.240	784579.818	2424.394	A-1
17477	9978747.416	784580.107	2424.243	A-7
17478	9978797.650	784590.111	2428.082	A-8
17479	9978747.376	784597.364	2422.972	A-2
17480	9978749.280	784579.815	2424.384	A-1
17481	9978759.328	784579.716	2425.220	A-1
17482	9978759.035	784597.378	2423.938	A-2
17483	9978768.650	784598.503	2424.692	A-2
17484	9978770.591	784580.752	2426.044	A-1
17485	9978775.903	784583.486	2426.558	A-1
17486	9978776.173	784600.016	2425.264	A-2
17487	9978785.838	784602.564	2425.929	A-2
17488	9978788.786	784587.031	2427.120	A-1
17489	9978797.243	784591.568	2427.739	A-1
17490	9978791.626	784606.055	2426.617	A-2
17491	9978797.962	784611.706	2427.041	A-2
17492	9978804.413	784597.288	2428.155	A-1
17493	9978812.381	784602.982	2428.627	A-1
17494	9978805.225	784616.514	2427.736	A-2
17495	9978811.585	784621.245	2428.466	A-2
17496	9978819.965	784609.106	2429.283	A-1
17497	9978827.231	784616.044	2429.930	A-1
17498	9978818.707	784627.348	2429.336	A-2
17499	9979061.698	784052.174	2534.237	B-A
17500	9979072.671	784063.345	2533.194	B-A
17501	9979081.672	784074.638	2532.291	B-A
17502	9979088.252	784084.976	2531.398	B-A
17503	9979091.722	784091.008	2530.843	B-A
17504	9979090.444	784099.896	2530.271	B-A
17505	9979087.599	784111.942	2529.865	B-A
17506	9979092.573	784124.804	2529.612	B-A
17507	9979095.021	784115.252	2529.798	B-A
17508	9979096.339	784113.593	2529.745	B-A
17509	9979097.772	784113.364	2529.695	B-A
17510	9979099.048	784114.280	2529.598	B-A
17511	9979103.468	784127.254	2528.720	B-A
17512	9979107.913	784140.407	2528.096	B-A
17513	9979107.408	784141.732	2528.086	B-A
17514	9979105.512	784142.737	2528.208	B-A
17515	9979094.256	784134.490	2529.079	B-A
17516	9979095.785	784145.631	2528.697	B-A
17517	9979112.133	784157.857	2527.356	B-A

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17518	9979114.532	784159.695	2527.197	B-A
17519	9979121.741	784181.685	2525.907	B-A
17520	9979127.884	784200.781	2524.805	B-A
17521	9979081.580	784055.909	2534.190	B-A
17522	9979086.970	784060.521	2533.845	B-A
17523	9979094.038	784068.127	2533.248	B-A
17524	9979098.064	784073.029	2532.878	B-A
17525	9979101.289	784075.244	2532.659	B-A
17526	9979103.404	784076.084	2532.539	B-A
17527	9979107.361	784077.566	2532.297	B-A
17528	9979108.972	784080.881	2532.062	B-A
17529	9979110.924	784087.235	2531.705	B-A
17530	9979112.156	784094.682	2531.124	B-A
17531	9979173.268	784341.754	2518.071	B-A
17532	9979112.081	784100.455	2530.701	B-A
17533	9979111.130	784101.404	2530.647	B-A
17534	9979109.522	784101.988	2530.605	B-A
17535	9979175.272	784332.615	2518.624	B-A
17536	9979103.584	784100.434	2530.647	B-A
17537	9979175.047	784322.654	2519.092	B-A
17538	9979108.575	784100.447	2530.635	B-A
17539	9979175.303	784313.342	2519.462	B-A
17540	9979107.884	784098.943	2530.770	B-A
17541	9979174.007	784304.073	2519.801	B-A
17542	9979105.658	784093.960	2531.021	B-A
17543	9979103.487	784090.679	2531.306	B-A
17544	9979100.257	784084.793	2531.730	B-A
17545	9979092.836	784073.102	2532.645	B-A
17546	9979084.329	784062.366	2533.520	B-A
17547	9979079.781	784056.454	2534.051	B-A
17548	9979177.142	784299.500	2519.929	B-A
17549	9979177.493	784296.739	2520.137	B-A
17550	9979182.531	784288.532	2520.419	B-A
17551	9979178.790	784279.480	2520.770	B-A
17552	9979175.529	784283.123	2520.557	B-A
17553	9979175.615	784283.711	2520.528	B-A
17554	9979174.644	784283.505	2520.547	B-A
17555	9979170.779	784272.401	2521.115	B-A
17556	9979109.567	784111.989	2529.835	B-A
17557	9979108.799	784113.215	2529.734	B-A
17558	9979166.071	784257.907	2521.896	B-A
17559	9979111.933	784122.364	2529.190	B-A
17560	9979166.062	784257.897	2521.870	B-A
17561	9979115.365	784132.586	2528.576	B-A
17562	9979116.785	784136.718	2528.401	B-A
17563	9979166.643	784256.333	2522.033	B-A
17564	9979167.647	784256.003	2522.086	B-A
17565	9979168.563	784256.324	2522.075	B-A
17566	9979170.141	784257.305	2522.019	B-A
17567	9979162.953	784243.598	2522.361	B-A
17568	9979161.371	784242.587	2522.525	B-A
17569	9979159.689	784240.751	2522.869	B-A
17570	9979117.446	784137.000	2528.416	B-A
17571	9979117.757	784135.894	2528.495	B-A
17572	9979153.885	784224.259	2523.414	B-A
17573	9979116.913	784129.661	2528.904	B-A
17574	9979150.475	784213.274	2524.185	B-A
17575	9979126.121	784123.601	2529.326	B-A
17576	9979121.078	784210.356	2524.491	B-A
17577	9979121.302	784204.482	2524.806	B-A
17578	9979121.659	784171.625	2526.613	B-A
17579	9979128.427	784173.064	2526.483	B-A
17580	9979115.731	784115.830	2529.843	B-A
17581	9979113.352	784158.261	2527.197	B-A
17582	9979115.478	784112.346	2530.025	B-A
17583	9979114.755	784111.230	2530.071	B-A
17584	9979128.944	784144.509	2527.980	B-A
17585	9979113.832	784111.088	2530.087	B-A
17586	9979125.718	784134.192	2528.558	B-A
17587	9979124.709	784126.726	2529.016	B-A
17588	9979125.263	784122.663	2529.225	B-A
17589	9979126.139	784121.738	2529.215	B-A
17590	9979126.547	784123.105	2529.106	B-A
17591	9979127.752	784127.297	2528.791	B-A
17592	9979133.493	784105.305	2529.114	B-A
17593	9979132.134	784105.952	2529.242	B-A
17594	9979130.053	784104.389	2529.682	B-A
17595	9979133.970	784098.097	2529.835	B-A
17596	9979133.970	784098.097	2529.835	B-A





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17597	9979138.163	784093.247	2529.841	A-A
17598	9979122.595	784093.504	2530.495	B-A
17599	9979122.876	784093.428	2530.483	B-A
17600	9979124.009	784090.347	2530.635	B-A
17601	9979120.619	784088.849	2531.178	B-A
17602	9979124.199	784086.875	2530.975	B-A
17603	9979118.536	784081.082	2531.915	B-A
17604	9979115.278	784073.196	2532.250	B-A
17605	9979130.724	784082.548	2530.618	B-A
17606	9979134.119	784080.478	2530.478	B-A
17607	9979112.837	784068.049	2532.473	B-A
17608	9979112.136	784066.901	2532.482	B-A
17609	9979112.755	784065.994	2532.456	B-A
17610	9979113.929	784065.744	2532.325	B-A
17611	9979128.404	784068.643	2531.823	B-A
17612	9979121.813	784068.044	2531.780	B-A
17613	9979129.842	784060.790	2531.172	A-A
17614	9979123.858	784060.268	2531.660	A-A
17615	9979117.126	784058.541	2532.165	A-A
17616	9979113.109	784056.057	2532.479	A-A
17617	9979105.565	784050.387	2533.415	B-A
17618	9979095.078	784041.950	2534.251	B-A
17619	9979092.541	784039.618	2534.485	B-A
17620	9979072.353	784025.941	2536.193	B-A
17621	9979083.052	784058.181	2534.107	PC
17622	9979130.174	784207.366	2524.465	B-A
17623	9979134.012	784219.743	2528.925	B-A
17624	9979138.582	784231.869	2523.222	B-A
17625	9979143.411	784249.204	2522.383	B-A
17626	9979147.701	784262.630	2521.615	B-A
17627	9979152.851	784278.778	2520.734	B-A
17628	9979156.635	784290.510	2520.039	B-A
17629	9979160.250	784304.583	2518.023	B-A
17630	9979162.635	784315.749	2518.214	B-A
17631	9979162.265	784327.453	2517.398	B-A
17632	9979159.597	784336.918	2516.690	B-A
17633	9979155.617	784345.984	2515.922	B-A
17634	9979151.465	784351.053	2515.498	B-A
17635	9979145.918	784359.844	2514.906	B-A
17636	9979138.985	784365.923	2514.172	B-A
17637	9979179.158	784297.595	2520.329	CE
17638	9979180.229	784306.799	2519.876	CE
17639	9979181.438	784318.265	2519.437	CE
17640	9979181.833	784323.276	2519.230	CE
17641	9979181.427	784330.571	2518.890	CE
17642	9979180.262	784337.563	2518.755	CE
17643	9979178.175	784345.270	2518.713	CE
17644	9979173.343	784356.175	2518.308	CE
17645	9979169.291	784361.119	2517.734	CE
17646	9979165.074	784368.958	2517.252	CE
17647	9979155.932	784377.812	2516.437	CE
17648	9979150.815	784381.953	2515.817	CE
17649	9979128.408	784393.444	2513.577	CE
17650	9979173.841	784339.679	2518.239	B-A
17651	9979174.484	784342.349	2518.232	PC
17652	9979171.828	784345.570	2517.956	B-A
17653	9979166.711	784356.270	2517.304	B-A
17654	9979157.382	784369.153	2516.308	B-A
17655	9979147.899	784377.110	2515.530	B-A
17656	9979139.189	784382.175	2514.855	B-A
17657	9979128.423	784386.919	2514.091	B-A
17658	9979119.649	784389.061	2513.580	B-A
17659	9979130.900	784370.787	2513.360	B-A
17660	9979122.091	784374.150	2512.650	B-A
17661	9979114.209	784375.623	2511.887	B-A
17662	9979106.465	784376.171	2511.288	B-A
17663	9979110.403	784390.353	2512.918	B-A
17664	9979100.915	784389.466	2512.305	B-A
17665	9979098.737	784375.910	2510.730	B-A
17666	9979089.163	784388.266	2511.627	B-A
17667	9979091.748	784374.964	2510.262	B-A
17668	9979077.801	784384.405	2511.003	B-A
17669	9979063.634	784372.190	2509.642	B-A
17670	9979079.214	784368.580	2509.268	B-A
17671	9979068.149	784379.235	2510.447	B-A
17672	9979067.910	784371.492	2509.673	B-A
17673	9979051.343	784363.727	2508.888	B-A
17674	9979048.977	784354.058	2507.910	B-A
17675	9979042.189	784354.389	2508.277	CE

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17676	9979048.887	784355.689	2509.296	CE
17677	9979047.596	784366.589	2509.512	CE
17678	9979059.304	784378.910	2510.666	CE
17679	9979076.468	784389.429	2511.296	CE
17680	9979102.861	784395.865	2510.576	CE
17681	9979115.998	784395.876	2511.440	CE
17682	9979072.226	784384.851	2508.754	B-A
17683	9979064.105	784357.900	2508.070	B-A
17684	9979059.023	784352.219	2507.549	B-A
17685	9979052.841	784342.826	2506.927	B-A
17686	9979040.241	784345.802	2507.179	B-A
17687	9979047.445	784332.779	2506.187	B-A
17688	9979033.713	784332.989	2506.043	B-A
17689	9979043.325	784324.941	2505.698	B-A
17690	9979027.422	784320.051	2504.987	B-A
17691	9979037.578	784314.504	2504.962	B-A
17692	9979020.955	784307.680	2504.002	B-A
17693	9979030.438	784302.243	2504.263	B-A
17694	9979013.275	784294.162	2502.836	B-A
17695	9979022.466	784288.251	2503.398	B-A
17696	9979006.775	784284.455	2501.911	B-A
17697	9979016.204	784278.181	2502.864	B-A
17698	9979000.777	784277.532	2501.194	B-A
17699	9979009.982	784269.829	2502.387	B-A
17700	9979003.902	784263.178	2501.954	B-A
17701	9978997.913	784257.825	2501.358	B-A
17702	9978989.690	784252.998	2501.110	B-A
17703	9978983.013	784250.014	2500.662	B-A
17704	9979077.464	784388.812	2511.145	PC
17705	9978971.871	784248.066	2499.995	B-A
17706	9978962.398	784247.257	2499.361	B-A
17707	9978953.001	784248.220	2498.805	B-A
17708	9978942.481	784251.342	2498.258	B-A
17709	9978932.194	784255.405	2497.689	B-A
17710	9978922.985	784259.809	2497.085	B-A
17711	9978918.779	784265.036	2496.757	B-A
17712	9978912.526	784269.868	2496.337	B-A
17713	9978907.354	784276.737	2495.819	B-A
17714	9978901.890	784285.754	2495.249	B-A
17715	9978899.552	784269.486	2500.149	B-A
17716	9978980.114	784265.588	2499.312	B-A
17717	9978970.018	784263.668	2498.412	B-A
17718	9978959.813	784263.186	2497.670	B-A
17719	9978950.621	784264.056	2497.005	B-A
17720	9978939.420	784268.682	2496.181	B-A
17721	9978930.427	784274.130	2495.434	B-A
17722	9978922.904	784250.349	2500.714	PC
17723	9978922.968	784280.621	2494.759	B-A
17724	9978916.751	784288.899	2493.955	B-A
17725	9978912.271	784298.258	2493.178	B-A
17726	9978909.897	784309.056	2492.296	B-A
17727	9978909.659	784320.276	2491.468	B-A
17728	9978911.448	784331.292	2490.787	B-A
17729	9978914.143	784342.052	2490.129	B-A
17730	9978929.608	784278.865	2495.630	CE
17731	9978923.621	784286.486	2495.400	CE
17732	9978917.377	784298.254	2493.615	CE
17733	9978915.178	784306.610	2492.935	CE
17734	9978914.206	784317.722	2491.889	CE
17735	9978914.315	784322.186	2491.374	CE
17736	9978912.467	784325.475	2490.211	A-2
17737	9978914.584	784323.327	2490.655	A-1
17738	9978912.427	784311.388	2491.407	A-1
17739	9978912.654	784340.531	2491.077	A-2
17740	9978913.727	784342.746	2492.547	A-5
17741	9978913.615	784351.519	2492.331	A-2
17742	9978910.398	784358.452	2493.011	A-1
17743	9978910.151	784349.295	2493.223	A-2
17744	9978906.870	784355.200	2493.905	A-1
17745	9978917.030	784366.524	2493.652	A-2
17746	9978914.245	784372.708	2494.429	A-2
17747	9978913.952	784363.027	2494.684	A-1
17748	9978916.931	784376.680	2496.096	A-2
17749	9978917.799	784386.407	2495.922	A-2
17750	9978911.018	784399.951	2497.344	A-2
17751	9978910.219	784400.459	2497.433	A-1
17752	9978914.023	784404.488	2498.815	A-1
17753	9978904.471	784413.703	2498.742	A-2
17754	9978917.610	784427.046	2440.097	A-2





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17735	9978927.020	784718.206	2440.123	A-1
17756	9978940.806	784732.127	2441.768	A-1
17757	9978931.177	784741.557	2441.722	A-2
17758	9978944.163	784754.811	2443.140	A-2
17759	9978953.804	784745.168	2443.164	A-1
17760	9978967.306	784758.723	2444.431	A-1
17761	9978977.712	784768.781	2444.628	A-2
17762	9978970.995	784781.647	2445.948	A-2
17763	9978980.709	784772.125	2445.610	A-1
17764	9978995.468	784786.323	2446.771	A-1
17765	9978995.241	784785.862	2446.756	A-1
17766	9978984.764	784795.928	2447.391	A-2
17767	9979039.143	784831.792	2451.294	I-9
17768	9979000.250	784809.310	2448.764	B-112
17769	9979078.331	784836.833	2452.929	B-111
17770	9978909.863	784272.455	2446.206	PC
17771	9978918.029	784350.998	2448.617	B-A
17772	9978924.321	784364.683	2448.907	B-A
17773	9978929.685	784376.236	2448.271	B-A
17774	9978898.323	784293.509	2444.784	B-A
17775	9978895.887	784303.862	2444.174	B-A
17776	9978895.312	784314.379	2443.514	B-A
17777	9978896.083	784324.381	2442.764	B-A
17778	9978896.608	784335.737	2441.936	B-A
17779	9978905.257	784350.038	2440.978	B-A
17780	9978908.647	784364.412	2440.890	B-A
17781	9978912.789	784374.502	2440.149	B-A
17782	9978919.832	784389.218	2448.140	B-A
17783	9978930.370	784377.761	2448.203	B-A
17784	9978935.357	784388.728	2447.626	B-A
17785	9978926.617	784403.774	2447.177	B-A
17786	9978939.767	784397.785	2447.220	B-A
17787	9978932.780	784416.665	2446.545	B-A
17788	9978944.766	784407.895	2446.766	B-A
17789	9978939.818	784430.707	2445.926	B-A
17790	9978950.522	784419.369	2446.196	B-A
17791	9978947.653	784444.955	2445.353	B-A
17792	9978956.998	784432.037	2445.684	B-A
17793	9978956.046	784459.646	2444.869	B-A
17794	9978963.026	784444.122	2445.027	B-A
17795	9978964.258	784473.737	2444.368	B-A
17796	9978969.973	784457.106	2444.307	B-A
17797	9978973.546	784489.425	2445.709	B-A
17798	9978977.178	784470.069	2443.669	B-A
17799	9978984.561	784504.935	2443.049	B-A
17800	9978984.099	784481.520	2443.037	B-A
17801	9978994.169	784514.943	2442.537	B-A
17802	9979004.471	784524.182	2441.922	B-A
17803	9979016.204	784533.395	2441.188	B-A
17804	9978915.999	784328.651	2441.280	CE
17805	9978918.816	784341.599	2440.636	CE
17806	9978925.198	784356.655	2449.469	CE
17807	9978928.318	784362.906	2449.940	CE
17808	9978907.074	784361.180	2490.275	PC
17809	9979001.133	784502.293	2481.848	B-A
17810	9979009.680	784510.324	2481.468	B-A
17811	9979019.159	784517.859	2481.085	B-A
17812	9979029.096	784524.915	2480.640	B-A
17813	9979040.723	784533.013	2480.081	B-A
17814	9979025.492	784519.769	2480.606	B-A
17815	9979053.657	784541.577	2479.382	B-A
17816	9979037.776	784547.862	2479.790	B-A
17817	9979067.295	784550.299	2478.694	B-A
17818	9979049.544	784555.643	2479.081	B-A
17819	9979081.232	784559.360	2477.819	B-A
17820	9979059.735	784562.226	2478.495	B-A
17821	9979096.954	784568.947	2476.709	B-A
17822	9979073.994	784571.603	2477.507	B-A
17823	9979111.700	784578.652	2475.473	B-A
17824	9979088.792	784581.459	2474.295	B-A
17825	9979126.612	784588.190	2474.222	B-A
17826	9979137.633	784595.204	2473.498	B-A
17827	9979148.438	784603.449	2472.607	B-A
17828	9979158.331	784610.062	2471.880	B-A
17829	9979167.587	784617.789	2471.112	B-A
17830	9979177.028	784627.544	2470.171	B-A
17831	9979104.472	784592.612	2474.937	B-A
17832	9979184.919	784639.107	2469.079	B-A
17833	9979119.455	784602.154	2473.728	B-A

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17834	9979132.617	784610.945	2472.348	B-A
17835	9979021.998	784536.621	2480.940	PC
17836	9979090.140	784583.729	2475.952	A-A
17837	9979103.082	784592.108	2474.921	A-A
17838	9979127.802	784607.712	2473.864	A-A
17839	9979128.321	784609.204	2473.613	A-A
17840	9979142.081	784617.891	2473.666	A-A
17841	9979143.925	784617.662	2473.624	A-A
17842	9979152.570	784624.374	2470.439	B-A
17843	9979162.449	784633.497	2469.127	B-A
17844	9979170.021	784642.291	2468.233	B-A
17845	9979176.466	784652.473	2467.322	B-A
17846	9979181.806	784663.515	2466.234	B-A
17847	9979186.151	784675.731	2465.229	B-A
17848	9979189.029	784687.439	2464.190	B-A
17849	9979190.441	784699.334	2463.116	B-A
17850	9979190.420	784710.567	2462.106	B-A
17851	9979190.985	784648.373	2468.163	PC
17852	9979194.887	784657.965	2467.575	B-A
17853	9979198.566	784668.246	2466.853	B-A
17854	9979201.569	784677.892	2466.114	B-A
17855	9979203.807	784688.638	2465.343	B-A
17856	9979205.084	784701.130	2464.318	B-A
17857	9979205.160	784712.419	2463.467	B-A
17858	9979203.881	784724.623	2462.592	B-A
17859	9979201.649	784735.713	2461.842	B-A
17860	9979189.128	784724.161	2460.951	B-A
17861	9979198.300	784746.442	2461.037	B-A
17862	9979187.233	784734.897	2460.195	B-A
17863	9979194.240	784757.122	2460.271	B-A
17864	9979184.203	784744.155	2459.395	B-A
17865	9979188.970	784767.605	2459.501	B-A
17866	9979179.542	784754.665	2458.590	B-A
17867	9979183.356	784776.768	2458.809	B-A
17868	9979174.339	784764.216	2457.836	B-A
17869	9979168.561	784772.904	2457.130	B-A
17870	9979179.181	784782.664	2456.416	B-A
17871	9979171.531	784791.614	2457.638	B-A
17872	9979161.342	784781.264	2456.254	B-A
17873	9979163.358	784799.644	2456.952	B-A
17874	9979153.228	784789.364	2455.519	B-A
17875	9979155.624	784806.148	2456.333	B-A
17876	9979144.172	784796.503	2454.895	B-A
17877	9979148.295	784811.293	2455.854	B-A
17878	9979135.300	784802.056	2454.198	B-A
17879	9979139.945	784816.139	2455.436	B-A
17880	9979127.581	784806.455	2453.877	B-A
17881	9979130.334	784820.730	2454.930	B-A
17882	9979119.748	784825.472	2454.537	B-A
17883	9979111.051	784829.783	2454.222	B-A
17884	9979099.684	784834.251	2453.783	B-A
17885	9979089.257	784836.341	2453.400	B-A
17886	9979078.305	784836.873	2452.914	B-A
17887	9979189.897	784768.304	2459.279	PC
17888	9979117.631	784811.215	2453.482	B-A
17889	9979108.267	784814.373	2452.974	B-A
17890	9979098.188	784817.248	2452.474	B-A
17891	9979086.835	784820.266	2451.903	B-A
17892	9979076.940	784821.563	2451.364	B-A
17893	9979067.679	784820.957	2450.817	B-A
17894	9979058.164	784819.482	2450.281	B-A
17895	9979049.915	784818.768	2449.688	B-A
17896	9979039.674	784813.509	2449.199	B-A
17897	9979027.805	784807.191	2448.464	B-A
17898	9979017.502	784800.148	2447.827	B-A
17899	9979129.487	784823.592	2454.930	S-A
17900	9979129.276	784836.484	2451.176	S-A
17901	9979102.261	784844.427	2452.879	S-A
17902	9979084.578	784843.983	2452.314	S-A
17903	9979071.340	784836.624	2452.531	B-A
17904	9979059.759	784835.319	2451.944	B-A
17905	9979048.744	784832.890	2451.440	B-A
17906	9979038.226	784829.918	2450.935	B-A
17907	9979026.533	784825.141	2450.358	B-A
17908	9979014.896	784819.149	2449.696	B-A
17909	9979004.500	784812.547	2449.041	B-A
17910	9979006.136	784840.361	2452.145	S-A
17911	9979007.332	784836.165	2452.003	S-A
17912	9979024.631	784830.041	2450.717	S-A





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17913	9979078.331	784836.833	2452.929	PC
17914	9979079.143	784831.782	2451.281	PC/JHY
17915	9978797.709	784590.100	2428.071	PC/JHY
17916	9979071.710	784024.079	2536.484	PC
17917	9979074.479	784041.759	2535.462	B-A
17918	9979072.485	784043.186	2535.424	B-A
17919	9979070.851	784045.296	2535.147	B-A
17920	9979066.288	784043.200	2535.316	B-A
17921	9979055.223	784034.653	2536.327	B-A
17922	9979052.129	784032.189	2536.620	B-A
17923	9979042.155	784023.528	2537.740	B-A
17924	9979040.792	784022.295	2537.892	B-A
17925	9979047.151	784025.279	2537.469	B-A
17926	9979054.838	784028.907	2536.897	B-A
17927	9979065.908	784035.766	2536.141	B-A
17928	9979041.221	784033.538	2536.644	B-A
17929	9979061.077	784022.085	2537.032	B-A
17930	9979046.762	784015.053	2538.130	B-A
17931	9979094.751	784027.658	2537.500	B-A
17932	9979026.269	784020.189	2538.607	B-A
17933	9979035.698	784008.163	2538.095	B-A
17934	9979013.614	784009.550	2540.002	B-A
17935	9979006.580	784003.430	2540.783	B-A
17936	9978988.821	783989.416	2543.852	B-A
17937	9978975.424	783957.862	2545.237	B-A
17938	9978995.614	783994.241	2541.919	B-A
17939	9978984.466	783984.659	2543.193	B-A
17940	9978962.652	783948.762	2546.625	B-A
17941	9978975.844	783977.208	2544.063	B-A
17942	9978966.264	783968.585	2545.156	B-A
17943	9978944.032	783930.798	2548.635	B-A
17944	9978957.461	783960.939	2546.108	B-A
17945	9978945.654	783951.129	2547.353	B-A
17946	9978925.881	783915.187	2550.609	B-A
17947	9978910.998	783902.429	2552.126	B-A
17948	9978934.559	783941.707	2548.547	B-A
17949	9978923.367	783932.207	2549.670	B-A
17950	9978901.846	783894.542	2553.017	B-A
17951	9978889.236	783882.975	2554.273	B-A
17952	9978879.289	783874.288	2555.238	B-A
17953	9978812.159	783822.444	2550.817	B-A
17954	9978902.687	783914.038	2551.938	B-A
17955	9979081.043	784058.183	2534.079	PC
17956	9978888.167	783901.576	2553.389	B-A
17957	9978875.766	783890.138	2554.756	B-A
17958	9978870.126	783863.725	2556.157	B-A
17959	9978864.881	783878.696	2556.047	B-A
17960	9978851.332	783864.408	2557.769	B-A
17961	9978858.553	783851.136	2557.329	B-A
17962	9978838.862	783849.966	2559.236	B-A
17963	9978832.262	783839.568	2559.990	B-A
17964	9978848.104	783857.719	2558.621	B-A
17965	9978822.882	783823.555	2561.027	B-A
17966	9978837.477	783820.424	2560.141	B-A
17967	9978812.669	783805.669	2562.349	B-A
17968	9978825.975	783800.265	2561.852	B-A
17969	9978802.814	783788.656	2563.606	B-A
17970	9978815.154	783781.402	2563.349	B-A
17971	9978794.850	783775.230	2564.590	B-A
17972	9978806.975	783766.956	2564.525	B-A
17973	9978785.003	783758.594	2565.859	B-A
17974	9978797.700	783750.964	2565.864	B-A
17975	9978775.885	783742.908	2566.992	B-A
17976	9978788.721	783735.848	2567.016	B-A
17977	9978765.880	783726.314	2568.471	B-A
17978	9978777.597	783717.593	2568.450	B-A
17979	9978755.968	783710.665	2569.838	B-A
17980	9978746.970	783696.781	2570.977	B-A
17981	9978766.339	783699.809	2569.980	B-A
17982	9978737.448	783682.522	2572.199	B-A
17983	9978727.979	783668.495	2573.344	B-A
17984	9978735.927	783680.876	2571.530	B-A
17985	9978718.188	783653.804	2574.501	B-A
17986	9978709.153	783640.508	2575.634	B-A
17987	9978739.595	783659.753	2573.245	B-A
17988	9978699.243	783625.370	2576.958	B-A
17989	9978689.115	783610.352	2578.349	B-A
17990	9978721.046	783632.401	2575.443	B-A
17993	9978852.984	783867.582	2557.449	PC

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
17994	9978705.817	783609.287	2577.256	B-A
17995	9978677.118	783591.592	2579.784	B-A
17996	9978692.383	783589.641	2578.559	B-A
17997	9978667.597	783576.117	2580.981	B-A
17998	9978679.870	783569.603	2579.904	B-A
17999	9978674.122	783550.245	2581.308	B-A
18000	9978662.887	783563.985	2581.941	B-A
18001	9978660.211	783552.679	2582.777	B-A
18002	9978659.349	783542.710	2583.433	B-A
18003	9978673.224	783534.884	2582.448	B-A
18004	9978659.777	783529.488	2584.247	B-A
18005	9978662.476	783514.551	2585.041	B-A
18006	9978676.201	783518.422	2583.519	B-A
18007	9978666.031	783503.091	2585.755	B-A
18008	9978671.286	783488.830	2586.837	B-A
18009	9978681.598	783502.493	2584.579	B-A
18010	9978677.596	783480.970	2587.323	A-A
18011	9978686.431	783473.822	2587.837	A-A
18012	9978676.607	783478.491	2587.580	A-A
18013	9978690.105	783469.299	2588.177	A-A
18014	9978682.759	783467.807	2588.389	A-A
18015	9978692.187	783459.382	2588.946	A-A
18016	9978684.965	783459.402	2589.016	A-A
18017	9978696.815	783464.434	2588.604	B-A
18018	9978688.809	783491.283	2585.625	B-A
18019	9978705.634	783458.250	2589.021	B-A
18020	9978698.877	784603.520	2412.874	TOP
18021	9978291.896	784685.959	2425.443	PK-1
18022	9978306.713	784636.417	2424.378	PK-2
18023	9978327.881	784472.655	2420.404	TN
18024	9978322.172	784484.345	2420.478	TN
18025	9978317.473	784486.982	2422.261	TN
18026	9978310.711	784500.288	2420.762	TN
18027	9978306.625	784508.875	2420.959	TN
18028	9978300.756	784512.044	2422.017	TN
18029	9978297.600	784515.919	2422.112	TN
18030	9978295.661	784522.396	2422.300	TN
18031	9978295.415	784529.510	2422.534	TN
18032	9978292.236	784539.204	2423.317	TN
18033	9978289.698	784551.454	2424.849	TN
18034	9978290.809	784560.228	2424.315	TN
18035	9978288.571	784573.314	2424.979	TN
18036	9978284.515	784565.818	2423.797	TN
18037	9978281.776	784583.204	2424.998	TN
18038	9978282.782	784541.754	2423.639	TN
18039	9978290.540	784529.115	2430.956	TN
18040	9978290.139	784520.782	2430.962	TN
18041	9978287.502	784512.974	2430.482	TN
18042	9978288.637	784502.959	2429.818	TN
18043	9978287.338	784509.269	2427.786	TN
18044	9978305.061	784490.692	2430.146	TN
18045	9978308.942	784486.608	2429.651	TN
18046	9978317.927	784479.735	2427.597	TN
18047	9978325.213	784472.280	2425.550	TN
18048	9978289.239	784492.822	2445.757	BTN
18049	9978282.212	784499.294	2446.120	BTN
18050	9978278.435	784506.972	2445.707	BTN
18051	9978282.604	784520.644	2442.275	BTN
18052	9978282.430	784529.533	2440.172	BTN
18053	9978275.462	784537.123	2443.472	BTN
18054	9978273.145	784548.867	2444.333	BTN
18055	9978277.418	784568.420	2441.092	BTN
18056	9978280.219	784575.874	2439.584	BTN
18057	9978279.147	784583.034	2440.169	BTN
18058	9978292.634	784551.372	2420.725	PIE
18059	9978291.296	784559.179	2421.169	PIE
18060	9978290.642	784563.518	2421.404	PIE
18061	9978299.015	784537.097	2420.639	BM
18062	9978302.280	784528.919	2420.205	BM
18063	9978304.457	784523.326	2418.897	BM
18064	9978306.856	784517.873	2419.518	BM
18065	9978309.721	784512.013	2419.189	BM
18066	9978311.023	784505.871	2418.991	BM
18067	9978316.705	784498.954	2419.002	BM
18068	9978320.945	784491.074	2418.842	BM
18069	9978290.658	784688.618	2425.861	CS
18070	9978290.496	784684.577	2425.562	CS
18071	9978291.699	784667.431	2425.179	CS
18072	9978291.557	784664.284	2425.268	MH





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18073	9978291.557	784662.570	2427.016	BM
18074	9978291.290	784656.761	2427.393	BM
18075	9978291.108	784651.639	2427.323	BM
18076	9978290.843	784646.304	2427.231	BM
18077	9978290.446	784641.652	2427.347	BM
18078	9978290.665	784641.817	2424.430	MR
18079	9978290.854	784645.947	2424.553	MR
18080	9978291.749	784652.021	2424.844	MR
18081	9978291.863	784658.747	2424.996	MR
18082	9978283.823	784641.776	2433.501	CS
18083	9978283.880	784636.712	2432.914	CS
18084	9978283.897	784629.175	2433.496	CS
18085	9978283.096	784622.373	2434.278	CS
18086	9978283.084	784616.112	2435.384	CS
18087	9978283.764	784605.389	2435.576	CS
18088	9978281.735	784594.381	2437.864	CS
18089	9978287.601	784640.683	2428.766	TN
18090	9978288.134	784634.305	2428.640	TN
18091	9978286.736	784625.184	2430.087	TN
18092	9978287.086	784617.351	2429.623	TN
18093	9978287.310	784608.282	2429.558	TN
18094	9978287.873	784599.894	2429.581	TN
18095	9978284.744	784579.142	2430.324	TN
18096	9978286.900	784568.978	2429.635	TN
18097	9978287.462	784558.526	2430.375	TN
18098	9978279.726	784548.463	2430.495	TN
18099	9978279.946	784539.258	2430.573	TN
18100	9978290.452	784638.215	2424.504	PIE
18101	9978290.373	784631.895	2424.322	PIE
18102	9978290.942	784626.956	2424.141	PIE
18103	9978289.758	784618.772	2424.081	PIE
18104	9978290.079	784606.662	2423.569	PIE
18105	9978288.703	784587.495	2422.896	PIE
18106	9978289.581	784576.815	2422.185	PIE
18107	9978290.266	784564.104	2421.717	PIE
18108	9978292.351	784555.586	2421.114	PX-3
18109	9978329.614	784480.171	2413.481	PX-4
18110	9978325.180	784483.244	2418.918	BM
18111	9978334.406	784463.835	2419.044	BM
18112	9978340.108	784452.206	2419.007	BM
18113	9978344.689	784445.620	2419.038	BM
18114	9978350.480	784435.073	2417.104	BM
18115	9978355.432	784429.389	2413.059	BM
18116	9978357.606	784429.026	2411.500	BM
18117	9978330.017	784505.511	2416.163	PMR
18118	9978352.155	784439.918	2409.938	PMR
18119	9978345.239	784451.651	2411.113	PMR
18120	9978339.100	784462.060	2411.841	PMR
18121	9978331.256	784475.052	2413.279	PMR
18122	9978322.901	784489.574	2414.652	PMR
18123	9978316.745	784500.122	2415.547	PMR
18124	9978312.438	784507.735	2416.314	PMR
18125	9978310.335	784514.217	2416.880	PMR
18126	9978306.953	784518.599	2417.342	PMR
18127	9978304.211	784524.552	2417.958	PMR
18128	9978299.591	784536.735	2418.967	PMR
18129	9978301.187	784532.065	2418.603	PMR
18130	9978435.520	784402.528	2397.832	PX-5
18131	9978368.383	784403.161	2408.425	CS
18132	9978360.155	784420.370	2408.205	CS
18133	9978387.554	784384.822	2405.303	BTN
18134	9978379.500	784386.520	2407.051	BTN
18135	9978382.540	784377.972	2407.580	BTN
18136	9978387.877	784362.320	2407.973	BTN
18137	9978385.683	784351.033	2409.257	BTN
18138	9978387.798	784340.798	2409.702	BTN
18139	9978385.153	784327.377	2411.448	BTN
18140	9978380.833	784307.516	2415.156	BTN
18141	9978381.593	784307.885	2411.972	TN
18142	9978383.020	784315.181	2410.179	TN
18143	9978386.675	784325.961	2408.666	TN
18144	9978389.900	784334.939	2406.642	TN
18145	9978395.359	784354.491	2404.381	TN
18146	9978398.368	784345.227	2401.425	PIE
18147	9978398.704	784351.943	2401.728	PIE
18148	9978395.079	784360.632	2402.504	PIE
18149	9978393.250	784366.984	2403.004	PIE
18150	9978385.499	784377.070	2404.070	PIE
18151	9978380.314	784385.690	2404.738	PIE

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18152	9978379.632	784390.407	2404.926	PIE
18153	9978395.890	784335.705	2403.233	TN
18154	9978392.838	784325.882	2404.460	TN
18155	9978388.060	784310.582	2405.998	TN
18156	9978564.287	784298.138	2391.026	PX-6
18157	9978599.918	784368.006	2395.436	PX-7
18158	9978602.585	784442.727	2410.517	BTN
18159	9978603.941	784436.257	2411.066	BTN
18160	9978604.113	784421.098	2410.168	BTN
18161	9978607.497	784417.735	2411.077	BTN
18162	9978609.063	784409.254	2412.337	BTN
18163	9978609.648	784403.900	2412.997	BTN
18164	9978609.043	784392.199	2411.608	BTN
18165	9978610.228	784386.065	2414.566	BTN
18166	9978611.240	784373.254	2416.380	BTN
18167	9978609.583	784355.631	2415.410	BTN
18168	9978606.694	784345.678	2413.920	BTN
18169	9978597.902	784330.853	2406.832	BTN
18170	9978593.894	784321.467	2407.321	BTN
18171	9978588.176	784311.947	2407.381	BTN
18172	9978581.888	784314.658	2403.657	BTN
18173	9978577.081	784300.852	2403.285	BTN
18174	9978570.272	784296.512	2400.744	BTN
18175	9978561.997	784283.278	2399.226	BTN
18176	9978553.228	784280.667	2398.384	BTN
18177	9978546.107	784272.085	2397.943	BTN
18178	9978551.275	784278.175	2395.122	TN
18179	9978560.119	784285.820	2395.966	TN
18180	9978566.353	784293.116	2397.334	TN
18181	9978583.197	784305.939	2399.493	TN
18182	9978587.636	784317.007	2399.883	TN
18183	9978593.164	784328.935	2399.287	TN
18184	9978596.509	784333.771	2400.199	TN
18185	9978599.136	784341.573	2400.268	TN
18186	9978602.225	784352.261	2400.589	TN
18187	9978605.273	784369.976	2402.353	TN
18188	9978605.453	784380.006	2403.336	TN
18189	9978604.486	784390.663	2403.674	TN
18190	9978605.114	784402.822	2405.345	TN
18191	9978604.973	784409.420	2405.784	TN
18192	9978604.704	784418.448	2406.375	TN
18193	9978603.366	784435.009	2407.867	TN
18194	9978599.132	784431.169	2399.989	PIE
18195	9978600.070	784413.356	2398.808	PIE
18196	9978600.636	784402.260	2397.891	PIE
18197	9978601.229	784391.409	2397.123	PIE
18198	9978601.066	784381.298	2396.618	PIE
18199	9978600.667	784372.859	2395.948	PIE
18200	9978600.651	784363.194	2395.402	PIE
18201	9978599.067	784353.723	2394.826	PIE
18202	9978597.363	784346.261	2394.270	PIE
18203	9978594.654	784338.739	2393.948	PIE
18204	9978592.425	784331.831	2393.598	PIE
18205	9978588.032	784324.668	2393.174	PIE
18206	9978583.130	784316.976	2392.535	PIE
18207	9978574.583	784306.850	2391.802	PIE
18208	9978567.620	784299.255	2391.712	PIE
18209	9978561.186	784294.519	2391.386	PIE
18210	9978554.744	784288.593	2391.760	PIE
18211	9978545.385	784451.536	2400.625	PX-8
18212	9978540.277	784453.659	2408.900	BTN
18213	9978537.679	784477.852	2409.011	BTN
18214	9978535.620	784491.703	2408.547	BTN
18215	9978534.370	784503.536	2408.988	BTN
18216	9978530.488	784516.235	2409.562	BTN
18217	9978529.347	784523.659	2410.024	BTN
18218	9978527.679	784532.966	2409.795	BTN
18219	9978527.828	784541.488	2411.747	BTN
18220	9978528.651	784550.704	2412.558	BTN
18221	9978529.506	784559.341	2413.710	BTN
18222	9978529.803	784561.504	2408.513	PIE
18223	9978527.898	784551.245	2407.840	PIE
18224	9978527.134	784543.877	2407.093	PIE
18225	9978526.737	784532.870	2406.202	PIE
18226	9978527.463	784524.035	2405.705	PIE
18227	9978529.092	784513.722	2404.898	PIE
18228	9978521.719	784502.988	2404.395	PIE
18229	9978524.301	784490.888	2403.805	PIE
18230	9978525.435	784476.613	2402.901	PIE





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18231	9978596.993	784455.266	2401.072	PIE
18232	9978598.453	784434.342	2400.334	PIE
18233	9978601.496	784473.018	2408.959	PIE
18234	9978599.994	784486.303	2408.933	CS
18235	9978599.995	784486.302	2408.930	CRM
18236	9978601.474	784473.210	2409.119	CRM
18237	9978599.290	784492.720	2408.934	CRM
18238	9978598.374	784500.221	2409.758	CRM
18239	9978597.757	784505.161	2409.928	CRM
18240	9978597.222	784509.543	2410.053	CRM
18241	9978596.366	784516.957	2410.074	CRM
18242	9978592.888	784517.479	2410.211	CRM
18243	9978591.980	784523.499	2410.464	CRM
18244	9978591.155	784530.136	2410.875	CRM
18245	9978590.582	784537.783	2411.928	CRM
18246	9978591.281	784545.999	2412.720	CRM
18247	9978592.073	784553.337	2413.811	CRM
18248	9978592.814	784558.363	2413.941	CRM
18249	9978594.734	784564.280	2414.857	CRM
18250	9978571.576	784562.764	2409.853	PK-9
18251	9978607.287	784588.545	2413.609	PK-10
18252	9978628.038	784595.180	2416.406	BTN
18253	9978621.235	784591.126	2416.005	BTN
18254	9978614.829	784588.102	2416.105	BTN
18255	9978610.802	784585.282	2416.138	BTN
18256	9978606.909	784582.344	2416.059	BTN
18257	9978601.447	784577.093	2415.815	BTN
18258	9978596.962	784572.189	2416.060	BTN
18259	9978593.332	784569.758	2409.370	PIE
18260	9978601.263	784580.103	2410.473	PIE
18261	9978607.157	784594.605	2411.336	PIE
18262	9978612.750	784588.169	2412.315	PIE
18263	9978618.160	784591.226	2412.576	PIE
18264	9978626.601	784594.671	2413.358	PIE
18265	9978629.859	784595.852	2413.475	PIE
18266	9978603.600	784599.959	2415.851	PMR
18267	9978641.303	784508.531	2414.612	PMR
18268	9978630.317	784506.182	2413.422	PMR
18269	9978631.065	784505.490	2416.670	BM
18270	9978635.536	784596.802	2416.794	BM
18271	9978640.621	784597.819	2417.021	BM
18272	9978647.562	784598.728	2418.096	BM
18273	9978608.065	784608.559	2415.608	PC97
18274	9978608.047	784608.561	2413.591	PC97
18275	9978661.927	783942.892	2547.008	TOP
18276	9978905.718	783683.013	2602.876	TOP
18277	9978713.958	783454.220	2589.568	AUX P 15
18278	9979013.006	783681.777	2617.465	BT
18279	9978678.334	783475.235	2587.978	AUX P 16
18280	9979020.290	783677.859	2617.673	BT
18281	9978943.920	783717.498	2606.469	AUX P 28
18282	9979024.437	783674.417	2618.097	BT
18283	9979074.042	783658.747	2616.294	AUX P 27
18284	9979029.597	783669.470	2618.176	BT
18285	9979034.267	783663.515	2618.322	BT
18286	9979037.631	783657.530	2618.609	BT
18287	9979041.642	783650.856	2618.673	BT
18288	9979045.968	783660.058	2615.529	PIT
18289	9979040.055	783659.107	2614.567	PIT
18290	9979034.627	783666.994	2613.792	PIT
18291	9979030.783	783672.314	2613.212	PIT
18292	9979024.922	783678.983	2612.230	PIT
18293	9979016.924	783484.127	2611.265	PIT
18294	9979007.668	783688.835	2610.655	PIT
18295	9979041.728	783648.846	2619.719	CRM
18296	9979044.175	783648.051	2619.734	CRM
18297	9979046.735	783641.418	2620.825	CRM
18298	9979049.721	783632.174	2620.801	CRM
18299	9979051.982	783623.587	2621.189	CRM
18300	9979057.817	783619.988	2621.477	CRM
18301	9979054.302	783613.106	2622.067	CRM
18302	9979056.485	783601.972	2623.112	CRM
18303	9979057.703	783595.579	2623.443	CRM
18304	9979059.085	783588.628	2623.992	CRM
18305	9979060.217	783583.121	2624.456	CRM
18306	9979044.382	783648.229	2615.978	MRP
18307	9979046.854	783640.832	2616.330	MRP
18308	9979049.316	783633.598	2617.694	MRP
18309	9979051.285	783626.561	2618.246	MRP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18310	9979053.470	783616.843	2619.292	MRP
18311	9979054.800	783610.574	2619.755	MRP
18312	9979056.161	783603.576	2620.429	MRP
18313	9979057.460	783596.841	2620.927	MRP
18314	9979060.397	783582.805	2621.537	MRP
18315	9979058.977	783589.868	2620.975	MRP
18316	9979057.324	783598.425	2620.210	MRP
18317	9978681.151	783465.188	2588.874	CAS
18318	9978679.725	783468.415	2588.613	CAS
18319	9978676.299	783474.586	2588.036	CAS
18320	9978672.205	783481.146	2587.575	CAS
18321	9978666.332	783492.342	2586.564	CAS
18322	9978665.870	783495.865	2586.785	CAS 2
18323	9978662.060	783506.142	2585.948	CAS 2
18324	9978676.130	783596.208	2578.432	AUX 32-A
18325	9978670.346	783595.023	2579.125	BTN
18326	9978675.292	783592.892	2575.697	BTN
18327	9978675.282	783592.866	2579.700	TN
18328	9978670.223	783584.074	2580.479	TN
18329	9978665.963	783585.287	2580.023	BTN
18330	9978662.067	783574.849	2580.651	BTN
18331	9978665.066	783573.829	2581.102	TN
18332	9978661.720	783564.846	2581.770	TN
18333	9978660.130	783564.878	2581.819	BTN
18334	9978661.380	783508.192	2585.608	BTN
18335	9978658.822	783555.602	2582.269	BTN
18336	9978660.083	783515.007	2584.882	BTN
18337	9978659.672	783555.393	2582.418	TN
18338	9978661.679	783515.529	2585.197	TN
18339	9978658.667	783546.279	2583.129	TN
18340	9978660.019	783523.167	2584.737	TN
18341	9978657.156	783546.071	2582.971	BTN
18342	9978658.026	783522.335	2584.913	BTN
18343	9978657.183	783546.070	2582.074	BTN
18344	9978658.366	783530.695	2584.442	TN
18345	9978657.244	783538.779	2583.530	BTN
18346	9978657.464	783530.787	2583.969	BTN
18347	9978658.371	783538.871	2583.514	TN
18348	9978793.381	783740.876	2566.732	AUX 33-A
18349	9978884.864	783897.658	2553.714	AUX 34-A
18350	9978682.041	783601.421	2579.117	TN
18351	9978678.275	783604.165	2578.847	BTN
18352	9978688.441	783610.986	2578.953	BTN
18353	9978688.415	783610.984	2578.354	TN
18354	9978685.514	783613.776	2578.280	BTN
18355	9978696.590	783623.158	2577.193	TN
18356	9978694.273	783624.195	2577.005	TN
18357	9978703.212	783632.982	2576.316	TN
18358	9978700.988	783634.720	2576.114	TN
18359	9978709.941	783642.680	2575.477	TN
18360	9978708.237	783644.633	2575.395	TN
18361	9978717.387	783654.006	2574.521	TN
18362	9978715.489	783655.951	2574.436	TN
18363	9978724.196	783663.791	2573.718	TN
18364	9978721.769	783665.568	2573.347	TN
18365	9978731.606	783674.751	2572.868	TN
18366	9978724.462	783673.121	2571.250	CRM
18367	9978731.503	783677.624	2570.596	CRM
18368	9978732.364	783683.070	2572.169	TN
18369	9978731.621	783683.488	2571.003	CRM
18370	9978732.281	783691.369	2571.469	TN
18371	9978736.990	783690.911	2571.289	CRM
18372	9978731.886	783698.183	2571.023	CRM
18373	9978745.884	783700.657	2570.694	TN
18374	9978745.884	783705.014	2570.504	CRM
18375	9978747.847	783709.472	2570.018	TN
18376	9978751.270	783713.572	2569.887	CRM
18377	9978760.921	783719.577	2569.301	TN
18378	9978757.870	783720.771	2569.518	TN
18379	9978704.290	783436.530	2597.325	BT
18380	9978709.375	783438.152	2597.643	BT
18381	9978713.616	783439.199	2597.688	BT
18382	9978720.697	783439.300	2597.782	BT
18383	9978726.328	783439.112	2597.672	BT
18384	9978790.851	783439.851	2597.664	BT
18385	9978736.409	783440.899	2598.401	BT
18386	9978741.787	783441.246	2598.968	BT
18387	9978746.715	783440.861	2599.633	BT
18388	9978768.611	783440.125	2605.061	BT





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18389	9978777.436	783441.181	2606.578	BT
18390	9978792.954	783444.352	2608.063	BT
18391	9978801.629	783450.886	2607.709	BT
18392	9978811.963	783455.362	2609.696	BT
18393	9978819.015	783465.006	2608.854	BT
18394	9978826.084	783474.503	2609.510	BT
18395	9978836.409	783484.645	2610.454	BT
18396	9978847.683	783478.316	2601.637	TLD
18397	9978852.063	783469.181	2602.693	TLD
18398	9978817.114	783463.421	2603.178	TLD
18399	9978812.721	783460.175	2603.915	TLD
18400	9978804.304	783454.559	2601.354	TLD
18401	9978791.873	783448.412	2600.664	TLD
18402	9978779.653	783444.299	2599.875	TLD
18403	9978768.888	783441.811	2599.704	TLD
18404	9978752.622	783442.394	2596.373	TLD
18405	9978742.431	783442.679	2595.566	TLD
18406	9978723.815	783440.646	2595.003	TLD
18407	9978715.084	783439.671	2593.946	TLD
18408	9978709.878	783438.500	2593.688	TLD
18409	9978700.470	783435.226	2594.829	TLD
18410	9978701.892	783439.722	2590.813	PIT
18411	9978708.672	783440.406	2590.793	PIT
18412	9978714.037	783442.268	2590.926	PIT
18413	9978719.401	783443.339	2591.404	PIT
18414	9978715.457	783453.043	2591.195	PIT
18415	9978742.633	783444.540	2592.088	PIT
18416	9978755.645	783444.295	2592.928	PIT
18417	9978765.425	783444.889	2593.567	PIT
18418	9978776.143	783447.296	2593.156	PIT
18419	9978791.421	783452.568	2594.090	PIT
18420	9978799.709	783457.560	2594.322	PIT
18421	9978805.141	783462.460	2594.570	PIT
18422	9978815.801	783470.621	2595.198	PIT
18423	9978821.648	783476.792	2595.306	PIT
18424	9978819.989	783476.738	2594.627	AUX 29-A
18425	9978860.006	783545.517	2597.404	BT
18426	9978857.711	783538.071	2599.291	BT
18427	9978854.464	783531.267	2599.931	BT
18428	9978851.227	783523.140	2600.972	BT
18429	9978846.960	783511.537	2602.301	BT
18430	9978842.952	783504.044	2604.781	BT
18431	9978837.547	783488.362	2608.640	BT
18432	9978824.869	783474.406	2601.477	TLD
18433	9978831.760	783488.641	2601.054	TLD
18434	9978836.662	783498.310	2600.258	TLD
18435	9978841.243	783508.067	2599.501	TLD
18436	9978847.045	783516.287	2599.302	TLD
18437	9978853.414	783531.173	2598.224	TLD
18438	9978857.180	783538.394	2597.437	TLD
18439	9978860.119	783545.460	2596.775	TLD
18440	9978859.470	783545.836	2596.078	PIT
18441	9978856.764	783540.516	2595.937	PIT
18442	9978853.902	783534.653	2595.672	PIT
18443	9978850.015	783526.259	2595.714	PIT
18444	9978846.034	783517.588	2595.908	PIT
18445	9978837.303	783502.012	2595.722	PIT
18446	9978831.767	783492.790	2596.099	PIT
18447	9978827.778	783485.918	2595.710	PIT
18448	9978821.266	783475.966	2595.421	PIT
18449	9978903.470	783629.335	2599.486	CMHP
18450	9978893.508	783610.571	2598.558	CMHP
18451	9978896.118	783596.430	2598.016	CMHP
18452	9978881.276	783586.795	2597.616	CMHP
18453	9978875.604	783575.463	2597.144	CMHP
18454	9978870.407	783564.731	2596.877	CMHP
18455	9978866.528	783557.268	2596.470	CMHP
18456	9978863.640	783552.732	2596.539	CMHP
18457	9978868.336	783547.726	2598.252	CMHP
18458	9978872.832	783542.965	2600.455	CMHP
18459	9978873.825	783541.943	2605.180	CMH
18460	9978868.342	783547.790	2604.198	CMH
18461	9978866.434	783549.852	2604.215	CMH
18462	9978864.106	783552.379	2604.168	CMH
18463	9978866.578	783557.220	2603.286	CMH
18464	9978869.525	783563.053	2603.289	CMH
18465	9978873.894	783571.259	2603.566	CMH
18466	9978877.245	783578.514	2604.326	CMH
18467	9978883.714	783591.855	2604.960	CMH

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18468	9978890.514	783604.551	2605.083	CMH
18469	9978895.147	783613.343	2605.857	CMH
18470	9978903.751	783629.380	2606.027	CMH
18471	9978909.074	783620.660	2605.945	CMH
18472	9978906.470	783628.258	2606.026	BT
18473	9978913.246	783640.819	2607.962	BT
18474	9978918.699	783644.856	2611.055	BT
18475	9978920.629	783647.561	2611.919	BT
18476	9978925.915	783654.436	2614.074	BT
18477	9978928.401	783657.969	2614.449	BT
18478	9978932.026	783663.221	2614.902	BT
18479	9978936.601	783672.061	2614.026	BT
18480	9978939.103	783674.795	2613.938	BT
18481	9978944.163	783678.669	2613.820	BT
18482	9978947.832	783681.409	2612.870	BT
18483	9978941.014	783684.007	2610.084	BT
18484	9978954.817	783685.693	2611.790	BT
18485	9978953.101	783686.921	2608.775	TLD
18486	9978947.262	783683.946	2608.659	TLD
18487	9978938.219	783678.224	2607.907	TLD
18488	9978932.894	783672.815	2607.746	TLD
18489	9978928.285	783667.389	2607.213	TLD
18490	9978926.247	783663.222	2606.735	TLD
18491	9978923.038	783658.756	2606.151	TLD
18492	9978919.709	783652.418	2606.815	TLD
18493	9978916.258	783647.295	2606.214	TLD
18494	9978912.337	783643.107	2604.635	TLD
18495	9978900.351	783637.392	2603.994	TLD
18496	9978905.670	783630.715	2603.929	TLD
18497	9978904.266	783630.412	2599.470	PIT
18498	9978908.938	783640.555	2600.290	PIT
18499	9978915.678	783650.360	2600.768	PIT
18500	9978917.916	783656.002	2601.708	PIT
18501	9978923.151	783664.021	2602.184	PIT
18502	9978928.934	783671.840	2602.875	PIT
18503	9978932.089	783675.078	2602.560	PIT
18504	9978937.759	783680.428	2603.588	PIT
18505	9978947.379	783685.894	2604.859	PIT
18506	9978953.585	783689.046	2605.549	PIT
18507	9978963.598	783726.848	2568.600	TN
18508	9978963.452	783727.630	2568.721	TN
18509	9979023.204	783675.972	2617.575	BT
18510	9979017.691	783679.065	2617.526	BT
18511	9979010.228	783682.994	2617.557	BT
18512	9979002.715	783686.483	2617.155	BT
18513	9978989.548	783691.455	2618.465	BT
18514	9978979.818	783691.162	2618.600	BT
18515	9978973.517	783689.988	2618.316	BT
18516	9978969.548	783689.546	2615.653	BT
18517	9978959.896	783689.585	2609.968	TLD
18518	9978971.798	783692.424	2610.800	TLD
18519	9978979.454	783693.042	2612.200	TLD
18520	9978987.040	783693.498	2612.292	TLD
18521	9978994.454	783692.252	2612.469	TLD
18522	9979001.827	783698.636	2612.991	TLD
18523	9979009.615	783686.929	2611.643	TLD
18524	9979016.400	783681.385	2613.967	TLD
18525	9979023.675	783675.758	2615.041	TLD
18526	9979033.039	783679.145	2612.082	PIT
18527	9979038.995	783683.311	2611.691	PIT
18528	9979041.884	783687.046	2610.628	PIT
18529	9979033.693	783690.713	2610.088	PIT
18530	9979039.265	783693.249	2609.232	PIT
18531	9979040.469	783694.673	2608.568	PIT
18532	9978996.885	783695.142	2607.969	PIT
18533	9978972.245	783694.787	2607.138	PIT
18534	9978960.244	783691.579	2606.248	PIT
18535	9978771.385	783736.584	2567.717	TN
18536	9978768.812	783737.391	2567.872	TN
18537	9978778.635	783740.800	2566.674	TN
18538	9978777.278	783749.940	2566.822	TN
18539	9978785.369	783760.061	2565.894	TN
18540	9978784.035	783761.432	2566.033	TN
18541	9978791.533	783770.385	2565.007	TN
18542	9978789.806	783771.139	2565.147	TN
18543	9978796.835	783779.431	2564.379	TN
18544	9978795.714	783781.082	2564.423	TN
18545	9978800.838	783790.030	2564.042	TN
18546	9978802.600	783789.205	2563.559	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18547	9978808.966	783804.598	2562.425	TN
18548	9978810.790	783803.433	2562.537	TN
18549	9978813.251	783807.504	2562.198	TN
18550	9978813.542	783808.972	2562.164	PIT
18551	9978812.242	783809.403	2562.696	BT
18552	9978812.213	783811.594	2562.619	TN
18553	9978818.879	783818.073	2561.478	PIT
18554	9978816.648	783816.882	2562.919	BT
18555	9978814.697	783818.134	2562.618	TN
18556	9978823.114	783825.566	2560.978	PIT
18557	9978818.300	783827.676	2562.442	TN
18558	9978828.647	783835.202	2560.420	PIT
18559	9978832.096	783826.360	2562.711	BT
18560	9978834.363	783845.500	2559.730	PIT
18561	9978827.040	783835.364	2562.583	BT
18562	9978842.054	783855.071	2559.059	PIT
18563	9978822.402	783839.405	2562.445	TN
18564	9978847.991	783862.569	2558.552	PIT
18565	9978832.919	783846.545	2561.623	BT
18566	9978837.213	783861.425	2561.373	TN
18567	9978843.188	783857.664	2560.625	BT
18568	9978847.437	783863.458	2559.945	BT
18569	9978851.243	783866.890	2558.215	CRM
18570	9978891.838	783906.662	2552.987	CRM
18571	9978857.766	783874.124	2556.818	CRM
18572	9978859.045	783873.018	2556.812	ACR
18573	9978864.644	783878.838	2556.143	ACR
18574	9978863.701	783880.130	2556.190	CRM
18575	9978872.400	783886.898	2555.235	ACR
18576	9978871.272	783887.715	2555.361	CRM
18577	9978879.818	783893.936	2554.378	ACR
18578	9978879.228	783895.402	2554.196	CRM
18579	9978886.312	783899.928	2553.714	CRM
18580	9978886.107	783899.946	2553.712	ACR
18581	9978885.923	783901.427	2553.479	CRM
18582	9978853.970	783867.235	2557.494	AUX 35-A
18583	9978892.739	783905.718	2552.991	ACR
18584	9978907.975	783918.931	2551.361	ACR
18585	9978906.798	783919.960	2551.371	CRM
18586	9978916.694	783934.989	2549.839	ACR
18587	9978925.304	783936.152	2549.421	CRM
18588	9978943.109	783948.950	2547.702	CRM
18589	9978942.647	783950.413	2547.598	CRM
18590	9978961.030	783964.181	2545.728	ACR
18591	9978960.518	783965.842	2545.818	CRM
18592	9978962.545	783975.138	2545.338	CRM
18593	9978971.205	783973.094	2544.596	ACR
18594	9978970.406	783981.875	2544.165	CRM
18595	9978978.426	783989.030	2542.960	CRM
18596	9978984.185	783984.133	2543.245	ACR
18597	9978995.053	784004.238	2541.600	CRM
18598	9979000.020	783997.689	2541.444	ACR
18599	9979010.753	784006.910	2540.224	ACR
18600	9979005.426	784012.442	2540.581	CRM
18601	9979011.490	784017.439	2539.961	CRM
18602	9979022.104	784016.641	2539.004	ACR
18603	9979021.776	784017.679	2539.145	CRM
18604	9979029.963	784023.306	2538.106	ACR
18605	9979037.092	784030.665	2537.220	CRM
18606	9979037.604	784025.737	2537.189	ACR
18607	9979048.408	784040.612	2535.839	CRM
18608	9979049.090	784039.794	2535.762	ACR
18609	9979058.838	784049.567	2534.709	CRM
18610	9979059.024	784049.021	2534.634	ACR
18611	9979059.005	784048.982	2534.635	ACR
18612	9979079.548	784063.844	2533.209	ACR
18613	9979072.658	784062.852	2533.253	AUX 37-A
18614	9979032.563	784025.670	2537.779	AUX 36-A
18615	9979083.052	784058.182	2534.107	PC
18616	9979077.449	784388.811	2511.151	PC
18617	9979174.484	784342.849	2518.232	PC
18618	9979176.373	784332.295	2518.674	PC
18619	9979118.474	784389.731	2513.360	PC
18620	9979119.385	784174.367	2526.264	BIT
18621	9979117.820	784174.782	2526.281	BIT
18622	9979123.531	784192.515	2525.843	BIT
18623	9979125.141	784191.953	2525.355	BIT
18624	9979133.845	784219.204	2523.967	BC
18625	9979132.280	784219.504	2524.292	BIT

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18626	9979138.350	784237.745	2523.234	BIT
18627	9979139.683	784237.432	2523.066	BIT
18628	9979145.630	784256.177	2522.001	BIT
18629	9979144.217	784256.507	2522.322	BIT
18630	9979148.621	784270.813	2521.721	BIT
18631	9979148.599	784270.769	2521.728	BIT
18632	9979150.251	784270.279	2521.226	BIT
18633	9979156.419	784289.850	2520.060	BIT
18634	9979155.170	784290.367	2522.490	BCER
18635	9979158.720	784304.851	2521.597	BCER
18636	9979160.302	784304.527	2518.996	BIT
18637	9979162.848	784318.499	2518.075	BIT
18638	9979161.767	784318.657	2521.039	BCER
18639	9979160.882	784326.381	2520.257	BCER
18640	9979162.402	784326.274	2518.552	BIT
18641	9979159.787	784336.324	2516.764	BIT
18642	9979158.690	784335.461	2519.907	BCER
18643	9979156.178	784342.293	2518.874	BCER
18644	9979157.467	784342.295	2516.256	BIT
18645	9979152.103	784352.134	2515.516	BIT
18646	9979151.140	784350.632	2518.007	BCER
18647	9979143.774	784361.939	2514.701	BIT
18648	9979142.779	784361.433	2515.928	BCER
18649	9979077.489	784388.811	2511.151	PC
18650	9979118.528	784389.711	2513.367	PC
18651	9979130.731	784369.321	2514.418	BCER
18652	9979129.759	784371.561	2513.278	BIT
18653	9979118.779	784373.741	2514.345	BCER
18654	9979118.751	784374.946	2512.285	BIT
18655	9979106.680	784376.184	2511.284	BIT
18656	9979096.845	784375.767	2510.571	BIT
18657	9979085.029	784373.823	2509.800	BIT
18658	9979073.642	784365.538	2508.777	BIT
18659	9979060.311	784353.299	2507.613	BIT
18660	9979051.681	784340.260	2506.703	BIT
18661	9979044.586	784326.809	2505.734	BIT
18662	9979034.555	784308.569	2504.549	BIT
18663	9979027.580	784296.502	2503.845	BIT
18664	9979018.411	784280.832	2502.959	BIT
18665	9979007.462	784266.515	2502.016	BIT
18666	9978996.490	784256.048	2501.331	BIT
18667	9978981.099	784249.286	2500.437	BIT
18668	9979118.492	784374.311	2514.788	BCER
18669	9979106.878	784375.075	2514.560	BCER
18670	9979098.238	784374.898	2514.134	BCER
18671	9979095.000	784374.823	2513.963	BCER
18672	9979089.997	784373.866	2513.800	BCER
18673	9979084.394	784371.819	2513.283	BCER
18674	9979080.068	784369.496	2512.006	BCER
18675	9979075.312	784365.752	2512.830	BCER
18676	9979069.587	784360.508	2512.874	BCER
18677	9979065.108	784356.435	2512.904	BCER
18678	9979058.129	784347.784	2512.965	BCER
18679	9979054.119	784340.818	2513.010	BCER
18680	9979019.856	784307.745	2503.981	PC51
18681	9979019.854	784307.750	2503.983	PC51
18682	9979077.471	784308.818	2511.170	PC51
18683	9979062.319	784254.189	2501.368	PC61
18684	9979058.118	784254.187	2501.405	PC61
18685	9979054.993	784337.260	2512.422	BCER
18686	9979054.993	784337.260	2512.422	BCER
18687	9979047.899	784328.547	2511.597	BCER
18688	9979044.221	784321.830	2511.593	BCER
18689	9979041.249	784315.202	2512.191	BSTN
18690	9979033.667	784301.465	2513.735	BSTN
18691	9979031.296	784297.208	2513.937	BSTN
18692	9979028.874	784293.008	2514.033	BSTN
18693	9979025.400	784286.788	2513.342	BSTN
18694	9979025.241	784285.542	2514.565	BCER
18695	9979021.545	784279.791	2515.324	BCER
18696	9979017.140	784273.360	2515.430	BCER
18697	9979012.744	784267.191	2515.461	BCER
18698	9979008.118	784260.986	2515.666	BCER
18699	9979003.424	784256.362	2515.690	BCER
18700	9979001.624	784257.704	2509.828	BSTN
18701	9979001.624	784257.704	2509.828	BSTN
18702	9978992.719	784250.666	2509.285	BSTN
18703	9979019.851	784307.744	2503.982	PC
18704	9978947.247	784265.968	2496.637	PC





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18705	9978969.184	784247.341	2499.782	B/C
18706	9978960.042	784246.950	2499.197	B/C
18707	9978944.084	784250.392	2496.309	B/C
18708	9978933.250	784254.535	2497.674	B/C
18709	9978923.389	784259.168	2497.034	B/C
18710	9978918.011	784263.388	2496.758	B/C
18711	9978918.014	784263.405	2496.758	B/C
18712	9978912.029	784269.976	2496.300	B/C
18713	9978906.162	784277.972	2495.710	B/C
18714	9978904.989	784276.876	2496.049	BCER
18715	9978911.415	784268.212	2495.538	BCER
18716	9978915.872	784262.910	2496.927	BCER
18717	9978927.239	784256.437	2499.827	BSTN
18718	9978926.527	784254.054	2500.098	BCER
18719	9978930.473	784253.187	2500.486	BCER
18720	9978931.429	784254.532	2500.408	BSTN
18721	9978937.225	784250.482	2501.494	BCER
18722	9978938.254	784251.061	2501.391	BSTN
18723	9978940.102	784249.347	2501.777	BCER
18724	9978940.499	784250.432	2501.742	BSTN
18725	9978949.342	784245.505	2505.935	BCER
18726	9978949.342	784245.505	2505.935	BCER
18727	9978953.705	784244.268	2506.308	BCER
18728	9978904.730	784278.200	2495.975	PC71
18729	9978904.727	784278.200	2495.974	PC71
18730	9978992.814	784254.191	2501.407	PC71
18731	9978921.665	784293.143	2487.850	PC81
18732	9978902.860	784283.686	2495.346	B/C
18733	9978901.307	784283.043	2495.611	BCER
18734	9978896.450	784293.331	2494.875	BCER
18735	9978897.906	784293.767	2494.783	B/C
18736	9978895.362	784305.387	2494.128	B/C
18737	9978893.814	784305.305	2494.227	BCER
18738	9978893.342	784316.124	2493.485	BCER
18739	9978894.999	784316.170	2493.388	B/C
18740	9978895.460	784322.346	2492.944	B/C
18741	9978893.900	784322.245	2492.085	BCER
18742	9978894.265	784323.329	2493.056	BSTN
18743	9978897.376	784332.905	2492.135	B/C
18744	9978895.715	784332.622	2492.224	BSTN
18745	9978900.541	784343.171	2491.447	B/C
18746	9978950.642	784247.170	2503.692	BSTN
18747	9978959.001	784245.193	2505.132	BSTN
18748	9978963.820	784244.666	2506.547	BSTN
18749	9978967.880	784244.510	2507.186	BSTN
18750	9978975.616	784245.792	2508.241	BSTN
18751	9978981.580	784246.457	2508.415	BSTN
18752	9978904.108	784353.189	2490.213	B/C
18753	9978902.617	784353.656	2490.551	BSTN
18754	9978908.362	784364.653	2489.861	B/C
18755	9978907.430	784365.513	2489.316	BSTN
18756	9978892.427	784329.040	2489.766	TN
18757	9978913.957	784381.545	2489.016	BSTN
18758	9978893.812	784337.529	2488.419	TN
18759	9978916.256	784384.870	2488.727	B/C
18760	9978915.185	784380.234	2488.758	B/C
18761	9978921.199	784392.540	2487.910	B/C
18762	9978919.555	784395.162	2488.961	BSTN
18763	9978924.669	784402.792	2488.689	BSTN
18764	9978935.246	784345.871	2489.910	TN
18765	9978925.944	784402.910	2487.178	B/C
18766	9978917.756	784353.065	2486.278	TN
18767	9978904.729	784278.213	2495.074	PC71-2
18768	9979014.231	784531.863	2481.402	PC91
18769	9978928.729	784408.965	2486.842	B/C
18770	9978928.008	784409.196	2487.854	BSTN
18771	9978934.688	784421.643	2486.261	B/C
18772	9978934.459	784422.354	2488.310	BSTN
18773	9978905.118	784368.471	2486.815	TN
18774	9978907.878	784380.204	2484.205	TN
18775	9978912.198	784388.281	2484.170	TN
18776	9978915.401	784398.758	2485.018	TN
18777	9978920.582	784409.736	2488.094	TN
18778	9978924.323	784417.189	2487.798	TN
18779	9978930.678	784425.720	2490.196	TN
18780	9978939.178	784430.515	2485.864	B/C
18781	9978939.015	784430.695	2486.278	BCER
18782	9978945.432	784442.202	2485.812	BCER
18783	9978945.599	784442.132	2485.374	B/C

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18784	9978951.823	784453.217	2484.981	B/C
18785	9978951.617	784453.278	2485.402	BCER
18786	9978958.010	784464.265	2485.053	BCER
18787	9978958.165	784464.182	2484.662	B/C
18788	9978964.793	784475.608	2484.211	B/C
18789	9978964.607	784475.817	2484.645	BCER
18790	9978971.289	784486.825	2484.188	BCER
18791	9978971.359	784486.700	2483.777	B/C
18792	9978976.487	784494.697	2483.448	B/C
18793	9978976.310	784494.839	2483.892	BCER
18794	9978987.363	784509.090	2483.210	BCER
18795	9978987.567	784508.892	2482.802	B/C
18796	9979001.189	784522.111	2482.028	BCER
18797	9979001.026	784522.272	2482.445	BCER
18798	9979013.962	784532.321	2481.495	BCER
18799	9979014.049	784532.195	2481.298	B/C
18800	9979024.922	784539.832	2480.610	B/C
18801	9979024.002	784539.911	2480.761	BCER
18802	9979168.947	784618.544	2470.908	PC-92
18803	9979014.228	784531.862	2481.384	PC-91
18804	9979203.048	784734.074	2461.706	PC-91
18805	9979203.051	784734.077	2461.706	PC-93
18806	9979035.225	784546.674	2479.916	B/C
18807	9979035.161	784546.878	2480.500	BCER
18808	9979048.967	784555.937	2479.208	BCER
18809	9979049.087	784555.727	2479.033	B/C
18810	9979063.191	784565.035	2478.153	B/C
18811	9979062.973	784565.472	2478.854	BCER
18812	9979073.284	784572.538	2478.079	BCER
18813	9979073.790	784572.049	2477.454	B/C
18814	9979086.350	784580.904	2476.198	B/C
18815	9979086.206	784581.083	2476.703	BCER
18816	9979088.299	784582.122	2476.204	B/C
18817	9979087.785	784582.604	2476.512	BCER
18818	9979089.782	784583.347	2476.063	V-E
18819	9979103.675	784592.181	2474.946	V-E
18820	9979096.386	784587.290	2475.501	V-E
18821	9979101.942	784593.293	2474.711	V-E
18822	9979092.618	784595.845	2474.318	V-E
18823	9979102.183	784599.318	2473.822	V-E
18824	9979095.034	784609.162	2472.499	V-E
18825	9979103.740	784608.127	2472.678	V-E
18826	9979107.597	784611.513	2472.318	V-E
18827	9979114.119	784611.240	2472.380	V-E
18828	9979108.266	784619.236	2471.530	V-E
18829	9979127.276	784610.517	2472.475	V-E
18830	9979119.659	784618.792	2471.632	V-E
18831	9979127.715	784620.699	2472.883	V-E
18832	9979128.736	784618.269	2471.633	V-E
18833	9979138.617	784617.860	2471.695	V-E
18834	9979142.633	784618.230	2471.605	V-E
18835	9979115.828	784599.975	2474.105	B/C
18836	9979123.956	784605.106	2473.339	B/C
18837	9979147.956	784621.478	2470.878	B/C
18838	9979147.976	784621.661	2471.314	BCER
18839	9979155.659	784627.932	2470.292	BCER
18840	9979155.560	784627.799	2469.862	B/C
18841	9979163.467	784635.227	2468.879	B/C
18842	9979163.334	784635.336	2469.297	BCER
18843	9979163.908	784636.219	2469.244	BCER
18844	9979170.100	784643.898	2468.535	BCER
18845	9979170.530	784643.699	2468.074	B/C
18846	9979170.991	784643.705	2468.073	B/C
18847	9979175.941	784652.426	2467.260	B/C
18848	9979175.729	784652.630	2467.687	BCER
18849	9979181.104	784663.249	2466.735	BCER
18850	9979181.216	784663.219	2466.200	B/C
18851	9979184.946	784673.397	2465.348	B/C
18852	9979184.825	784673.456	2465.747	BCER
18853	9979187.422	784682.283	2465.224	BCER
18854	9979187.520	784682.193	2464.630	B/C
18855	9979188.945	784681.540	2470.909	TOP
18856	9979188.948	784681.539	2470.909	PC-281
18857	9979120.756	784826.866	2454.320	PC-94
18858	9979189.106	784690.352	2468.870	B/C
18859	9979188.871	784690.405	2464.303	BCER
18860	9979190.079	784703.643	2463.057	BCER
18861	9979190.304	784703.660	2462.615	B/C
18862	9979189.752	784713.571	2461.672	B/C





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18863	9979189.354	784713.551	2462.094	BCER
18864	9979188.200	784725.690	2461.143	BCER
18865	9979188.464	784725.716	2460.716	BIC
18866	9979187.018	784733.901	2460.140	BIC
18867	9979186.818	784733.840	2460.535	BCER
18868	9979183.765	784743.672	2459.725	BCER
18869	9979183.966	784743.747	2459.345	BIC
18870	9979178.070	784756.775	2458.375	BIC
18871	9979177.748	784756.700	2458.779	BCER
18872	9979171.838	784766.946	2457.901	BCER
18873	9979172.047	784767.122	2457.485	BIC
18874	9979163.588	784778.429	2456.459	BIC
18875	9979163.410	784778.144	2456.855	BCER
18876	9979157.632	784784.470	2456.243	BCER
18877	9979157.706	784784.574	2455.844	BIC
18878	9979203.054	784734.070	2461.709	PC-85
18879	9979001.513	784812.538	2448.990	PC-85
18880	9979151.293	784790.638	2455.220	BIC
18881	9979151.093	784790.494	2455.625	BCER
18882	9979139.826	784798.776	2454.790	BCER
18883	9979140.009	784799.035	2454.412	BIC
18884	9979150.003	784804.479	2453.888	BIC
18885	9979129.951	784804.641	2454.294	BCER
18886	9979115.958	784811.178	2453.798	BCER
18887	9979116.102	784811.543	2453.368	BIC
18888	9979103.361	784815.393	2452.662	BIC
18889	9979103.275	784815.181	2453.083	BCFA
18890	9979088.093	784819.136	2452.279	BCER
18891	9979088.180	784819.655	2451.881	BIC
18892	9979079.457	784821.144	2451.371	BIC
18893	9979079.404	784820.674	2451.753	BCER
18894	9979063.909	784819.850	2450.811	BCER
18895	9979063.829	784820.174	2450.386	BIC
18896	9979120.759	784826.867	2454.323	PC-84
18897	9978798.639	784591.641	2427.831	PC-96
18898	9979053.420	784818.021	2449.903	BIC
18899	9979053.471	784817.665	2450.143	BCER
18900	9979036.859	784812.518	2449.241	BCER
18901	9979036.429	784812.872	2448.983	BIC
18902	9979022.000	784806.153	2448.223	BIC
18903	9979022.506	784805.246	2448.591	BCER
18904	9979007.895	784795.093	2447.588	BCER
18905	9979007.597	784795.727	2447.277	BIC
18906	9978997.551	784787.033	2446.610	BIC
18907	9978997.822	784786.683	2447.012	BCER
18908	9978986.087	784775.809	2446.068	BCER
18909	9978985.810	784776.116	2445.717	BIC
18910	9978972.712	784763.032	2444.498	BIC
18911	9978972.950	784762.618	2444.841	BCER
18912	9978960.494	784750.290	2443.693	BCER
18913	9978960.238	784750.493	2443.373	BIC
18914	9978951.082	784741.241	2442.599	BIC
18915	9978951.211	784740.896	2443.037	BCER
18916	9978940.438	784730.310	2441.699	BCER
18917	9978940.290	784730.489	2441.367	BIC
18918	9978931.849	784721.858	2440.265	BIC
18919	9978932.267	784721.409	2440.573	BCER
18920	9978919.949	784707.890	2439.302	BCER
18921	9978919.180	784708.687	2438.894	BIC
18922	9978904.203	784693.271	2437.363	BIC
18923	9978904.842	784692.431	2437.807	BCER
18924	9978892.069	784679.258	2436.485	BCER
18925	9978891.346	784679.996	2436.065	BIC
18926	9978877.435	784665.866	2434.574	BIC
18927	9978880.238	784666.719	2435.068	BCER
18928	9978862.585	784649.288	2433.009	BCER
18929	9978861.822	784649.956	2432.946	BIC
18930	9978850.225	784638.192	2431.763	BIC
18931	9978851.007	784637.341	2432.116	BCER
18932	9978840.913	784626.839	2431.067	BCER
18933	9978839.956	784627.780	2430.724	BIC
18934	9979003.516	784812.537	2448.968	PC95
18935	9978828.063	784608.559	2413.608	PC97
18936	9978834.151	784621.539	2430.454	V-E
18937	9978831.213	784616.257	2430.161	V-E
18938	9978828.788	784609.181	2429.897	V-E
18939	9978824.864	784595.205	2429.531	V-E
18940	9978825.818	784599.062	2429.165	V-E
18941	9978824.544	784588.720	2428.640	V-E

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
18942	9978818.714	784603.425	2429.058	V-E
18943	9978816.285	784594.349	2428.089	V-E
18944	9978815.671	784594.186	2428.031	V-S
18945	9978807.664	784596.897	2428.360	V-S
18946	9978813.306	784586.449	2428.280	V-S
18947	9978805.224	784588.829	2428.426	V-S
18948	9978797.296	784591.060	2427.725	V-S
18949	9978796.581	784590.675	2427.615	BIC
18950	9978796.908	784590.046	2428.026	BCER
18951	9978790.158	784588.976	2427.466	BCER
18952	9978790.094	784587.101	2427.127	BIC
18953	9978779.209	784582.702	2426.425	BIC
18954	9978779.235	784582.506	2426.942	BCER
18955	9978765.008	784579.233	2425.925	BCER
18956	9978764.975	784579.608	2425.526	BIC
18957	9978756.074	784579.381	2424.851	BIC
18958	9978756.140	784578.845	2425.262	BCER
18959	9978747.091	784578.911	2424.495	BCER
18960	9978747.102	784579.435	2424.069	BIC
18961	9978734.025	784581.659	2422.883	BIC
18962	9978733.927	784581.309	2423.347	BCER
18963	9978722.545	784584.175	2422.444	BCER
18964	9978722.700	784584.837	2421.681	BIC
18965	9978712.304	784587.819	2420.692	BIC
18966	9978712.230	784587.314	2421.359	BCER
18967	9978700.055	784590.851	2420.062	BCER
18968	9978700.095	784591.136	2419.683	BIC
18969	9978688.564	784594.231	2418.576	BIC
18970	9978688.535	784593.853	2418.980	BCER
18971	9978669.622	784597.827	2417.379	BCER
18972	9978669.651	784598.287	2416.992	BIC
18973	9978657.991	784599.527	2415.893	BIC
18974	9978657.997	784599.072	2416.325	BCER
18975	9978734.452	784599.209	2421.949	PC97
18976	9978608.047	784608.561	2413.591	PC97
18977	9978748.756	784576.323	2433.811	BCER
18978	9978740.390	784577.373	2432.326	BSTN
18979	9978740.390	784577.373	2432.326	BSTN
18980	9978733.994	784578.329	2431.180	BSTN
18981	9978733.934	784578.329	2431.180	BSTN
18982	9978728.910	784579.829	2429.948	BSTN
18983	9978723.639	784581.706	2427.755	BSTN
18984	9978718.720	784584.777	2426.243	BSTN
18985	9978712.583	784586.870	2424.281	BSTN
18986	9978712.583	784586.870	2424.281	BSTN
18987	9978707.147	784587.822	2423.451	BSTN
21176	9978623.191	781623.675	2750.363	ALJX Y TANQUI
21177	9978530.694	781708.927	2749.192	TN
21178	9978531.932	781719.512	2755.470	TN
21179	9978534.175	781702.710	2749.342	TN
21180	9978541.943	781713.609	2758.516	TN
21181	9978537.791	781697.389	2749.580	TN
21182	9978547.668	781707.809	2761.856	TN
21183	9978542.531	781693.088	2749.837	TN
21184	9978555.535	781703.435	2760.075	TN
21185	9978546.064	781690.050	2750.083	TN
21186	9978563.568	781698.823	2761.008	TN
21187	9978569.268	781692.808	2760.586	TN
21188	9978563.905	781686.294	2750.671	TN
21189	9978575.752	781685.462	2761.197	TN
21190	9978578.886	781687.571	2761.958	TN
21191	9978578.886	781684.099	2750.666	TN
21192	9978580.219	781682.686	2763.136	TN
21193	9978580.219	781678.910	2748.959	TN
21194	9978580.757	781683.622	2763.459	TN
21195	9978590.418	781683.639	2763.471	TN
21196	9978587.320	781691.179	2763.619	TN
21197	9978569.422	781679.231	2752.488	TN
21198	9978584.411	781695.572	2765.190	TN
21199	9978572.005	781681.415	2754.320	TN
21200	9978581.648	781701.918	2767.364	TN
21201	9978581.481	781701.924	2767.401	TN
21202	9978567.829	781687.247	2755.163	TN
21203	9978577.078	781706.251	2772.565	TN
21204	9978563.374	781692.340	2755.608	TN
21205	9978561.868	781693.549	2755.788	TN
21206	9978575.818	781710.191	2776.021	TN
21207	9978555.886	781698.692	2757.019	TN
21208	9978582.957	781706.610	2780.029	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
23209	9978550.546	781702.354	2757.975	TN
23210	9978546.815	781704.050	2759.587	TN
23211	9978507.299	781675.917	2744.981	BO
23212	9978507.919	781671.381	2742.519	TN
23213	9978511.546	781671.123	2744.345	BO
23214	9978511.096	781665.810	2741.352	TN
23215	9978515.770	781666.341	2744.969	BO
23216	9978512.853	781861.550	2741.842	TN
23217	9978518.626	781861.030	2745.350	BO
23218	9978517.798	781656.950	2741.220	TN
23219	9978524.413	781655.439	2745.673	BO
23220	9978522.834	781648.958	2740.432	TN
23221	9978530.303	781650.095	2746.014	BO
23222	9978528.381	781642.201	2738.779	TN
23223	9978536.938	781643.434	2746.485	BO
23224	9978529.774	781629.667	2738.131	TN
23225	9978542.027	781635.047	2746.495	BO
23226	9978545.028	781628.045	2746.578	BO
23227	9978550.547	781625.051	2747.848	BO
23228	9978555.435	781622.268	2746.907	BO
23229	9978535.510	781634.301	2740.187	TN
23230	9978539.598	781620.840	2746.611	BO
23231	9978529.389	781627.369	2740.303	TN
23232	9978543.429	781619.560	2739.644	TN
23233	9978549.477	781615.071	2738.654	TN
23234	9978558.524	781611.954	2749.789	TN
23235	9978553.896	781610.944	2737.102	TN
23236	9978548.383	781600.815	2728.638	TN
23237	9978552.291	781605.809	2733.164	TN
23238	9978544.323	781611.092	2733.631	TN
23239	9978543.160	781603.428	2727.431	TN
23240	9978539.213	781613.928	2735.076	TN
23241	9978536.664	781608.544	2728.249	TN
23242	9978532.258	781620.576	2732.124	TN
23243	9978532.159	781613.052	2727.094	TN
23244	9978527.429	781618.263	2726.271	TN
23245	9978529.211	781629.981	2732.439	TN
23246	9978524.209	781614.813	2726.690	TN
23247	9978526.060	781636.166	2733.370	TN
23248	9978518.648	781629.021	2722.649	TN
23249	9978522.574	781641.267	2733.078	TN
23250	9978517.796	781646.609	2733.576	TN
23251	9978512.416	781651.950	2734.240	TN
23252	9978516.186	781634.914	2723.610	TN
23253	9978512.966	781641.610	2724.942	TN
23254	9978512.009	781656.819	2736.044	TN
23255	9978507.464	781648.658	2723.442	TN
23256	9978506.205	781663.169	2735.098	TN
23257	9978504.578	781624.349	2726.050	TN
23258	9978502.184	781664.177	2732.120	TN
23259	9978502.201	781658.794	2725.815	TN
23260	9978498.778	781670.616	2731.560	TN
23261	9978496.125	781674.491	2730.966	TN
23262	9978496.799	781663.571	2725.729	TN
23263	9978497.075	781663.847	2725.583	TN
23264	9978492.490	781670.479	2727.052	TN
23265	9978491.370	781664.795	2719.261	TN
23266	9978489.162	781662.923	2713.592	TN
23267	9978490.014	781656.601	2710.088	TN
23268	9978480.244	781662.052	2701.200	TN
23269	9978494.522	781651.433	2709.315	TN
23270	9978484.438	781650.884	2699.831	TN
23271	9978488.801	781645.165	2702.421	TN
23272	9978493.469	781636.423	2704.485	TN
23273	9978495.284	781629.819	2703.052	TN
23274	9978499.803	781638.436	2710.374	TN
23275	9978500.279	781622.235	2705.932	TN
23276	9978505.993	781629.604	2711.349	TN
23277	9978506.410	781612.261	2709.790	TN
23278	9978508.112	781619.504	2713.247	TN
23279	9978514.007	781613.132	2713.298	TN
23280	9978519.090	781605.843	2714.488	TN
23281	9978514.595	781598.653	2708.022	TN
23282	9978521.052	781602.400	2713.884	TN
23283	9978517.546	781598.403	2708.557	TN
23284	9978504.797	781596.303	2700.897	TN
23285	9978498.023	781593.643	2695.425	TN
23286	9978500.410	781604.876	2698.967	TN
23287	9978498.504	781607.664	2699.574	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
23288	9978495.086	781604.468	2694.601	TN
23289	9978493.562	781609.828	2693.755	TN
23290	9978499.702	781614.419	2701.420	TN
23291	9978489.567	781616.717	2691.116	TN
23292	9978404.108	781623.491	2691.996	TN
23293	9978492.650	781623.447	2696.575	TN
23294	9978481.195	781629.859	2694.057	TN
23295	9978489.248	781630.435	2699.371	TN
23296	9978478.773	781635.116	2693.470	TN
23297	9978489.645	781637.472	2701.091	TN
23298	9978475.969	781641.860	2693.248	TN
23299	9978485.753	781645.459	2700.334	TN
23300	9978474.301	781647.859	2692.687	TN
23301	9978474.555	781647.907	2692.825	TN
23302	9978479.510	781652.423	2696.215	TN
23303	9978473.335	781653.196	2691.704	TN
23304	9978551.884	781713.283	2766.352	TN
23305	9978567.627	781704.209	2768.220	TN
23306	9978571.573	781708.973	2773.087	TN
23307	9978558.509	781720.858	2774.586	TN
23308	9978575.803	781710.565	2776.045	BO
23309	9978565.832	781715.081	2773.884	TN
23310	9978566.493	781717.451	2777.532	TN
23311	9978582.714	781702.580	2778.222	BO
23312	9978572.978	781714.246	2778.533	TN
23313	9978585.919	781703.951	2781.734	TN
23314	9978567.191	781693.265	2776.213	BO
23315	9978590.487	781698.826	2780.635	TN
23316	9978596.546	781691.174	2781.670	TN
23317	9978592.607	781699.296	2777.557	BO
23318	9978599.995	781687.081	2780.364	TN
23319	9978596.512	781683.460	2775.653	BO
23320	9978603.182	781684.709	2780.301	TN
23321	9978606.318	781678.083	2780.094	TN
23322	9978602.156	781674.240	2774.693	BO
23323	9978610.495	781673.852	2779.848	TN
23324	9978615.635	781669.387	2779.604	TN
23325	9978608.110	781666.475	2770.987	BO
23326	9978613.213	781657.369	2768.465	BO
23327	9978621.238	781663.888	2777.834	TN
23328	9978624.476	781660.025	2778.093	TN
23329	9978625.958	781657.650	2777.326	TN
23330	9978618.844	781653.777	2768.984	BO
23331	9978625.657	781651.617	2772.078	BO
23332	9978629.229	781653.191	2774.713	TN
23333	9978633.062	781649.294	2773.300	TN
23334	9978630.707	781646.910	2769.950	BO
23335	9978631.057	781646.409	2769.451	BO
23336	9978729.329	781472.474	2796.372	BO
23337	9978726.320	781485.182	2793.603	BO
23338	9978630.832	781641.734	2763.466	BO
23339	9978636.359	781644.197	2771.164	TN
23340	9978703.085	781562.479	2768.490	BO
23341	9978707.538	781556.057	2771.926	BO
23342	9978715.901	781545.254	2780.040	BO
23343	9978638.581	781638.706	2769.941	TN
23344	9978632.923	781634.148	2761.717	BO
23345	9978718.825	781534.823	2783.995	BO
23346	9978722.877	781525.551	2784.122	BO
23347	9978722.889	781521.982	2782.528	BO
23348	9978734.755	781513.800	2784.373	BO
23349	9978754.521	781500.618	2779.810	BO
23350	9978753.405	781488.650	2779.861	BO
23351	9978729.759	781481.099	2783.516	BO
23352	9978750.382	781631.477	2786.906	TN
23353	9978635.291	781628.821	2760.435	BO
23354	9978726.712	781480.156	2783.273	BO
23355	9978729.944	781471.704	2786.739	BO
23356	9978726.750	781480.758	2783.538	BO
23357	9978730.062	781470.872	2787.052	BO
23358	9978729.800	781462.369	2783.216	BO
23359	9978738.448	781450.318	2789.616	BO
23360	9978742.712	781441.728	2794.803	BO
23361	9978741.163	781424.813	2788.710	BO
23362	9978742.468	781410.687	2789.457	BO
23363	9978744.128	781404.381	2793.418	BO
23364	9978743.788	781394.198	2793.141	BO
23365	9978745.795	781382.228	2792.138	BO
23366	9978746.877	781372.781	2794.047	BO





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
23367	9978752.262	781268.885	2786.175	BD
23368	9978756.268	781262.067	2787.324	BD
23369	9978748.977	781276.773	2785.039	BD
23370	9978747.838	781283.128	2784.123	BD
23371	9978746.999	781286.387	2783.639	BD
23372	9978747.549	781291.857	2784.250	BD
23373	9978748.852	781300.391	2786.007	BD
23374	9978749.086	781307.265	2786.700	BD
23375	9978749.358	781310.304	2787.585	BD
23376	9978748.186	781316.197	2788.995	BD
23377	9978749.983	781326.782	2793.512	BD
23378	9978749.326	781335.596	2795.815	BD
23379	9978752.450	781341.971	2799.947	BD
23380	9978756.054	781347.771	2805.156	BD
23381	9978757.189	781355.689	2808.608	BD
23382	9978759.676	781366.663	2812.421	BD
23383	9978758.817	781376.864	2811.971	BD
23384	9978637.239	781424.358	2760.911	BD
23385	9978646.372	781628.820	2769.108	TN
23386	9978651.643	781622.471	2769.820	TN
23387	9978702.402	781563.567	2767.686	BD
23388	9978689.558	781548.827	2763.605	BD
23389	9978695.629	781571.375	2760.924	BD
23390	9978658.229	781617.006	2771.236	TN
23391	9978641.875	781617.424	2760.170	BD
23392	9978687.615	781578.132	2762.402	BD
23393	9978678.112	781590.810	2762.498	BD
23394	9978667.023	781595.566	2761.397	BD
23395	9978663.008	781599.299	2761.051	BD
23396	9978664.286	781612.245	2772.482	TN
23397	9978646.540	781613.836	2761.091	BD
23398	9978653.664	781606.297	2761.444	BD
23399	9978669.585	781607.987	2772.202	TN
23400	9978652.797	781609.702	2762.481	BD
23401	9978674.356	781604.088	2773.291	TN
23402	9978655.197	781611.220	2764.480	TN
23403	9978683.342	781605.942	2779.308	TN
23404	9978686.739	781604.993	2778.926	TN
23405	9978692.958	781606.749	2778.850	BD Q
23406	9978662.922	781608.560	2767.415	TN
23407	9978698.174	781604.360	2773.146	FQ
23408	9978678.132	781599.663	2773.564	TN
23409	9978700.785	781601.004	2775.971	BD Q
23410	9978680.036	781596.524	2773.015	BD Q
23411	9978680.835	781594.803	2771.280	BD Q
23412	9978704.206	781595.718	2782.972	BD
23413	9978713.005	781586.884	2787.051	TN
23414	9978699.449	781595.697	2767.149	F Q
23415	9978722.133	781580.981	2791.146	TN
23416	9978697.748	781589.815	2775.128	BD Q
23417	9978704.628	781588.828	2777.084	TN
23418	9978725.101	781575.772	2791.654	TN
23419	9978708.198	781577.400	2777.303	TN
23420	9978727.304	781566.286	2794.903	TN
23421	9978712.896	781576.421	2778.971	TN
23422	9978730.414	781559.377	2796.718	TN
23423	9978713.445	781567.245	2781.644	TN
23424	9978734.975	781552.408	2800.232	TN
23425	9978738.671	781547.149	2801.624	TN
23426	9978713.896	781563.329	2784.177	TN
23427	9978741.359	781540.037	2802.864	TN
23428	9978742.066	781532.895	2802.761	TN
23429	9978743.526	781527.915	2803.588	TN
23430	9978745.755	781522.708	2805.070	TN
23431	9978746.455	781514.838	2804.872	TN
23432	9978720.311	781559.051	2790.043	TN
23433	9978721.710	781551.484	2790.159	TN
23434	9978747.783	781505.926	2804.004	TN
23435	9978750.876	781499.334	2807.002	TN
23436	9978725.166	781543.968	2791.458	TN
23437	9978752.332	781487.863	2807.654	TN
23438	9978726.572	781538.530	2791.761	TN
23439	9978727.221	781529.654	2790.383	TN
23440	9978753.226	781475.716	2811.681	TN
23441	9978729.318	781525.521	2790.852	TN
23442	9978759.614	781267.643	2792.799	TN
23443	9978767.990	781265.347	2796.662	TN
23444	9978754.182	781466.794	2812.783	TN
23445	9978759.682	781276.258	2792.970	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
23446	9978757.204	781285.776	2792.421	TN
23447	9978756.995	781456.826	2811.947	TN
23448	9978765.817	781272.818	2796.460	TN
23449	9978761.920	781450.991	2812.839	TN
23450	9978765.083	781443.168	2815.675	TN
23451	9978764.763	781436.682	2814.918	TN
23452	9978756.884	781292.605	2791.280	TN
23453	9978765.658	781431.036	2817.266	TN
23454	9978767.909	781422.542	2816.815	TN
23455	9978770.060	781415.880	2818.692	TN
23456	9978768.419	781278.097	2798.677	TN
23457	9978756.278	781300.866	2791.120	TN
23458	9978768.089	781403.537	2819.512	TN
23459	9978768.155	781399.640	2821.804	TN
23460	9978768.094	781380.600	2820.668	TN
23461	9978754.540	781313.664	2792.013	TN
23462	9978769.009	781371.584	2820.197	TN
23463	9978768.809	781284.223	2799.251	TN
23464	9978772.052	781360.471	2819.634	TN
23465	9978773.824	781352.008	2817.738	TN
23466	9978753.732	781321.434	2799.594	TN
23467	9978768.441	781290.081	2799.355	TN
23468	9978752.830	781326.305	2795.232	TN
23469	9978775.064	781343.207	2815.268	TN
26397	9978672.205	781414.385	2682.523	TOP
26398	9978672.111	781414.701	2682.538	TOP
26399	9978672.090	781415.040	2682.576	TOP
26400	9978672.010	781415.367	2682.587	TOP
26401	9978671.975	781415.701	2682.632	TOP
26402	9978672.041	781416.097	2682.704	TOP
26403	9978671.921	781416.392	2682.710	TOP
26404	9978671.830	781416.697	2682.720	TOP
26405	9978671.704	781416.998	2682.732	TOP
26406	9978671.563	781417.295	2682.733	TOP
26407	9978671.427	781417.593	2682.737	TOP
26408	9978671.434	781417.958	2682.789	TOP
26409	9978671.240	781418.234	2682.772	TOP
26410	9978671.123	781418.878	2682.833	TOP
26411	9978670.906	781419.148	2682.812	TOP
26412	9978670.832	781419.470	2682.838	TOP
26413	9978670.743	781419.803	2682.862	TOP
26414	9978670.785	781420.156	2682.911	TOP
26415	9978670.600	781420.462	2682.919	TOP
26416	9978670.199	781420.615	2682.831	TOP
26417	9978669.978	781420.871	2682.809	TOP
26418	9978669.940	781421.589	2682.907	TOP
26419	9978669.611	781422.154	2682.901	TOP
26420	9978669.516	781422.477	2682.924	TOP
26421	9978669.237	781422.695	2682.882	TOP
26422	9978669.215	781423.056	2682.932	TOP
26423	9978669.120	781423.385	2682.958	TOP
26424	9978668.978	781423.683	2682.966	TOP
26425	9978668.765	781423.939	2682.950	TOP
26426	9978668.615	781424.229	2682.955	TOP
26427	9978668.402	781424.489	2682.940	TOP
26428	9978668.210	781424.746	2682.929	TOP
26429	9978668.043	781425.028	2682.931	TOP
26430	9978667.961	781425.367	2682.964	TOP
26431	9978667.959	781425.745	2682.926	TOP
26432	9978667.855	781426.065	2682.950	TOP
26433	9978667.723	781426.362	2682.964	TOP
26434	9978667.553	781426.786	2682.940	TOP
26435	9978667.591	781427.054	2682.945	TOP
26436	9978667.463	781427.373	2682.970	TOP
26437	9978667.369	781427.751	2682.920	TOP
26438	9978667.223	781428.248	2682.955	TOP
26439	9978667.065	781428.481	2682.936	TOP
26440	9978667.263	781428.803	2682.956	TOP
26441	9978667.126	781429.102	2682.972	TOP
26442	9978667.910	781429.360	2682.961	TOP
26443	9978666.642	781429.576	2682.929	TOP
26444	9978666.493	781429.873	2682.942	TOP
26445	9978666.397	781430.212	2682.977	TOP
26446	9978666.278	781430.532	2682.902	TOP
26447	9978666.166	781430.854	2682.931	TOP
26448	9978665.860	781431.446	2682.959	TOP
26449	9978665.770	781431.812	2679.325	TOP
26450	9978665.518	781433.206	2679.167	TOP
26451	9978665.504	781432.787	2679.094	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
26452	9978661.354	781432.275	2678.971	TOP
26453	9978661.353	781431.877	2678.909	TOP
26454	9978661.456	781431.558	2678.879	TOP
26455	9978661.418	781431.126	2678.799	TOP
26456	9978661.574	781430.842	2678.787	TOP
26457	9978661.800	781430.620	2678.802	TOP
26458	9978661.280	781430.172	2678.817	TOP
26459	9978662.767	781430.127	2678.939	TOP
26460	9978663.780	781430.445	2679.219	TOP
26461	9978664.787	781430.759	2679.497	TOP
26462	9978665.089	781430.985	2679.533	TOP
26463	9978665.339	781430.354	2679.558	TOP
26464	9978665.754	781430.233	2679.633	TOP
26465	9978665.953	781429.969	2679.637	TOP
26466	9978665.956	781429.569	2679.576	TOP
26467	9978666.100	781429.272	2679.563	TOP
26468	9978666.185	781428.937	2679.530	TOP
26469	9978666.267	781428.595	2679.497	TOP
26470	9978666.424	781428.303	2679.489	TOP
26471	9978666.591	781428.024	2679.485	TOP
26472	9978666.523	781427.580	2679.402	TOP
26473	9978666.582	781427.290	2679.365	TOP
26474	9978667.025	781425.235	2679.170	TOP
26475	9978666.943	781424.798	2679.092	TOP
26476	9978667.006	781424.456	2679.055	TOP
26477	9978667.142	781424.161	2679.047	TOP
26478	9978667.432	781423.963	2679.088	TOP
26479	9978667.549	781423.653	2679.072	TOP
26480	9978667.653	781422.952	2678.993	TOP
26481	9978667.610	781422.588	2678.934	TOP
26482	9978667.706	781422.247	2678.912	TOP
26483	9978667.739	781421.901	2678.870	TOP
26484	9978667.933	781421.650	2678.885	TOP
26485	9978668.071	781421.354	2678.879	TOP
26486	9978668.226	781421.069	2678.877	TOP
26487	9978668.363	781420.778	2678.870	TOP
26488	9978668.530	781420.512	2678.875	TOP
26489	9978668.749	781420.265	2678.896	TOP
26490	9978668.976	781420.025	2678.919	TOP
26491	9978669.278	781419.814	2678.963	TOP
26492	9978669.438	781419.536	2678.968	TOP
26493	9978669.583	781419.249	2678.964	TOP
26494	9978669.842	781419.021	2679.000	TOP
26495	9978670.041	781418.767	2679.014	TOP
26496	9978670.331	781418.557	2679.061	TOP
26497	9978670.454	781418.249	2679.052	TOP
26498	9978670.465	781417.898	2679.011	TOP
26499	9978670.386	781417.499	2678.941	TOP
26500	9978670.438	781417.176	2678.912	TOP
26501	9978670.631	781416.908	2678.926	TOP
26502	9978670.805	781416.642	2678.940	TOP
26503	9978671.013	781416.380	2678.960	TOP
26504	9978671.072	781416.058	2678.935	TOP
26505	9978671.137	781415.742	2678.914	TOP
26506	9978671.160	781415.397	2678.878	TOP
26507	9978671.268	781415.096	2678.870	TOP
26508	9978671.357	781414.783	2678.855	TOP
26509	9978671.466	781414.475	2678.847	TOP
26510	9978671.057	781414.457	2675.354	TOP
26511	9978670.982	781414.775	2675.370	TOP
26512	9978670.822	781415.058	2675.363	TOP
26513	9978670.709	781415.353	2675.368	TOP
26514	9978670.581	781415.644	2675.372	TOP
26515	9978670.481	781415.948	2675.382	TOP
26516	9978668.705	781418.242	2675.248	TOP
26517	9978668.463	781418.469	2675.212	TOP
26518	9978668.255	781418.725	2675.204	TOP
26519	9978668.030	781418.963	2675.185	TOP
26520	9978667.873	781419.242	2675.184	TOP
26521	9978659.338	781433.857	2672.023	TOP
26522	9978659.615	781433.314	2671.992	TOP
26523	9978659.554	781433.034	2671.979	TOP
26524	9978659.424	781432.524	2671.893	TOP
26525	9978659.453	781432.150	2671.850	TOP
26526	9978659.402	781431.707	2671.786	TOP
26527	9978659.476	781431.368	2671.756	TOP
26528	9978659.509	781431.005	2671.716	TOP
26529	9978659.646	781430.720	2671.709	TOP
26530	9978659.690	781430.362	2671.666	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
26531	9978659.857	781430.093	2671.661	TOP
26532	9978660.000	781429.803	2671.649	TOP
26533	9978660.122	781429.517	2671.635	TOP
26534	9978660.303	781429.261	2671.634	TOP
26535	9978660.537	781429.044	2671.647	TOP
26536	9978660.734	781428.793	2671.649	TOP
26537	9978662.421	781427.671	2671.802	TOP
26538	9978662.687	781427.470	2671.824	TOP
26539	9978663.092	781427.373	2671.882	TOP
26540	9978663.303	781427.126	2671.889	TOP
26541	9978663.399	781426.808	2671.870	TOP
26542	9978663.503	781426.488	2671.851	TOP
26543	9978661.680	781426.229	2671.852	TOP
26544	9978663.901	781426.001	2671.865	TOP
26545	9978664.092	781425.751	2671.869	TOP
26546	9978664.194	781425.439	2671.852	TOP
26547	9978664.365	781425.174	2671.852	TOP
26548	9978664.355	781424.793	2671.809	TOP
26549	9978664.479	781424.497	2671.798	TOP
26550	9978664.552	781424.183	2671.776	TOP
26551	9978664.541	781423.808	2671.733	TOP
26552	9978664.683	781423.531	2671.729	TOP
26553	9978664.768	781423.236	2671.705	TOP
26554	9978664.811	781422.866	2671.680	TOP
26555	9978664.452	781422.299	2671.556	TOP
26556	9978664.740	781422.099	2671.585	TOP
26557	9978664.818	781421.792	2671.567	TOP
26558	9978665.209	781421.644	2671.621	TOP
26559	9978665.289	781421.338	2671.603	TOP
26560	9978665.128	781420.876	2671.527	TOP
26561	9978665.105	781420.506	2671.485	TOP
26562	9978665.330	781420.284	2671.502	TOP
26563	9978665.584	781420.072	2671.526	TOP
26564	9978665.673	781419.761	2671.511	TOP
26565	9978665.718	781419.425	2671.485	TOP
26566	9978665.797	781419.119	2671.469	TOP
26567	9978665.947	781418.849	2671.499	TOP
26568	9978666.091	781418.543	2671.454	TOP
26569	9978666.105	781418.325	2671.436	TOP
26570	9978666.289	781417.959	2671.444	TOP
26571	9978666.416	781417.680	2671.440	TOP
26572	9978666.698	781417.479	2671.472	TOP
26573	9978666.875	781417.231	2671.481	TOP
26574	9978666.941	781416.901	2671.460	TOP
26575	9978667.401	781416.794	2671.536	TOP
26576	9978667.867	781416.690	2671.612	TOP
26577	9978668.079	781416.443	2671.627	TOP
26578	9978668.213	781416.166	2671.627	TOP
26579	9978668.308	781415.865	2671.618	TOP
26580	9978668.341	781414.990	2671.729	TOP
26581	9978669.442	781414.686	2671.720	TOP
26582	9978667.171	781415.954	2668.215	TOP
26583	9978667.100	781416.249	2668.227	TOP
26584	9978666.958	781416.525	2668.227	TOP
26585	9978665.525	781417.165	2668.059	TOP
26586	9978665.415	781417.451	2668.065	TOP
26587	9978665.205	781417.892	2668.053	TOP
26588	9978665.244	781418.075	2668.090	TOP
26589	9978665.292	781418.796	2668.157	TOP
26590	9978665.238	781419.120	2668.176	TOP
26591	9978665.163	781419.422	2668.190	TOP
26592	9978665.381	781419.678	2668.184	TOP
26593	9978665.530	781420.009	2668.204	TOP
26594	9978664.897	781421.778	2668.350	TOP
26595	9978664.843	781422.171	2668.374	TOP
26596	9978668.165	781422.371	2668.370	TOP
26597	9978664.466	781422.620	2668.363	TOP
26598	9978664.350	781422.910	2668.371	TOP
26599	9978664.547	781423.279	2668.404	TOP
26600	9978664.231	781423.570	2668.417	TOP
26601	9978664.104	781423.961	2668.421	TOP
26602	9978663.937	781424.111	2668.420	TOP
26603	9978663.784	781424.388	2668.423	TOP
26604	9978663.593	781424.634	2668.418	TOP
26605	9978663.416	781424.902	2668.417	TOP
26606	9978663.219	781425.138	2668.410	TOP
26607	9978663.004	781425.374	2668.401	TOP
26608	9978662.924	781425.680	2668.416	TOP
26609	9978662.762	781425.958	2668.421	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
26610	9978662.659	781426.267	2668.434	TOP
26611	9978662.534	781426.575	2668.845	TOP
26612	9978662.431	781426.879	2668.460	TOP
26613	9978662.289	781427.158	2668.466	TOP
26614	9978662.137	781427.438	2668.472	TOP
26615	9978661.951	781427.698	2668.471	TOP
26616	9978661.842	781428.001	2668.485	TOP
26617	9978661.564	781428.574	2668.502	TOP
26618	9978661.384	781428.831	2668.503	TOP
26619	9978661.088	781429.010	2668.479	TOP
26620	9978660.203	781429.153	2668.370	TOP
26621	9978659.778	781429.610	2668.357	TOP
26622	9978659.606	781429.870	2668.360	TOP
26623	9978659.505	781430.196	2668.879	TOP
26624	9978659.416	781430.511	2668.399	TOP
26625	9978659.267	781430.786	2668.407	TOP
26626	9978659.128	781431.069	2668.418	TOP
26627	9978658.964	781431.342	2668.424	TOP
26628	9978658.826	781431.623	2668.435	TOP
26629	9978657.568	781434.324	2665.328	TOP
26630	9978657.695	781433.618	2665.280	TOP
26631	9978657.853	781433.347	2665.273	TOP
26632	9978657.972	781433.029	2665.259	TOP
26633	9978658.142	781432.759	2665.254	TOP
26634	9978658.161	781432.373	2665.223	TOP
26635	9978658.238	781432.032	2665.200	TOP
26636	9978658.505	781431.079	2665.151	TOP
26637	9978658.486	781430.820	2665.149	TOP
26638	9978659.146	781430.780	2665.196	TOP
26639	9978659.301	781430.518	2665.191	TOP
26640	9978659.274	781430.100	2665.154	TOP
26641	9978659.506	781429.882	2665.162	TOP
26642	9978659.579	781429.544	2665.142	TOP
26643	9978660.106	781429.548	2665.201	TOP
26644	9978660.187	781429.223	2665.183	TOP
26645	9978660.591	781429.132	2665.221	TOP
26646	9978660.888	781428.567	2665.209	TOP
26647	9978661.012	781428.269	2665.200	TOP
26648	9978661.175	781428.005	2665.197	TOP
26649	9978661.283	781427.701	2665.185	TOP
26650	9978661.399	781427.403	2665.175	TOP
26651	9978661.570	781427.136	2665.173	TOP
26652	9978661.727	781426.861	2665.170	TOP
26653	9978661.755	781426.508	2665.146	TOP
26654	9978661.849	781426.201	2665.123	TOP
26655	9978662.013	781425.937	2665.132	TOP
26656	9978662.251	781425.710	2665.147	TOP
26657	9978662.143	781425.266	2665.095	TOP
26658	9978662.401	781425.062	2665.110	TOP
26659	9978663.661	781422.950	2665.101	TOP
26660	9978663.787	781422.658	2665.095	TOP
26661	9978663.988	781422.409	2665.100	TOP
26662	9978664.054	781422.094	2665.086	TOP
26663	9978664.221	781421.835	2665.087	TOP
26664	9978664.338	781421.543	2665.081	TOP
26665	9978664.615	781421.348	2665.100	TOP
26666	9978664.687	781421.038	2665.083	TOP
26667	9978664.689	781420.665	2665.061	TOP
26668	9978664.808	781420.382	2665.056	TOP
26669	9978665.045	781419.809	2665.045	TOP
26670	9978665.207	781419.190	2665.023	TOP
26671	9978665.309	781418.887	2665.015	TOP
26672	9978665.380	781418.579	2665.003	TOP
26673	9978665.562	781418.327	2665.009	TOP
26674	9978665.495	781417.582	2664.957	TOP
26675	9978665.619	781417.300	2664.949	TOP
26676	9978665.709	781417.005	2664.941	TOP
26677	9978666.213	781414.581	2661.954	TOP
26678	9978667.994	781414.308	2661.943	TOP
26679	9978665.834	781416.478	2661.820	TOP
26680	9978665.583	781416.682	2661.805	TOP
26681	9978665.331	781416.907	2661.794	TOP
26682	9978665.220	781417.187	2661.798	TOP
26683	9978665.047	781417.446	2661.794	TOP
26684	9978665.027	781417.775	2661.808	TOP
26685	9978664.937	781418.088	2661.816	TOP
26686	9978664.871	781418.394	2661.825	TOP
26687	9978664.708	781418.657	2661.824	TOP
26688	9978664.567	781418.920	2661.824	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
26689	9978663.857	781418.876	2661.758	TOP
26690	9978663.389	781418.961	2661.719	TOP
26691	9978663.427	781419.691	2661.760	TOP
26692	9978663.996	781420.715	2661.865	TOP
26693	9978663.797	781420.961	2661.860	TOP
26694	9978663.621	781421.220	2661.858	TOP
26695	9978663.422	781421.457	2661.853	TOP
26696	9978663.383	781421.783	2661.867	TOP
26697	9978663.211	781422.044	2661.866	TOP
26698	9978663.072	781422.311	2661.868	TOP
26699	9978662.882	781422.563	2661.865	TOP
26700	9978662.766	781422.849	2661.870	TOP
26701	9978662.693	781423.134	2661.876	TOP
26702	9978662.344	781423.294	2661.857	TOP
26703	9978662.426	781423.718	2661.888	TOP
26704	9978662.217	781424.303	2661.902	TOP
26705	9978662.107	781424.611	2661.910	TOP
26706	9978661.947	781424.866	2661.911	TOP
26707	9978661.825	781425.159	2661.917	TOP
26708	9978661.736	781425.464	2661.926	TOP
26709	9978661.691	781425.777	2661.935	TOP
26710	9978661.575	781426.100	2661.950	TOP
26711	9978661.367	781426.344	2661.946	TOP
26712	9978661.313	781426.678	2661.960	TOP
26713	9978661.083	781426.903	2661.954	TOP
26714	9978660.797	781427.089	2661.940	TOP
26715	9978660.621	781427.348	2661.941	TOP
26716	9978660.509	781427.641	2661.946	TOP
26717	9978660.345	781427.909	2661.951	TOP
26718	9978660.160	781428.159	2661.950	TOP
26719	9978660.008	781428.435	2661.954	TOP
26720	9978659.411	781428.764	2661.924	TOP
26721	9978658.562	781428.520	2661.837	TOP
26722	9978658.863	781429.132	2661.900	TOP
26723	9978658.733	781429.424	2661.907	TOP
26724	9978658.502	781429.645	2661.902	TOP
26725	9978658.379	781429.927	2661.909	TOP
26726	9978658.248	781430.215	2661.916	TOP
26727	9978658.133	781430.507	2661.925	TOP
26728	9978657.999	781430.797	2661.933	TOP
26729	9978657.788	781431.030	2661.930	TOP
26730	9978657.601	781431.269	2661.930	TOP
26731	9978657.410	781431.506	2661.929	TOP
26732	9978657.306	781431.813	2661.941	TOP
26733	9978657.130	781432.076	2661.943	TOP
26734	9978657.011	781432.368	2661.939	TOP
26735	9978657.186	781432.898	2661.900	TOP
26736	9978657.010	781433.167	2662.005	TOP
26737	9978656.853	781433.447	2662.010	TOP
26738	9978656.696	781433.714	2662.015	TOP
26739	9978656.587	781434.032	2662.027	TOP
26740	9978656.458	781434.333	2662.037	TOP
26741	9978656.343	781434.655	2662.050	TOP
26742	9978656.307	781435.032	2662.072	TOP
26743	9978656.137	781435.297	2662.076	TOP
26744	9978655.885	781435.576	2662.083	TOP
26745	9978654.723	781432.028	2658.693	TOP
26746	9978654.917	781431.804	2658.694	TOP
26747	9978655.068	781431.532	2658.688	TOP
26748	9978655.212	781429.961	2658.645	TOP
26749	9978655.701	781429.733	2658.646	TOP
26750	9978655.580	781429.492	2658.645	TOP
26751	9978655.329	781429.082	2658.625	TOP
26752	9978656.082	781428.883	2658.631	TOP
26753	9978656.332	781428.696	2658.635	TOP
26754	9978656.419	781428.115	2658.596	TOP
26755	9978657.263	781428.615	2658.683	TOP
26756	9978657.450	781428.411	2658.688	TOP
26757	9978657.865	781428.333	2658.708	TOP
26758	9978658.652	781428.158	2658.745	TOP
26759	9978658.838	781427.914	2658.746	TOP
26760	9978660.440	781426.790	2658.792	TOP
26761	9978660.538	781426.486	2658.786	TOP
26762	9978660.934	781426.375	2658.804	TOP
26763	9978661.044	781426.082	2658.799	TOP
26764	9978661.096	781425.739	2658.789	TOP
26765	9978661.129	781425.392	2658.777	TOP
26766	9978661.414	781425.210	2658.787	TOP
26767	9978661.448	781424.861	2658.775	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
26768	9978661.467	781424.499	2658.762	TCP
26769	9978661.502	781424.186	2658.752	TCP
26770	9978661.532	781423.822	2658.740	TCP
26771	9978661.424	781423.395	2658.718	TCP
26772	9978661.524	781423.094	2658.712	TCP
26773	9978661.543	781422.751	2658.700	TCP
26774	9978661.328	781422.267	2658.670	TCP
26775	9978661.100	781421.064	2658.611	TCP
26776	9978661.995	781420.558	2658.647	TCP
26777	9978662.286	781420.374	2658.658	TCP
26778	9978662.645	781420.235	2658.675	TCP
26779	9978662.493	781419.791	2658.650	TCP
26780	9978662.671	781419.547	2658.652	TCP
26781	9978662.929	781419.344	2658.660	TCP
26782	9978662.921	781418.991	2658.648	TCP
26783	9978662.960	781418.666	2658.639	TCP
26784	9978663.001	781418.335	2658.630	TCP
26785	9978663.236	781418.118	2658.637	TCP
26786	9978663.514	781417.939	2658.648	TCP
26787	9978663.565	781417.623	2658.640	TCP
26788	9978663.653	781417.325	2658.636	TCP
26789	9978663.773	781417.036	2658.633	TCP
26790	9978663.980	781416.818	2658.639	TCP
26791	9978664.015	781416.484	2658.630	TCP
26792	9978664.069	781416.174	2658.625	TCP
26793	9978664.416	781416.019	2658.640	TCP
26794	9978664.746	781415.851	2658.655	TCP
26795	9978664.900	781415.596	2658.656	TCP
26796	9978664.937	781415.269	2658.648	TCP
26797	9978665.159	781415.051	2658.665	TCP
26798	9978662.295	781415.618	2655.546	TCP
26799	9978662.144	781415.876	2655.546	TCP
26800	9978662.055	781416.158	2655.548	TCP
26801	9978661.901	781416.420	2655.547	TCP
26802	9978661.786	781416.685	2655.548	TCP
26803	9978661.636	781416.943	2655.548	TCP
26804	9978661.535	781417.213	2655.549	TCP
26805	9978661.455	781417.514	2655.552	TCP
26806	9978661.346	781417.785	2655.554	TCP
26807	9978661.235	781418.080	2655.556	TCP
26808	9978661.121	781418.342	2655.557	TCP
26809	9978661.004	781418.622	2655.558	TCP
26810	9978660.910	781418.905	2655.560	TCP
26811	9978660.215	781420.559	2655.570	TCP
26812	9978660.072	781420.825	2655.570	TCP
26813	9978659.922	781421.074	2655.570	TCP
26814	9978659.854	781421.382	2655.574	TCP
26815	9978659.597	781421.559	2655.570	TCP
26816	9978659.816	781421.413	2655.542	TCP
26817	9978659.858	781421.795	2655.551	TCP
26818	9978659.588	781422.609	2655.590	TCP
26819	9978659.512	781422.915	2655.594	TCP
26820	9978659.405	781423.198	2655.597	TCP
26821	9978659.109	781423.407	2655.593	TCP
26822	9978658.934	781423.605	2655.590	TCP
26823	9978658.671	781423.795	2655.586	TCP
26824	9978658.600	781424.102	2655.590	TCP
26825	9978658.550	781424.435	2655.596	TCP
26826	9978658.370	781424.670	2655.595	TCP
26827	9978657.966	781424.757	2655.584	TCP
26828	9978657.763	781424.974	2655.583	TCP
26829	9978657.910	781425.803	2655.605	TCP
26830	9978657.694	781426.019	2655.603	TCP
26831	9978657.463	781426.218	2655.600	TCP
26832	9978657.259	781426.443	2655.599	TCP
26833	9978656.898	781426.560	2655.590	TCP
26834	9978656.659	781426.753	2655.587	TCP
26835	9978656.399	781426.928	2655.584	TCP
26836	9978656.203	781427.152	2655.583	TCP
26837	9978655.879	781427.283	2655.576	TCP
26838	9978655.586	781427.444	2655.571	TCP
26839	9978655.383	781427.600	2655.569	TCP
26840	9978655.139	781427.837	2655.566	TCP
26841	9978654.824	781428.044	2655.565	TCP
26842	9978654.828	781428.347	2655.569	TCP
26843	9978654.747	781429.026	2655.582	TCP
26844	9978654.499	781429.210	2655.579	TCP
26845	9978654.329	781429.448	2655.579	TCP
26846	9978653.987	781429.556	2655.569	TCP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
26847	9978653.849	781429.822	2655.574	TCP
26848	9978653.659	781430.057	2655.574	TCP
26849	9978653.476	781430.239	2655.571	TCP
26850	9978653.230	781430.460	2655.571	TCP
26851	9978653.023	781430.677	2655.570	TCP
26852	9978652.932	781430.989	2655.575	TCP
26853	9978652.758	781431.231	2655.573	TCP
26854	9978652.516	781431.806	2655.580	TCP
26855	9978652.275	781431.987	2655.578	TCP
26856	9978652.123	781432.252	2655.582	TCP
26857	9978652.233	781433.137	2655.606	TCP
26858	9978652.094	781433.412	2655.607	TCP
26859	9978652.035	781433.758	2655.616	TCP
26860	9978650.777	781432.426	2652.603	TCP
26861	9978650.805	781431.967	2652.602	TCP
26862	9978650.991	781430.961	2652.600	TCP
26863	9978651.117	781430.696	2652.600	TCP
26864	9978651.578	781430.528	2652.600	TCP
26865	9978651.518	781430.272	2652.600	TCP
26866	9978651.693	781429.650	2652.599	TCP
26867	9978651.601	781429.202	2652.598	TCP
26868	9978651.747	781428.942	2652.597	TCP
26869	9978652.554	781428.106	2652.598	TCP
26870	9978652.676	781427.827	2652.597	TCP
26871	9978652.779	781427.544	2652.597	TCP
26872	9978652.935	781427.298	2652.597	TCP
26873	9978653.108	781427.070	2652.597	TCP
26874	9978653.260	781426.822	2652.597	TCP
26875	9978653.424	781426.585	2652.597	TCP
26876	9978653.611	781426.371	2652.597	TCP
26877	9978654.038	781426.329	2652.598	TCP
26878	9978654.279	781426.148	2652.598	TCP
26879	9978654.614	781426.033	2652.599	TCP
26880	9978654.814	781425.813	2652.599	TCP
26881	9978655.016	781425.598	2652.599	TCP
26882	9978655.162	781425.351	2652.599	TCP
26883	9978655.647	781425.337	2652.601	TCP
26884	9978655.930	781425.177	2652.601	TCP
26885	9978656.108	781424.943	2652.601	TCP
26886	9978656.388	781424.783	2652.602	TCP
26887	9978656.585	781424.564	2652.602	TCP
26888	9978656.772	781424.335	2652.602	TCP
26889	9978656.901	781424.064	2652.602	TCP
26890	9978656.961	781423.749	2652.601	TCP
26891	9978657.182	781423.191	2652.601	TCP
26892	9978657.295	781422.914	2652.601	TCP
26893	9978657.331	781422.589	2652.600	TCP
26894	9978657.430	781422.304	2652.600	TCP
26895	9978657.548	781422.034	2652.600	TCP
26896	9978657.567	781421.698	2652.599	TCP
26897	9978657.250	781421.149	2652.597	TCP
26898	9978657.311	781420.849	2652.597	TCP
26899	9978657.479	781420.611	2652.597	TCP
26900	9978657.664	781420.256	2652.596	TCP
26901	9978657.688	781420.068	2652.596	TCP
26902	9978657.941	781419.888	2652.597	TCP
26903	9978658.135	781419.677	2652.597	TCP
26904	9978658.369	781419.473	2652.597	TCP
26905	9978658.634	781419.299	2652.598	TCP
26906	9978658.654	781418.970	2652.597	TCP
26907	9978658.729	781418.679	2652.597	TCP
26908	9978658.828	781418.409	2652.597	TCP
26909	9978658.977	781418.159	2652.597	TCP
26910	9978659.061	781417.869	2652.596	TCP
26911	9978659.189	781417.609	2652.596	TCP
26912	9978659.293	781417.340	2652.596	TCP
26913	9978659.426	781417.081	2652.596	TCP
26914	9978659.513	781416.800	2652.596	TCP
26915	9978659.637	781416.539	2652.596	TCP
26916	9978659.844	781416.328	2652.596	TCP
26917	9978659.995	781416.074	2652.596	TCP
26918	9978660.015	781415.763	2652.596	TCP
26919	9978660.231	781415.553	2652.596	TCP
26920	9978660.399	781414.981	2652.595	TCP
26921	9978660.645	781414.791	2652.596	TCP
26922	9978660.801	781414.548	2652.596	TCP
26923	9978660.429	781414.526	2649.781	TCP
26924	9978660.215	781414.730	2649.783	TCP
26925	9978660.079	781414.977	2649.783	TCP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
26926	9978658.006	781415.251	2649.781	TOP
26927	9978657.927	781415.537	2649.779	TOP
26928	9978657.723	781416.071	2649.777	TOP
26929	9978657.471	781416.244	2649.781	TOP
26930	9978656.903	781417.191	2649.796	TOP
26931	9978656.130	781417.406	2649.797	TOP
26932	9978655.451	781417.973	2649.806	TOP
26933	9978655.278	781418.191	2649.807	TOP
26934	9978655.325	781418.542	2649.800	TOP
26935	9978655.167	781418.760	2649.801	TOP
26936	9978654.907	781418.937	2649.804	TOP
26937	9978654.549	781419.037	2649.812	TOP
26938	9978654.559	781419.375	2649.806	TOP
26939	9978654.365	781419.575	2649.808	TOP
26940	9978654.324	781419.874	2649.804	TOP
26941	9978654.470	781420.311	2649.793	TOP
26942	9978654.154	781420.428	2649.799	TOP
26943	9978652.358	781421.236	2649.830	TOP
26944	9978651.497	781420.975	2649.855	TOP
26945	9978651.942	781421.523	2649.850	TOP
26946	9978650.980	781421.600	2649.857	TOP
26947	9978650.872	781421.868	2649.855	TOP
26948	9978650.286	781423.477	2649.841	TOP
26949	9978650.278	781424.846	2649.817	TOP
26950	9978649.235	781428.293	2649.777	TOP
26951	9978649.994	781428.801	2649.763	TOP
26952	9978649.944	781429.322	2649.758	TOP
26953	9978649.479	781429.611	2649.746	TOP
26954	9978649.334	781429.860	2649.742	TOP
26955	9978649.371	781430.275	2649.736	TOP
26956	9978649.167	781430.479	2649.736	TOP
26957	9978649.088	781430.787	2649.730	TOP
26958	9978648.973	781431.058	2649.729	TOP
26959	9978648.795	781431.287	2649.729	TOP
26960	9978648.636	781431.534	2649.727	TOP
26961	9978648.521	781431.823	2649.722	TOP
26962	9978648.648	781432.323	2649.711	TOP
26963	9978648.496	781432.577	2649.708	TOP
26964	9978647.442	781431.203	2646.924	TOP
26965	9978647.577	781430.945	2646.929	TOP
26966	9978645.668	781426.691	2647.156	TOP
26967	9978647.118	781427.217	2647.105	TOP
26968	9978646.086	781424.604	2647.260	TOP
26969	9978646.409	781423.851	2647.275	TOP
26970	9978646.299	781423.362	2647.302	TOP
26971	9978646.513	781423.242	2647.293	TOP
26972	9978647.028	781421.662	2647.328	TOP
26973	9978647.682	781421.827	2647.289	TOP
26974	9978647.758	781421.224	2647.308	TOP
26975	9978647.893	781420.849	2647.326	TOP
26976	9978647.671	781420.505	2647.339	TOP
26977	9978648.102	781420.496	2647.318	TOP
26978	9978648.209	781420.253	2647.321	TOP
26979	9978648.684	781420.266	2647.297	TOP
26980	9978649.019	781420.176	2647.283	TOP
26981	9978649.006	781419.345	2647.295	TOP
26982	9978648.755	781419.348	2647.326	TOP
26983	9978648.473	781418.836	2647.359	TOP
26984	9978648.912	781418.820	2647.337	TOP
26985	9978649.150	781418.664	2647.330	TOP
26986	9978649.651	781418.684	2647.304	TOP
26987	9978650.123	781418.689	2647.279	TOP
26988	9978649.155	781417.410	2647.375	TOP
26989	9978649.265	781417.169	2647.377	TOP
26990	9978649.457	781416.981	2647.374	TOP
26991	9978650.495	781417.352	2647.306	TOP
26992	9978650.590	781417.096	2647.310	TOP
26993	9978651.183	781416.550	2647.243	TOP
26994	9978652.267	781416.296	2647.247	TOP
26995	9978652.381	781416.039	2647.251	TOP
26996	9978652.693	781415.931	2647.237	TOP
26997	9978654.072	781416.444	2647.185	TOP
26998	9978654.229	781416.223	2647.144	TOP
26999	9978654.433	781416.032	2647.139	TOP
27000	9978654.670	781415.855	2647.132	TOP
27001	9978654.814	781415.623	2647.132	TOP
27002	9978654.962	781415.388	2647.131	TOP
27003	9978655.000	781415.104	2647.138	TOP
27004	9978655.115	781414.851	2647.140	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27005	9978655.350	781414.677	2647.132	TOP
27006	9978655.436	781414.408	2647.156	TOP
27007	9978655.237	781414.472	2644.582	TOP
27008	9978655.075	781414.685	2644.585	TOP
27009	9978652.872	781414.877	2644.592	TOP
27010	9978652.441	781414.923	2644.626	TOP
27011	9978652.355	781415.184	2644.620	TOP
27012	9978651.977	781415.250	2644.647	TOP
27013	9978652.205	781415.710	2644.606	TOP
27014	9978651.984	781415.888	2644.615	TOP
27015	9978651.624	781415.973	2644.640	TOP
27016	9978648.541	781416.458	2644.666	TOP
27017	9978648.320	781416.628	2644.675	TOP
27018	9978650.045	781418.400	2644.641	TOP
27019	9978649.062	781418.041	2644.739	TOP
27020	9978648.721	781418.134	2644.761	TOP
27021	9978648.409	781418.236	2644.781	TOP
27022	9978648.159	781418.382	2644.793	TOP
27023	9978648.486	781418.920	2644.737	TOP
27024	9978645.000	781424.137	2644.701	TOP
27025	9978645.139	781424.587	2644.661	TOP
27026	9978645.937	781425.946	2644.517	TOP
27027	9978645.739	781426.136	2644.522	TOP
27028	9978645.575	781426.338	2644.520	TOP
27029	9978645.592	781426.714	2644.495	TOP
27030	9978645.459	781426.949	2644.490	TOP
27031	9978645.988	781428.127	2644.576	TOP
27032	9978645.989	781428.495	2644.353	TOP
27033	9978645.931	781428.808	2644.337	TOP
27034	9978646.035	781429.273	2644.300	TOP
27035	9978645.912	781429.539	2644.291	TOP
27036	9978645.858	781429.854	2644.275	TOP
27037	9978645.613	781430.004	2644.283	TOP
27038	9978646.076	781430.807	2644.197	TOP
27039	9978645.543	781431.052	2644.192	TOP
27040	9978645.503	781431.321	2644.183	TOP
27041	9978645.588	781431.501	2644.188	TOP
27042	9978645.423	781431.717	2644.186	TOP
27043	9978643.913	781429.782	2641.667	TOP
27044	9978644.054	781429.528	2641.676	TOP
27045	9978644.229	781429.324	2641.678	TOP
27046	9978644.265	781428.986	2641.704	TOP
27047	9978644.476	781428.819	2641.698	TOP
27048	9978644.492	781428.455	2641.728	TOP
27049	9978644.611	781428.214	2641.738	TOP
27050	9978644.720	781427.946	2641.751	TOP
27051	9978644.799	781427.657	2641.768	TOP
27052	9978644.883	781427.373	2641.784	TOP
27053	9978644.927	781424.725	2641.864	TOP
27054	9978646.415	781424.455	2641.877	TOP
27055	9978646.635	781424.291	2641.868	TOP
27056	9978646.580	781423.905	2641.906	TOP
27057	9978645.447	781422.675	2642.121	TOP
27058	9978646.575	781423.225	2641.963	TOP
27059	9978646.945	781422.854	2641.953	TOP
27060	9978647.620	781421.061	2642.024	TOP
27061	9978648.421	781418.108	2642.161	TOP
27062	9978648.760	781417.707	2642.156	TOP
27063	9978648.836	781417.448	2642.166	TOP
27064	9978651.500	781417.001	2641.907	TOP
27065	9978651.644	781416.777	2641.907	TOP
27066	9978651.810	781416.562	2641.904	TOP
27067	9978651.868	781416.292	2641.916	TOP
27068	9978651.961	781416.039	2641.923	TOP
27069	9978651.924	781415.711	2641.950	TOP
27070	9978651.946	781415.416	2641.967	TOP
27071	9978651.886	781415.062	2641.989	TOP
27072	9978651.823	781414.729	2642.028	TOP
27073	9978651.747	781414.373	2642.060	TOP
27074	9978652.606	781414.881	2639.229	TOP
27075	9978650.356	781419.235	2639.127	TOP
27076	9978650.421	781419.477	2639.123	TOP
27077	9978650.322	781419.733	2639.112	TOP
27078	9978650.313	781419.981	2639.104	TOP
27079	9978650.094	781420.223	2639.097	TOP
27080	9978649.834	781420.360	2639.119	TOP
27081	9978648.306	781422.891	2639.076	TOP
27082	9978648.119	781423.087	2639.081	TOP
27083	9978647.877	781423.241	2639.097	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27084	9978647.568	781423.671	2639.094	TOP
27085	9978647.439	781423.903	2639.087	TOP
27086	9978647.186	781424.047	2639.105	TOP
27087	9978647.000	781424.231	2639.109	TOP
27088	9978646.879	781424.488	2639.099	TOP
27089	9978646.739	781424.715	2639.093	TOP
27090	9978646.623	781424.967	2639.082	TOP
27091	9978646.464	781425.171	2639.081	TOP
27092	9978646.341	781425.426	2639.070	TOP
27093	9978646.283	781425.730	2639.045	TOP
27094	9978646.156	781425.978	2639.035	TOP
27095	9978646.074	781426.248	2639.017	TOP
27096	9978645.908	781426.468	2639.014	TOP
27097	9978645.781	781426.707	2639.005	TOP
27098	9978645.601	781426.916	2639.005	TOP
27099	9978645.531	781427.217	2638.981	TOP
27100	9978645.396	781427.446	2638.973	TOP
27101	9978645.236	781427.669	2638.969	TOP
27102	9978645.065	781427.872	2638.968	TOP
27103	9978644.829	781428.033	2638.979	TOP
27104	9978644.723	781428.303	2638.963	TOP
27105	9978644.575	781428.533	2638.956	TOP
27106	9978644.437	781428.773	2638.946	TOP
27107	9978644.285	781429.000	2638.939	TOP
27108	9978644.123	781429.219	2638.935	TOP
27109	9978643.993	781429.469	2638.922	TOP
27110	9978643.830	781429.690	2638.917	TOP
27111	9978643.667	781429.907	2638.912	TOP
27112	9978643.490	781430.097	2638.912	TOP
27113	9978643.317	781430.321	2638.908	TOP
27114	9978643.183	781430.548	2638.898	TOP
27115	9978643.019	781430.789	2638.890	TOP
27116	9978642.844	781431.083	2638.865	TOP
27117	9978642.899	781430.480	2638.145	TOP
27118	9978641.083	781430.282	2638.146	TOP
27119	9978643.342	781430.154	2638.126	TOP
27120	9978643.474	781429.916	2638.139	TOP
27121	9978643.551	781429.624	2638.168	TOP
27122	9978643.812	781429.123	2638.198	TOP
27123	9978644.065	781428.993	2638.178	TOP
27124	9978645.569	781426.368	2638.298	TOP
27125	9978645.697	781426.124	2638.310	TOP
27126	9978645.738	781425.813	2638.343	TOP
27127	9978645.901	781425.599	2638.349	TOP
27128	9978649.891	781420.527	2638.344	TOP
27129	9978650.020	781420.337	2638.335	TOP
27130	9978650.146	781420.097	2638.342	TOP
27131	9978650.330	781419.901	2638.334	TOP
27132	9978650.511	781419.696	2638.326	TOP
27133	9978650.657	781419.472	2638.327	TOP
27134	9978650.752	781419.219	2638.340	TOP
27135	9978650.861	781418.965	2638.350	TOP
27136	9978650.937	781418.697	2638.367	TOP
27137	9978651.061	781418.457	2638.373	TOP
27138	9978651.593	781417.215	2638.419	TOP
27139	9978651.720	781416.976	2638.423	TOP
27140	9978651.768	781416.694	2638.445	TOP
27141	9978651.855	781416.435	2638.458	TOP
27142	9978651.979	781416.208	2638.461	TOP
27143	9978652.090	781415.971	2638.466	TOP
27144	9978652.259	781415.758	2638.461	TOP
27145	9978652.383	781415.517	2638.464	TOP
27146	9978652.513	781415.293	2638.465	TOP
27147	9978652.676	781415.082	2638.459	TOP
27148	9978652.895	781414.909	2638.419	TOP
27149	9978653.105	781414.720	2638.423	TOP
27150	9978653.101	781414.408	2638.455	TOP
27151	9978651.840	781416.741	2633.653	TOP
27152	9978651.701	781416.967	2633.651	TOP
27153	9978651.593	781417.212	2633.642	TOP
27154	9978651.479	781417.455	2633.634	TOP
27155	9978651.362	781417.694	2633.627	TOP
27156	9978651.222	781417.918	2633.626	TOP
27157	9978651.084	781418.147	2633.621	TOP
27158	9978650.952	781418.385	2633.619	TOP
27159	9978650.866	781418.646	2633.610	TOP
27160	9978650.633	781419.124	2633.582	TOP
27161	9978650.482	781419.353	2633.581	TOP
27162	9978650.372	781419.603	2633.571	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27163	9978650.201	781419.812	2633.575	TOP
27164	9978650.102	781420.065	2633.560	TOP
27165	9978650.018	781420.333	2633.540	TOP
27166	9978649.963	781420.614	2633.513	TOP
27167	9978649.840	781420.863	2633.502	TOP
27168	9978648.700	781421.984	2633.516	TOP
27169	9978648.081	781423.226	2633.504	TOP
27170	9978647.921	781423.443	2633.503	TOP
27171	9978647.661	781423.575	2633.532	TOP
27172	9978647.482	781423.768	2633.537	TOP
27173	9978647.339	781423.992	2633.531	TOP
27174	9978647.225	781424.248	2633.514	TOP
27175	9978647.044	781424.500	2633.518	TOP
27176	9978646.878	781424.655	2633.518	TOP
27177	9978646.742	781424.889	2633.508	TOP
27178	9978646.568	781425.102	2633.505	TOP
27179	9978646.420	781425.322	2633.503	TOP
27180	9978646.262	781425.546	2633.498	TOP
27181	9978646.099	781425.764	2633.494	TOP
27182	9978645.958	781425.988	2633.486	TOP
27183	9978645.782	781426.196	2633.486	TOP
27184	9978645.698	781426.472	2633.459	TOP
27185	9978645.582	781426.730	2633.441	TOP
27186	9978645.433	781426.958	2633.432	TOP
27187	9978645.289	781427.193	2633.422	TOP
27188	9978645.129	781427.388	2633.419	TOP
27189	9978644.941	781427.597	2633.421	TOP
27190	9978644.725	781427.771	2633.431	TOP
27191	9978644.555	781427.977	2633.425	TOP
27192	9978644.373	781428.182	2633.429	TOP
27193	9978644.189	781428.370	2633.432	TOP
27194	9978644.044	781428.604	2633.420	TOP
27195	9978643.854	781428.804	2633.421	TOP
27196	9978643.672	781428.995	2633.422	TOP
27197	9978643.456	781429.168	2633.432	TOP
27198	9978643.270	781429.353	2633.434	TOP
27199	9978643.096	781429.563	2633.428	TOP
27200	9978642.949	781429.781	2633.420	TOP
27201	9978642.796	781430.014	2633.406	TOP
27202	9978642.630	781430.219	2633.403	TOP
27203	9978642.484	781430.469	2633.383	TOP
27204	9978642.422	781430.761	2633.348	TOP
27205	9978642.338	781431.059	2633.311	TOP
27206	9978642.167	781431.272	2633.309	TOP
27207	9978642.003	781431.492	2633.300	TOP
27208	9978641.852	781431.728	2633.286	TOP
27209	9978642.296	781431.795	2630.310	TOP
27210	9978642.455	781431.562	2630.324	TOP
27211	9978642.560	781431.291	2630.355	TOP
27212	9978643.096	781430.681	2630.366	TOP
27213	9978643.283	781430.485	2630.366	TOP
27214	9978651.556	781416.877	2630.873	TOP
27215	9978651.679	781416.644	2630.878	TOP
27216	9978651.735	781416.888	2630.905	TOP
27217	9978651.827	781416.117	2630.920	TOP
27218	9978651.982	781415.902	2630.915	TOP
27219	9978652.092	781415.663	2630.923	TOP
27220	9978652.203	781415.415	2630.935	TOP
27221	9978652.321	781415.185	2630.937	TOP
27222	9978652.414	781414.930	2630.951	TOP
27223	9978652.513	781414.683	2630.963	TOP
27224	9978652.641	781414.452	2630.965	TOP
27225	9978652.694	781429.837	2627.245	TOP
27226	9978652.526	781430.047	2627.239	TOP
27227	9978652.355	781430.268	2627.231	TOP
27228	9978652.194	781430.478	2627.223	TOP
27229	9978652.012	781430.686	2627.220	TOP
27230	9978643.877	781430.926	2627.199	TOP
27231	9978643.692	781431.157	2627.196	TOP
27232	9978643.543	781431.403	2627.163	TOP
27233	9978643.395	781431.607	2627.161	TOP
27234	9978643.304	781431.889	2627.121	TOP
27235	9978643.062	781432.049	2627.139	TOP
27236	9978642.888	781432.256	2627.153	TOP
27237	9978642.804	781432.575	2627.082	TOP
27238	9978642.662	781432.819	2627.060	TOP
27239	9978642.606	781433.147	2627.001	TOP
27240	9978642.486	781433.389	2626.979	TOP
27241	9978642.300	781433.620	2626.963	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27242	9978642.682	781434.042	2623.717	TOP
27243	9978642.694	781433.641	2623.812	TOP
27244	9978642.672	781432.849	2624.010	TOP
27245	9978643.341	781432.731	2623.877	TOP
27246	9978643.588	781432.592	2623.850	TOP
27247	9978643.857	781432.458	2623.817	TOP
27248	9978644.045	781432.258	2623.818	TOP
27249	9978644.238	781432.066	2623.817	TOP
27250	9978644.349	781431.796	2623.853	TOP
27251	9978644.485	781431.530	2623.883	TOP
27252	9978644.543	781431.306	2623.896	TOP
27253	9978644.543	781430.936	2623.983	TOP
27254	9978648.222	781423.601	2624.683	TOP
27255	9978648.515	781423.141	2624.699	TOP
27256	9978648.669	781422.928	2624.701	TOP
27257	9978650.562	781419.716	2624.791	TOP
27258	9978650.770	781419.463	2624.810	TOP
27259	9978650.870	781419.204	2624.831	TOP
27260	9978650.933	781418.927	2624.866	TOP
27261	9978651.065	781418.692	2624.873	TOP
27262	9978651.155	781418.436	2624.896	TOP
27263	9978651.250	781418.171	2624.919	TOP
27264	9978651.218	781417.835	2624.991	TOP
27265	9978651.285	781417.545	2625.030	TOP
27266	9978651.343	781417.283	2625.058	TOP
27267	9978651.484	781417.025	2625.077	TOP
27268	9978651.525	781416.770	2625.100	TOP
27269	9978651.607	781416.506	2625.122	TOP
27270	9978651.743	781416.289	2625.122	TOP
27271	9978651.804	781416.014	2625.154	TOP
27272	9978651.895	781415.763	2625.173	TOP
27273	9978651.987	781415.507	2625.192	TOP
27274	9978652.063	781415.245	2625.216	TOP
27275	9978652.112	781414.963	2625.252	TOP
27276	9978652.194	781414.713	2625.271	TOP
27277	9978652.266	781414.442	2625.298	TOP
27278	9978647.123	781425.786	2621.450	TOP
27279	9978646.978	781426.011	2621.438	TOP
27280	9978646.820	781426.239	2621.429	TOP
27281	9978646.725	781426.516	2621.389	TOP
27282	9978646.566	781426.734	2621.382	TOP
27283	9978646.404	781427.001	2621.346	TOP
27284	9978646.351	781427.266	2621.313	TOP
27285	9978646.228	781427.517	2621.286	TOP
27286	9978646.067	781427.743	2621.276	TOP
27287	9978645.940	781427.987	2621.252	TOP
27288	9978645.776	781428.208	2621.243	TOP
27289	9978645.645	781428.456	2621.218	TOP
27290	9978645.552	781428.746	2621.172	TOP
27291	9978645.435	781429.014	2621.137	TOP
27292	9978645.332	781429.465	2620.995	TOP
27293	9978645.408	781429.723	2620.964	TOP
27294	9978645.258	781429.948	2620.949	TOP
27295	9978645.148	781430.233	2620.906	TOP
27296	9978644.775	781430.359	2621.003	TOP
27297	9978644.678	781430.548	2620.955	TOP
27298	9978644.479	781430.732	2620.963	TOP
27299	9978644.285	781430.925	2620.966	TOP
27300	9978644.140	781431.160	2620.945	TOP
27301	9978644.015	781431.425	2620.912	TOP
27302	9978643.817	781431.618	2620.912	TOP
27303	9978643.642	781431.825	2620.906	TOP
27304	9978643.508	781432.075	2620.875	TOP
27305	9978643.324	781432.287	2620.869	TOP
27306	9978643.064	781432.417	2620.905	TOP
27307	9978642.821	781432.565	2620.930	TOP
27308	9978642.641	781432.772	2620.923	TOP
27309	9978642.432	781432.951	2620.933	TOP
27310	9978642.264	781433.168	2620.919	TOP
27311	9978642.114	781433.414	2620.890	TOP
27312	9978641.877	781433.568	2620.913	TOP
27313	9978641.634	781433.712	2620.937	TOP
27314	9978641.449	781433.917	2620.930	TOP
27315	9978641.201	781434.049	2620.959	TOP
27316	9978640.952	781434.189	2620.985	TOP
27317	9978640.759	781434.387	2620.980	TOP
27318	9978639.463	781470.929	2680.139	TOP
27319	9978639.889	781470.917	2680.249	TOP
27320	9978640.132	781470.598	2680.210	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27321	9978640.398	781470.320	2680.183	TOP
27322	9978640.649	781470.009	2680.148	TOP
27323	9978640.955	781469.800	2680.142	TOP
27324	9978641.400	781469.806	2680.200	TOP
27325	9978641.651	781469.318	2680.170	TOP
27326	9978642.208	781469.698	2680.281	TOP
27327	9978642.607	781469.655	2680.324	TOP
27328	9978642.949	781469.493	2680.334	TOP
27329	9978643.365	781469.465	2680.383	TOP
27330	9978645.724	781469.327	2680.401	TOP
27331	9978644.136	781469.293	2680.448	TOP
27332	9978644.542	781469.238	2680.491	TOP
27333	9978644.929	781469.150	2680.525	TOP
27334	9978645.090	781468.723	2680.456	TOP
27335	9978645.289	781468.324	2680.399	TOP
27336	9978645.506	781467.985	2680.357	TOP
27337	9978645.886	781467.884	2680.388	TOP
27338	9978646.270	781467.794	2680.425	TOP
27339	9978646.523	781467.492	2680.397	TOP
27340	9978646.910	781467.397	2680.431	TOP
27341	9978647.171	781467.114	2680.409	TOP
27342	9978647.457	781466.861	2680.397	TOP
27343	9978647.791	781466.697	2680.410	TOP
27344	9978648.076	781466.463	2680.402	TOP
27345	9978648.408	781466.274	2680.411	TOP
27346	9978648.773	781466.137	2680.455	TOP
27347	9978649.195	781466.073	2680.483	TOP
27348	9978649.454	781465.814	2680.467	TOP
27349	9978649.691	781465.489	2680.435	TOP
27350	9978650.149	781465.491	2680.501	TOP
27351	9978650.586	781465.434	2680.556	TOP
27352	9978651.879	781464.806	2680.506	TOP
27353	9978651.421	781461.592	2679.908	TOP
27354	9978651.282	781460.214	2679.613	TOP
27355	9978650.992	781459.202	2679.362	TOP
27356	9978650.677	781458.265	2679.135	TOP
27357	9978650.767	781457.816	2679.060	TOP
27358	9978651.010	781457.569	2679.050	TOP
27359	9978651.562	781457.108	2679.047	TOP
27360	9978651.936	781457.006	2679.086	TOP
27361	9978652.169	781456.795	2679.070	TOP
27362	9978652.309	781456.338	2679.016	TOP
27363	9978652.713	781456.275	2679.068	TOP
27364	9978652.980	781456.038	2679.065	TOP
27365	9978653.317	781455.884	2679.091	TOP
27366	9978653.294	781455.298	2678.975	TOP
27367	9978653.497	781454.986	2678.948	TOP
27368	9978653.395	781454.323	2678.805	TOP
27369	9978653.276	781453.654	2678.639	TOP
27370	9978653.383	781453.234	2678.597	TOP
27371	9978653.665	781452.272	2678.429	TOP
27372	9978653.781	781452.111	2678.452	TOP
27373	9978654.781	781451.643	2678.530	TOP
27374	9978655.970	781451.401	2678.688	TOP
27375	9978656.577	781451.531	2678.814	TOP
27376	9978656.873	781451.537	2678.820	TOP
27377	9978657.207	781451.166	2678.856	TOP
27378	9978657.441	781450.911	2678.850	TOP
27379	9978657.651	781450.628	2678.831	TOP
27380	9978657.854	781450.329	2678.816	TOP
27381	9978657.880	781449.859	2678.736	TOP
27382	9978658.034	781449.492	2678.693	TOP
27383	9978658.185	781449.160	2678.664	TOP
27384	9978658.428	781448.913	2678.663	TOP
27385	9978658.621	781448.619	2678.644	TOP
27386	9978658.871	781447.877	2678.558	TOP
27387	9978659.124	781447.627	2678.559	TOP
27388	9978659.402	781447.423	2678.573	TOP
27389	9978659.557	781447.079	2678.541	TOP
27390	9978659.706	781446.739	2678.508	TOP
27391	9978659.751	781446.292	2678.439	TOP
27392	9978659.814	781445.871	2678.377	TOP
27393	9978659.743	781445.324	2678.270	TOP
27394	9978659.807	781444.918	2678.212	TOP
27395	9978659.970	781444.607	2678.188	TOP
27396	9978660.177	781444.324	2678.178	TOP
27397	9978660.337	781443.992	2678.149	TOP
27398	9978660.363	781443.552	2678.079	TOP
27399	9978660.550	781442.334	2677.909	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27400	9978660.659	781441.978	2677.870	TOP
27401	9978660.828	781441.666	2677.850	TOP
27402	9978658.050	781440.571	2671.944	TOP
27403	9978657.883	781440.892	2671.965	TOP
27404	9978657.261	781442.133	2672.040	TOP
27405	9978657.275	781442.593	2672.105	TOP
27406	9978657.142	781442.921	2672.130	TOP
27407	9978657.277	781443.521	2672.232	TOP
27408	9978657.145	781443.850	2672.258	TOP
27409	9978657.291	781444.468	2672.364	TOP
27410	9978657.102	781444.746	2672.375	TOP
27411	9978657.047	781445.177	2672.427	TOP
27412	9978656.843	781445.435	2672.494	TOP
27413	9978656.582	781445.669	2672.490	TOP
27414	9978656.084	781447.090	2672.559	TOP
27415	9978655.844	781447.324	2672.559	TOP
27416	9978655.552	781447.510	2672.545	TOP
27417	9978654.845	781447.807	2672.436	TOP
27418	9978654.486	781448.300	2672.505	TOP
27419	9978654.131	781448.470	2672.488	TOP
27420	9978654.190	781449.035	2672.578	TOP
27421	9978653.767	781449.072	2672.526	TOP
27422	9978653.985	781449.817	2672.664	TOP
27423	9978653.536	781449.827	2672.605	TOP
27424	9978653.729	781450.553	2672.738	TOP
27425	9978653.525	781450.846	2672.754	TOP
27426	9978653.343	781451.159	2672.776	TOP
27427	9978653.091	781451.392	2672.777	TOP
27428	9978652.749	781451.520	2672.751	TOP
27429	9978652.348	781452.110	2672.786	TOP
27430	9978652.173	781452.436	2672.812	TOP
27431	9978651.855	781452.598	2672.796	TOP
27432	9978651.731	781452.988	2672.838	TOP
27433	9978651.547	781453.296	2672.861	TOP
27434	9978651.353	781453.608	2672.883	TOP
27435	9978651.098	781453.832	2672.894	TOP
27436	9978650.987	781454.257	2672.935	TOP
27437	9978650.734	781454.499	2672.940	TOP
27438	9978650.481	781454.740	2672.945	TOP
27439	9978650.103	781455.932	2673.082	TOP
27440	9978650.074	781456.450	2673.138	TOP
27441	9978649.857	781456.717	2673.172	TOP
27442	9978649.652	781457.031	2673.196	TOP
27443	9978649.301	781457.733	2673.263	TOP
27444	9978649.104	781458.619	2673.378	TOP
27445	9978648.863	781458.889	2673.392	TOP
27446	9978649.081	781459.766	2673.557	TOP
27447	9978649.006	781460.274	2673.628	TOP
27448	9978649.066	781460.946	2673.742	TOP
27449	9978648.871	781461.293	2673.774	TOP
27450	9978648.931	781463.856	2674.192	TOP
27451	9978648.895	781464.436	2674.281	TOP
27452	9978648.890	781465.066	2674.385	TOP
27453	9978648.460	781465.088	2674.337	TOP
27454	9978643.733	781465.324	2673.852	TOP
27455	9978643.360	781465.398	2673.824	TOP
27456	9978642.978	781465.484	2673.797	TOP
27457	9978642.571	781465.515	2673.759	TOP
27458	9978642.332	781465.786	2673.778	TOP
27459	9978642.013	781465.958	2673.774	TOP
27460	9978641.784	781466.286	2673.805	TOP
27461	9978641.434	781466.405	2673.789	TOP
27462	9978641.122	781466.590	2673.787	TOP
27463	9978640.764	781466.690	2673.767	TOP
27464	9978640.477	781466.910	2673.775	TOP
27465	9978640.012	781466.846	2673.716	TOP
27466	9978639.685	781466.987	2673.707	TOP
27467	9978639.028	781467.303	2673.695	TOP
27468	9978638.708	781467.466	2673.691	TOP
27469	9978638.439	781467.722	2673.708	TOP
27470	9978637.591	781468.425	2673.745	TOP
27471	9978637.195	781468.457	2673.713	TOP
27472	9978635.153	781468.514	2673.530	TOP
27473	9978634.761	781468.330	2673.496	TOP
27474	9978630.540	781464.924	2671.474	TOP
27475	9978630.308	781465.242	2671.510	TOP
27476	9978630.058	781465.483	2672.530	TOP
27477	9978629.717	781465.572	2672.516	TOP
27478	9978629.516	781465.908	2672.558	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27479	9978622.910	781472.316	2667.773	TOP
27480	9978623.273	781472.270	2667.786	TOP
27481	9978623.117	781469.112	2667.347	TOP
27482	9978623.327	781468.728	2667.307	TOP
27483	9978623.604	781468.519	2667.294	TOP
27484	9978623.821	781468.119	2667.252	TOP
27485	9978625.477	781468.535	2667.404	TOP
27486	9978625.858	781468.546	2667.428	TOP
27487	9978625.643	781464.762	2666.907	TOP
27488	9978625.808	781464.312	2666.857	TOP
27489	9978626.147	781464.253	2666.870	TOP
27490	9978626.241	781463.672	2666.798	TOP
27491	9978626.677	781463.827	2666.846	TOP
27492	9978626.936	781463.624	2666.836	TOP
27493	9978627.167	781463.334	2666.812	TOP
27494	9978627.385	781463.013	2666.783	TOP
27495	9978627.627	781462.763	2666.766	TOP
27496	9978627.885	781462.557	2666.755	TOP
27497	9978628.129	781462.319	2666.740	TOP
27498	9978628.372	781462.075	2666.723	TOP
27499	9978628.668	781461.927	2666.724	TOP
27500	9978629.111	781462.067	2666.771	TOP
27501	9978629.389	781461.902	2666.788	TOP
27502	9978629.713	781461.828	2666.781	TOP
27503	9978629.973	781461.627	2666.772	TOP
27504	9978630.466	781461.853	2666.835	TOP
27505	9978630.904	781461.965	2666.880	TOP
27506	9978631.321	781462.058	2666.920	TOP
27507	9978631.563	781461.794	2666.903	TOP
27508	9978631.963	781461.843	2666.937	TOP
27509	9978634.777	781463.442	2667.343	TOP
27510	9978635.219	781463.519	2667.385	TOP
27511	9978635.427	781463.181	2667.357	TOP
27512	9978636.046	781463.572	2667.452	TOP
27513	9978636.555	781463.760	2667.514	TOP
27514	9978637.016	781463.859	2667.561	TOP
27515	9978637.449	781463.916	2667.600	TOP
27516	9978637.841	781463.902	2667.628	TOP
27517	9978638.181	781463.770	2667.637	TOP
27518	9978638.523	781463.675	2667.651	TOP
27519	9978639.156	781464.032	2667.744	TOP
27520	9978639.571	781464.040	2667.777	TOP
27521	9978640.034	781464.119	2667.822	TOP
27522	9978640.364	781463.989	2667.832	TOP
27523	9978640.779	781463.985	2667.864	TOP
27524	9978641.135	781463.889	2667.880	TOP
27525	9978641.502	781463.879	2667.901	TOP
27526	9978642.077	781464.061	2667.975	TOP
27527	9978642.380	781463.886	2667.978	TOP
27528	9978642.814	781463.895	2668.011	TOP
27529	9978643.034	781463.578	2667.990	TOP
27530	9978643.933	781463.651	2668.072	TOP
27531	9978644.287	781463.529	2668.086	TOP
27532	9978644.593	781463.344	2668.088	TOP
27533	9978644.965	781463.232	2668.105	TOP
27534	9978645.043	781463.542	2668.232	TOP
27535	9978646.264	781463.236	2668.214	TOP
27536	9978646.716	781463.246	2668.253	TOP
27537	9978646.882	781462.856	2668.220	TOP
27538	9978647.181	781462.635	2668.219	TOP
27539	9978647.398	781462.332	2668.201	TOP
27540	9978647.576	781461.955	2668.172	TOP
27541	9978647.559	781461.325	2668.095	TOP
27542	9978647.845	781461.085	2668.091	TOP
27543	9978647.711	781460.309	2667.988	TOP
27544	9978647.720	781459.729	2667.920	TOP
27545	9978647.798	781459.238	2667.869	TOP
27546	9978647.715	781458.529	2667.778	TOP
27547	9978647.934	781458.299	2667.761	TOP
27548	9978647.885	781457.723	2667.705	TOP
27549	9978647.990	781457.156	2667.639	TOP
27550	9978648.006	781456.619	2667.578	TOP
27551	9978648.147	781456.233	2667.546	TOP
27552	9978648.345	781455.933	2667.529	TOP
27553	9978648.458	781455.510	2667.490	TOP
27554	9978648.648	781455.188	2667.471	TOP
27555	9978648.835	781454.884	2667.453	TOP
27556	9978649.082	781454.652	2667.449	TOP
27557	9978649.328	781454.407	2667.443	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27558	9978649.367	781453.919	2667.391	TOP
27559	9978649.588	781453.824	2667.378	TOP
27560	9978649.972	781453.569	2667.408	TOP
27561	9978650.189	781453.290	2667.397	TOP
27562	9978650.367	781452.976	2667.378	TOP
27563	9978650.613	781452.720	2667.373	TOP
27564	9978650.749	781452.464	2667.346	TOP
27565	9978650.947	781452.052	2667.330	TOP
27566	9978651.024	781451.620	2667.289	TOP
27567	9978651.139	781451.236	2667.257	TOP
27568	9978651.534	781450.944	2667.241	TOP
27569	9978651.943	781450.601	2667.262	TOP
27570	9978653.050	781448.767	2667.171	TOP
27571	9978653.602	781447.886	2667.132	TOP
27572	9978653.761	781447.557	2667.113	TOP
27573	9978654.042	781446.889	2667.070	TOP
27574	9978654.260	781446.633	2667.065	TOP
27575	9978654.542	781446.451	2667.075	TOP
27576	9978654.747	781446.172	2667.066	TOP
27577	9978654.945	781445.423	2667.008	TOP
27578	9978655.136	781445.140	2666.999	TOP
27579	9978655.270	781444.810	2666.978	TOP
27580	9978655.289	781444.348	2666.932	TOP
27581	9978655.412	781444.007	2666.910	TOP
27582	9978655.500	781443.622	2666.880	TOP
27583	9978655.561	781443.223	2666.845	TOP
27584	9978655.682	781442.878	2666.820	TOP
27585	9978655.705	781442.442	2666.778	TOP
27586	9978656.051	781442.309	2666.802	TOP
27587	9978656.113	781441.916	2666.769	TOP
27588	9978656.290	781441.644	2666.760	TOP
27589	9978656.564	781441.444	2666.770	TOP
27590	9978657.033	781439.651	2666.642	TOP
27591	9978657.007	781439.189	2666.594	TOP
27592	9978657.115	781438.841	2666.572	TOP
27593	9978653.894	781437.796	2666.343	TOP
27594	9978653.788	781438.131	2666.357	TOP
27595	9978653.712	781438.490	2666.375	TOP
27596	9978653.756	781438.967	2666.409	TOP
27597	9978653.601	781439.250	2666.417	TOP
27598	9978653.764	781439.814	2666.464	TOP
27599	9978653.604	781440.119	2666.475	TOP
27600	9978653.561	781440.532	2666.499	TOP
27601	9978653.483	781440.893	2666.518	TOP
27602	9978653.335	781441.200	2666.528	TOP
27603	9978653.727	781442.946	2666.673	TOP
27604	9978653.743	781443.423	2666.706	TOP
27605	9978653.572	781443.713	2666.714	TOP
27606	9978653.589	781443.967	2666.718	TOP
27607	9978653.440	781444.973	2666.792	TOP
27608	9978653.091	781445.082	2666.776	TOP
27609	9978652.461	781444.906	2666.721	TOP
27610	9978652.083	781444.975	2666.701	TOP
27611	9978651.729	781445.074	2666.684	TOP
27612	9978651.401	781445.194	2666.671	TOP
27613	9978651.048	781445.301	2666.655	TOP
27614	9978650.831	781445.346	2666.658	TOP
27615	9978650.666	781445.841	2666.668	TOP
27616	9978650.526	781446.164	2666.682	TOP
27617	9978650.376	781446.494	2666.696	TOP
27618	9978650.828	781448.454	2666.937	TOP
27619	9978650.676	781449.805	2666.952	TOP
27620	9978650.488	781450.104	2666.962	TOP
27621	9978650.290	781450.382	2666.970	TOP
27622	9978649.977	781450.535	2666.961	TOP
27623	9978649.713	781450.737	2666.960	TOP
27624	9978649.451	781450.947	2666.959	TOP
27625	9978649.267	781451.259	2666.970	TOP
27626	9978649.016	781451.492	2666.972	TOP
27627	9978648.499	781451.371	2666.001	TOP
27628	9978648.187	781452.589	2666.002	TOP
27629	9978647.895	781452.773	2666.998	TOP
27630	9978647.618	781452.963	2666.996	TOP
27631	9978647.415	781453.238	2666.004	TOP
27632	9978647.189	781453.491	2666.010	TOP
27633	9978646.797	781454.081	2666.031	TOP
27634	9978646.535	781454.300	2666.032	TOP
27635	9978646.119	781454.855	2666.050	TOP
27636	9978645.866	781455.102	2666.054	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27637	9978645.734	781455.472	2662.075	TOP
27638	9978645.551	781455.838	2662.092	TOP
27639	9978645.375	781456.152	2662.107	TOP
27640	9978643.188	781460.194	2662.301	TOP
27641	9978642.936	781460.439	2662.307	TOP
27642	9978642.803	781460.860	2662.339	TOP
27643	9978642.491	781461.037	2662.330	TOP
27644	9978642.087	781461.056	2662.330	TOP
27645	9978641.637	781461.007	2662.283	TOP
27646	9978641.530	781461.154	2662.278	TOP
27647	9978641.163	781461.535	2662.300	TOP
27648	9978638.992	781461.351	2662.175	TOP
27649	9978638.352	781460.948	2662.110	TOP
27650	9978637.579	781461.646	2662.128	TOP
27651	9978637.141	781461.587	2662.101	TOP
27652	9978636.705	781461.534	2662.075	TOP
27653	9978635.311	781460.502	2661.921	TOP
27654	9978634.529	781459.827	2661.827	TOP
27655	9978634.094	781459.751	2661.800	TOP
27656	9978633.771	781459.842	2661.792	TOP
27657	9978633.241	781459.592	2661.746	TOP
27658	9978632.875	781459.607	2661.730	TOP
27659	9978632.342	781459.330	2661.681	TOP
27660	9978632.000	781459.358	2661.667	TOP
27661	9978631.455	781459.073	2661.618	TOP
27662	9978630.958	781458.845	2661.576	TOP
27663	9978630.541	781458.759	2661.549	TOP
27664	9978629.973	781458.396	2661.490	TOP
27665	9978629.666	781458.502	2661.487	TOP
27666	9978629.209	781458.315	2661.451	TOP
27667	9978628.948	781458.497	2661.454	TOP
27668	9978628.656	781458.637	2661.453	TOP
27669	9978628.339	781458.712	2661.445	TOP
27670	9978628.037	781458.807	2661.440	TOP
27671	9978627.711	781458.865	2661.433	TOP
27672	9978627.494	781459.138	2661.447	TOP
27673	9978627.160	781459.179	2661.436	TOP
27674	9978626.713	781458.997	2661.401	TOP
27675	9978626.466	781459.195	2661.408	TOP
27676	9978626.147	781459.259	2661.400	TOP
27677	9978625.787	781459.240	2661.383	TOP
27678	9978624.539	781459.644	2661.368	TOP
27679	9978624.165	781459.479	2661.336	TOP
27680	9978624.172	781460.248	2661.404	TOP
27681	9978624.092	781460.850	2661.453	TOP
27682	9978623.848	781461.348	2661.531	TOP
27683	9978623.545	781461.942	2661.527	TOP
27684	9978623.107	781462.536	2661.563	TOP
27685	9978622.767	781462.588	2661.554	TOP
27686	9978622.401	781463.361	2661.608	TOP
27687	9978622.301	781463.944	2661.656	TOP
27688	9978622.036	781464.161	2661.668	TOP
27689	9978621.795	781464.430	2661.681	TOP
27690	9978621.566	781464.739	2661.702	TOP
27691	9978621.336	781465.029	2661.720	TOP
27692	9978621.116	781465.348	2661.740	TOP
27693	9978620.978	781465.915	2661.786	TOP
27694	9978620.723	781466.136	2661.797	TOP
27695	9978620.467	781466.417	2661.813	TOP
27696	9978620.158	781466.520	2661.811	TOP
27697	9978619.290	781466.102	2661.744	TOP
27698	9978618.616	781467.098	2661.811	TOP
27699	9978618.325	781467.264	2661.816	TOP
27700	9978618.009	781467.496	2661.829	TOP
27701	9978617.822	781467.811	2661.845	TOP
27702	9978617.189	781467.018	2661.757	TOP
27703	9978616.909	781467.212	2661.766	TOP
27704	9978616.857	781468.071	2661.842	TOP
27705	9978616.557	781468.204	2661.845	TOP
27706	9978614.985	781468.734	2661.848	TOP
27707	9978614.619	781468.666	2661.831	TOP
27708	9978614.360	781468.956	2661.850	TOP
27709	9978613.860	781469.578	2661.893	TOP
27710	9978613.308	781470.227	2661.948	TOP
27711	9978613.136	781469.502	2661.805	TOP
27712	9978606.140	781462.533	2656.477	TOP
27713	9978609.501	781466.868	2656.710	TOP
27714	9978609.895	781467.095	2656.725	TOP
27715	9978612.008	781468.647	2656.820	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27716	9978612.234	781468.230	2656.804	TOP
27717	9978612.254	781467.177	2656.758	TOP
27718	9978616.049	781465.276	2656.791	TOP
27719	9978616.265	781464.920	2656.719	TOP
27720	9978616.383	781464.277	2656.693	TOP
27721	9978616.717	781464.253	2656.697	TOP
27722	9978617.048	781464.243	2656.701	TOP
27723	9978617.412	781464.297	2656.710	TOP
27724	9978617.738	781464.274	2656.714	TOP
27725	9978618.035	781464.152	2656.713	TOP
27726	9978618.325	781464.037	2656.713	TOP
27727	9978618.587	781463.805	2656.707	TOP
27728	9978618.884	781463.701	2656.708	TOP
27729	9978619.101	781463.386	2656.698	TOP
27730	9978619.594	781462.056	2656.649	TOP
27731	9978619.872	781461.885	2656.644	TOP
27732	9978620.280	781462.074	2656.655	TOP
27733	9978620.426	781461.596	2656.642	TOP
27734	9978620.626	781461.266	2656.631	TOP
27735	9978620.741	781460.700	2656.609	TOP
27736	9978621.055	781460.637	2656.612	TOP
27737	9978621.241	781460.286	2656.600	TOP
27738	9978621.474	781459.926	2656.589	TOP
27739	9978621.659	781459.677	2656.582	TOP
27740	9978621.923	781459.510	2656.580	TOP
27741	9978622.177	781459.300	2656.576	TOP
27742	9978622.538	781459.351	2656.585	TOP
27743	9978622.681	781458.927	2656.570	TOP
27744	9978622.905	781458.664	2656.563	TOP
27745	9978623.244	781458.664	2656.570	TOP
27746	9978623.503	781458.474	2656.567	TOP
27747	9978623.757	781458.287	2656.564	TOP
27748	9978623.929	781457.929	2656.552	TOP
27749	9978624.126	781457.632	2656.544	TOP
27750	9978624.373	781457.439	2656.541	TOP
27751	9978624.620	781457.234	2656.537	TOP
27752	9978624.887	781457.075	2656.534	TOP
27753	9978625.116	781456.850	2656.529	TOP
27754	9978625.345	781456.634	2656.525	TOP
27755	9978625.570	781456.417	2656.520	TOP
27756	9978625.849	781456.266	2656.520	TOP
27757	9978626.073	781456.045	2656.516	TOP
27758	9978626.290	781455.796	2656.510	TOP
27759	9978626.546	781455.631	2656.509	TOP
27760	9978626.864	781455.587	2656.513	TOP
27761	9978627.008	781455.208	2656.501	TOP
27762	9978627.506	781455.484	2656.523	TOP
27763	9978627.877	781455.515	2656.532	TOP
27764	9978628.200	781455.479	2656.538	TOP
27765	9978629.942	781456.050	2656.600	TOP
27766	9978630.352	781456.154	2656.611	TOP
27767	9978630.811	781456.334	2656.628	TOP
27768	9978631.171	781456.324	2656.636	TOP
27769	9978631.901	781456.956	2656.678	TOP
27770	9978632.365	781457.125	2656.695	TOP
27771	9978632.828	781457.278	2656.712	TOP
27772	9978633.444	781457.697	2656.743	TOP
27773	9978633.819	781457.700	2656.752	TOP
27774	9978633.989	781457.345	2656.742	TOP
27775	9978633.949	781456.647	2656.714	TOP
27776	9978634.358	781456.701	2656.725	TOP
27777	9978635.979	781457.494	2656.796	TOP
27778	9978636.347	781457.469	2656.804	TOP
27779	9978636.628	781457.299	2656.801	TOP
27780	9978636.903	781457.120	2656.801	TOP
27781	9978637.180	781456.944	2656.801	TOP
27782	9978637.507	781456.855	2656.806	TOP
27783	9978637.937	781456.922	2656.819	TOP
27784	9978638.359	781456.805	2656.823	TOP
27785	9978638.349	781456.355	2656.808	TOP
27786	9978638.596	781456.132	2656.805	TOP
27787	9978638.896	781456.003	2656.808	TOP
27788	9978639.235	781455.910	2656.813	TOP
27789	9978639.834	781456.207	2656.840	TOP
27790	9978641.444	781455.633	2656.860	TOP
27791	9978641.708	781455.426	2656.859	TOP
27792	9978641.918	781455.149	2656.855	TOP
27793	9978642.087	781454.814	2656.846	TOP
27794	9978642.175	781454.387	2656.831	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27795	9978642.472	781454.229	2656.839	TOP
27796	9978642.543	781453.757	2656.817	TOP
27797	9978642.742	781453.467	2656.812	TOP
27798	9978642.912	781453.141	2656.804	TOP
27799	9978643.087	781452.829	2656.798	TOP
27800	9978643.423	781452.183	2656.783	TOP
27801	9978643.712	781452.029	2656.785	TOP
27802	9978643.930	781451.763	2656.782	TOP
27803	9978644.145	781451.529	2656.779	TOP
27804	9978644.422	781451.352	2656.781	TOP
27805	9978644.674	781451.148	2656.780	TOP
27806	9978644.974	781450.999	2656.784	TOP
27807	9978645.207	781450.774	2656.782	TOP
27808	9978645.424	781450.538	2656.780	TOP
27809	9978645.475	781450.079	2656.765	TOP
27810	9978645.721	781449.869	2656.764	TOP
27811	9978645.922	781449.605	2656.758	TOP
27812	9978646.073	781449.268	2656.751	TOP
27813	9978646.322	781449.067	2656.751	TOP
27814	9978646.395	781448.658	2656.739	TOP
27815	9978646.452	781448.219	2656.725	TOP
27816	9978646.942	781447.576	2656.699	TOP
27817	9978646.542	781447.320	2656.696	TOP
27818	9978646.534	781446.813	2656.678	TOP
27819	9978646.702	781446.518	2656.673	TOP
27820	9978646.843	781446.200	2656.666	TOP
27821	9978647.133	781446.058	2656.670	TOP
27822	9978647.421	781445.885	2656.673	TOP
27823	9978648.265	781444.451	2656.649	TOP
27824	9978648.385	781444.136	2656.642	TOP
27825	9978648.571	781443.848	2656.638	TOP
27826	9978648.614	781443.434	2656.626	TOP
27827	9978648.554	781442.908	2656.606	TOP
27828	9978648.692	781442.599	2656.600	TOP
27829	9978648.747	781442.203	2656.586	TOP
27830	9978648.934	781441.943	2656.584	TOP
27831	9978648.914	781441.483	2656.568	TOP
27832	9978649.099	781441.230	2656.565	TOP
27833	9978649.068	781440.754	2656.548	TOP
27834	9978649.035	781440.289	2656.532	TOP
27835	9978649.222	781440.019	2656.529	TOP
27836	9978649.313	781439.698	2656.522	TOP
27837	9978649.476	781439.415	2656.518	TOP
27838	9978649.505	781439.028	2656.506	TOP
27839	9978649.778	781438.850	2656.509	TOP
27840	9978649.914	781438.566	2656.505	TOP
27841	9978650.011	781438.224	2656.497	TOP
27842	9978650.206	781437.987	2656.496	TOP
27843	9978650.269	781437.625	2656.486	TOP
27844	9978650.176	781437.113	2656.467	TOP
27845	9978650.234	781436.748	2656.457	TOP
27846	9978650.625	781436.277	2656.455	TOP
27847	9978650.809	781436.035	2656.454	TOP
27848	9978650.899	781435.709	2656.447	TOP
27849	9978651.046	781435.433	2656.443	TOP
27850	9978651.444	781435.379	2656.455	TOP
27851	9978651.850	781435.336	2656.467	TOP
27852	9978651.990	781435.057	2656.464	TOP
27853	9978650.060	781434.534	2651.928	TOP
27854	9978648.826	781434.722	2651.928	TOP
27855	9978648.615	781434.921	2651.928	TOP
27856	9978648.376	781435.052	2651.929	TOP
27857	9978648.166	781435.315	2651.929	TOP
27858	9978648.136	781435.697	2651.928	TOP
27859	9978647.618	781436.428	2651.927	TOP
27860	9978647.411	781436.644	2651.927	TOP
27861	9978647.201	781436.851	2651.927	TOP
27862	9978646.981	781437.050	2651.927	TOP
27863	9978646.727	781437.202	2651.928	TOP
27864	9978646.425	781437.324	2651.928	TOP
27865	9978646.235	781437.544	2651.928	TOP
27866	9978646.086	781437.812	2651.928	TOP
27867	9978645.918	781438.065	2651.927	TOP
27868	9978645.797	781438.359	2651.927	TOP
27869	9978645.584	781438.874	2651.925	TOP
27870	9978645.737	781439.152	2651.925	TOP
27871	9978645.796	781439.655	2651.923	TOP
27872	9978645.562	781439.844	2651.923	TOP
27873	9978645.408	781440.116	2651.923	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27874	9978645.802	781441.429	2651.918	TOP
27875	9978645.660	781441.722	2651.917	TOP
27876	9978645.616	781442.593	2651.915	TOP
27877	9978645.459	781442.876	2651.914	TOP
27878	9978645.223	781443.056	2651.914	TOP
27879	9978645.171	781443.472	2651.913	TOP
27880	9978644.990	781443.730	2651.913	TOP
27881	9978644.840	781444.031	2651.912	TOP
27882	9978644.746	781444.392	2651.912	TOP
27883	9978644.933	781445.087	2651.909	TOP
27884	9978644.799	781445.416	2651.908	TOP
27885	9978644.610	781446.171	2651.907	TOP
27886	9978644.523	781446.548	2651.906	TOP
27887	9978644.274	781446.732	2651.906	TOP
27888	9978644.029	781446.940	2651.906	TOP
27889	9978643.827	781447.185	2651.905	TOP
27890	9978643.674	781447.496	2651.905	TOP
27891	9978643.516	781447.800	2651.904	TOP
27892	9978641.082	781449.245	2651.906	TOP
27893	9978640.677	781449.240	2651.907	TOP
27894	9978640.384	781449.368	2651.907	TOP
27895	9978639.941	781449.297	2651.908	TOP
27896	9978639.820	781449.645	2651.907	TOP
27897	9978639.620	781449.920	2651.907	TOP
27898	9978639.270	781449.975	2651.908	TOP
27899	9978637.983	781449.245	2651.913	TOP
27900	9978638.008	781449.802	2651.911	TOP
27901	9978637.919	781450.214	2651.910	TOP
27902	9978637.572	781450.274	2651.911	TOP
27903	9978636.916	781450.411	2651.912	TOP
27904	9978636.645	781450.554	2651.912	TOP
27905	9978636.482	781450.866	2651.911	TOP
27906	9978636.290	781451.143	2651.911	TOP
27907	9978636.025	781451.309	2651.911	TOP
27908	9978635.795	781451.520	2651.911	TOP
27909	9978635.494	781451.629	2651.913	TOP
27910	9978634.836	781451.738	2651.914	TOP
27911	9978634.573	781451.897	2651.914	TOP
27912	9978634.378	781452.164	2651.914	TOP
27913	9978634.128	781452.331	2651.914	TOP
27914	9978633.825	781452.435	2651.914	TOP
27915	9978633.653	781452.733	2651.913	TOP
27916	9978633.307	781452.766	2651.914	TOP
27917	9978633.949	781452.765	2651.915	TOP
27918	9978633.607	781452.952	2651.915	TOP
27919	9978632.350	781452.967	2651.915	TOP
27920	9978632.090	781453.138	2651.915	TOP
27921	9978631.775	781453.213	2651.916	TOP
27922	9978631.334	781453.073	2651.917	TOP
27923	9978631.123	781453.325	2651.917	TOP
27924	9978630.884	781453.514	2651.916	TOP
27925	9978630.423	781453.335	2651.918	TOP
27926	9978630.225	781453.604	2651.917	TOP
27927	9978629.781	781453.449	2651.919	TOP
27928	9978629.619	781453.777	2651.918	TOP
27929	9978629.342	781453.909	2651.918	TOP
27930	9978629.013	781453.940	2651.919	TOP
27931	9978628.669	781453.951	2651.919	TOP
27932	9978628.260	781453.849	2651.920	TOP
27933	9978627.844	781453.727	2651.922	TOP
27934	9978627.405	781453.543	2651.923	TOP
27935	9978626.647	781453.400	2651.925	TOP
27936	9978626.263	781453.335	2651.926	TOP
27937	9978625.806	781453.090	2651.928	TOP
27938	9978625.627	781453.399	2651.929	TOP
27939	9978625.319	781453.431	2651.930	TOP
27940	9978625.141	781453.776	2651.929	TOP
27941	9978624.813	781453.740	2651.929	TOP
27942	9978624.498	781453.769	2651.930	TOP
27943	9978624.188	781453.825	2651.930	TOP
27944	9978623.961	781454.033	2651.930	TOP
27945	9978623.699	781454.156	2651.930	TOP
27946	9978623.438	781454.297	2651.930	TOP
27947	9978623.209	781454.502	2651.930	TOP
27948	9978622.963	781454.690	2651.929	TOP
27949	9978622.724	781454.880	2651.929	TOP
27950	9978622.399	781454.876	2651.930	TOP
27951	9978622.130	781455.001	2651.930	TOP
27952	9978621.872	781455.154	2651.929	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
27953	9978621.572	781455.231	2651.930	TOP
27954	9978621.296	781455.200	2651.930	TOP
27955	9978621.045	781455.501	2651.930	TOP
27956	9978620.728	781455.506	2651.930	TOP
27957	9978620.406	781455.508	2651.931	TOP
27958	9978620.468	781456.394	2651.927	TOP
27959	9978620.284	781456.732	2651.926	TOP
27960	9978619.526	781458.817	2651.922	TOP
27961	9978619.323	781459.140	2651.921	TOP
27962	9978619.063	781459.310	2651.921	TOP
27963	9978618.838	781459.561	2651.920	TOP
27964	9978617.781	781461.066	2651.916	TOP
27965	9978617.542	781461.305	2651.916	TOP
27966	9978617.295	781461.532	2651.915	TOP
27967	9978616.988	781461.603	2651.916	TOP
27968	9978616.778	781461.928	2651.915	TOP
27969	9978616.459	781461.963	2651.915	TOP
27970	9978616.160	781462.026	2651.915	TOP
27971	9978615.853	781462.101	2651.915	TOP
27972	9978615.564	781462.243	2651.915	TOP
27973	9978615.264	781462.316	2651.915	TOP
27974	9978615.027	781462.585	2651.915	TOP
27975	9978614.758	781462.751	2651.914	TOP
27976	9978614.470	781462.890	2651.916	TOP
27977	9978613.881	781464.075	2651.913	TOP
27978	9978613.675	781464.494	2651.911	TOP
27979	9978613.888	781466.168	2651.905	TOP
27980	9978613.562	781466.221	2651.905	TOP
27981	9978613.218	781466.195	2651.906	TOP
27982	9978612.896	781466.244	2651.906	TOP
27983	9978611.248	781466.348	2651.907	TOP
27984	9978609.166	781469.573	2651.920	TOP
27985	9978608.760	781463.282	2651.924	TOP
27986	9978608.087	781463.128	2651.925	TOP
27987	9978607.875	781463.488	2651.924	TOP
27988	9978606.848	781463.206	2651.926	TOP
27989	9978606.598	781463.476	2651.925	TOP
27990	9978603.363	781462.913	2651.932	TOP
27991	9978603.323	781462.849	2651.933	TOP
27992	9978601.528	781463.149	2651.933	TOP
27993	9978601.215	781463.086	2651.933	TOP
27994	9978600.884	781462.962	2651.934	TOP
27995	9978600.235	781462.763	2651.935	TOP
27996	9978599.560	781462.903	2651.935	TOP
27997	9978599.704	781463.199	2651.934	TOP
27998	9978598.940	781462.250	2651.940	TOP
27999	9978598.608	781462.029	2651.941	TOP
28000	9978598.377	781462.482	2651.940	TOP
28001	9978598.117	781462.696	2651.939	TOP
28002	9978597.797	781462.587	2651.940	TOP
28003	9978597.491	781462.565	2651.940	TOP
28004	9978593.468	781464.688	2647.394	TOP
28005	9978594.281	781463.739	2647.442	TOP
28006	9978594.562	781463.522	2647.452	TOP
28007	9978594.804	781463.061	2647.475	TOP
28008	9978595.090	781462.939	2647.480	TOP
28009	9978595.587	781462.937	2647.478	TOP
28010	9978595.876	781462.839	2647.481	TOP
28011	9978595.970	781462.752	2647.482	TOP
28012	9978596.242	781462.514	2647.495	TOP
28013	9978596.518	781462.381	2647.500	TOP
28014	9978596.779	781462.066	2647.515	TOP
28015	9978597.042	781461.857	2647.524	TOP
28016	9978597.178	781460.712	2647.584	TOP
28017	9978597.477	781460.775	2647.578	TOP
28018	9978597.833	781461.132	2647.564	TOP
28019	9978598.051	781460.712	2647.577	TOP
28020	9978598.421	781461.122	2647.552	TOP
28021	9978598.784	781461.502	2647.528	TOP
28022	9978599.065	781461.394	2647.532	TOP
28023	9978599.348	781459.646	2647.616	TOP
28024	9978600.202	781459.458	2647.624	TOP
28025	9978600.478	781459.396	2647.627	TOP
28026	9978600.749	781459.249	2647.629	TOP
28027	9978601.213	781460.102	2647.579	TOP
28028	9978601.332	781459.218	2647.625	TOP
28029	9978601.739	781459.753	2647.592	TOP
28030	9978602.097	781460.028	2647.574	TOP
28031	9978602.929	781459.732	2647.580	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28032	9978604.434	781461.071	2647.492	TOP
28033	9978605.668	781461.106	2647.475	TOP
28034	9978606.122	781461.673	2647.440	TOP
28035	9978606.506	781461.984	2647.418	TOP
28036	9978606.783	781461.841	2647.422	TOP
28037	9978607.461	781462.037	2647.403	TOP
28038	9978607.820	781462.229	2647.388	TOP
28039	9978608.201	781462.499	2647.369	TOP
28040	9978611.734	781462.566	2647.310	TOP
28041	9978612.388	781461.560	2647.351	TOP
28042	9978612.626	781461.316	2647.360	TOP
28043	9978612.900	781460.877	2647.379	TOP
28044	9978613.034	781460.614	2647.389	TOP
28045	9978614.752	781460.001	2647.388	TOP
28046	9978615.014	781459.824	2647.392	TOP
28047	9978615.271	781459.638	2647.397	TOP
28048	9978615.531	781459.472	2647.400	TOP
28049	9978615.813	781459.372	2647.400	TOP
28050	9978616.310	781458.988	2647.410	TOP
28051	9978616.573	781458.842	2647.413	TOP
28052	9978616.650	781458.183	2647.444	TOP
28053	9978617.027	781458.348	2647.429	TOP
28054	9978617.580	781457.232	2647.471	TOP
28055	9978618.667	781456.043	2647.509	TOP
28056	9978618.957	781455.955	2647.507	TOP
28057	9978619.109	781455.362	2647.523	TOP
28058	9978619.364	781455.411	2647.525	TOP
28059	9978619.587	781455.187	2647.532	TOP
28060	9978619.736	781454.788	2647.548	TOP
28061	9978619.971	781454.595	2647.551	TOP
28062	9978620.231	781454.446	2647.554	TOP
28063	9978620.374	781454.060	2647.568	TOP
28064	9978620.590	781453.846	2647.573	TOP
28065	9978620.801	781453.570	2647.581	TOP
28066	9978621.033	781453.391	2647.586	TOP
28067	9978621.161	781452.968	2647.604	TOP
28068	9978621.372	781452.780	2647.609	TOP
28069	9978621.623	781452.601	2647.611	TOP
28070	9978621.934	781452.580	2647.605	TOP
28071	9978622.208	781452.485	2647.603	TOP
28072	9978622.565	781452.553	2647.591	TOP
28073	9978622.829	781452.439	2647.590	TOP
28074	9978623.142	781452.420	2647.584	TOP
28075	9978623.437	781452.362	2647.580	TOP
28076	9978623.730	781452.303	2647.575	TOP
28077	9978624.065	781452.314	2647.567	TOP
28078	9978624.343	781452.228	2647.562	TOP
28079	9978624.569	781452.030	2647.566	TOP
28080	9978624.818	781451.883	2647.567	TOP
28081	9978625.091	781451.772	2647.565	TOP
28082	9978625.375	781451.661	2647.562	TOP
28083	9978625.721	781451.702	2647.553	TOP
28084	9978626.011	781451.637	2647.548	TOP
28085	9978626.301	781451.552	2647.545	TOP
28086	9978626.613	781451.517	2647.539	TOP
28087	9978626.921	781451.467	2647.533	TOP
28088	9978627.243	781451.431	2647.526	TOP
28089	9978627.584	781451.606	2647.506	TOP
28090	9978628.046	781451.660	2647.494	TOP
28091	9978628.305	781451.514	2647.494	TOP
28092	9978629.160	781451.201	2647.484	TOP
28093	9978630.154	781451.128	2647.460	TOP
28094	9978630.441	781451.022	2647.457	TOP
28095	9978630.644	781450.787	2647.462	TOP
28096	9978630.912	781450.639	2647.462	TOP
28097	9978631.098	781450.395	2647.468	TOP
28098	9978631.333	781450.194	2647.470	TOP
28099	9978631.558	781449.994	2647.473	TOP
28100	9978631.784	781449.798	2647.473	TOP
28101	9978632.149	781449.276	2647.489	TOP
28102	9978632.376	781449.082	2647.491	TOP
28103	9978632.631	781448.937	2647.488	TOP
28104	9978632.918	781448.826	2647.485	TOP
28105	9978633.162	781448.658	2647.485	TOP
28106	9978633.394	781448.478	2647.486	TOP
28107	9978633.609	781448.266	2647.489	TOP
28108	9978633.845	781448.089	2647.490	TOP
28109	9978634.093	781447.918	2647.490	TOP
28110	9978634.243	781447.614	2647.499	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28111	9978634.767	781447.332	2647.496	TOP
28112	9978635.050	781447.222	2647.492	TOP
28113	9978635.299	781447.062	2647.492	TOP
28114	9978635.543	781446.885	2647.492	TOP
28115	9978635.765	781446.685	2647.494	TOP
28116	9978636.023	781446.540	2647.492	TOP
28117	9978636.139	781446.196	2647.504	TOP
28118	9978636.360	781445.995	2647.505	TOP
28119	9978636.603	781445.810	2647.504	TOP
28120	9978636.872	781445.676	2647.501	TOP
28121	9978637.091	781445.473	2647.503	TOP
28122	9978637.442	781445.453	2647.492	TOP
28123	9978638.034	781445.757	2647.480	TOP
28124	9978638.829	781446.305	2647.411	TOP
28125	9978639.490	781446.669	2647.373	TOP
28126	9978639.758	781446.522	2647.371	TOP
28127	9978640.013	781446.370	2647.369	TOP
28128	9978640.187	781446.103	2647.375	TOP
28129	9978639.979	781445.343	2647.414	TOP
28130	9978640.143	781444.564	2647.441	TOP
28131	9978640.325	781443.509	2647.463	TOP
28132	9978641.045	781443.323	2647.463	TOP
28133	9978641.244	781443.080	2647.466	TOP
28134	9978641.363	781442.768	2647.475	TOP
28135	9978641.563	781442.539	2647.476	TOP
28136	9978641.794	781442.358	2647.475	TOP
28137	9978642.385	781440.768	2647.520	TOP
28138	9978642.612	781440.560	2647.519	TOP
28139	9978642.590	781440.099	2647.539	TOP
28140	9978642.641	781439.721	2647.551	TOP
28141	9978642.709	781439.427	2647.560	TOP
28142	9978642.791	781439.015	2647.576	TOP
28143	9978642.899	781438.696	2647.585	TOP
28144	9978643.080	781438.463	2647.587	TOP
28145	9978643.235	781438.201	2647.592	TOP
28146	9978643.349	781437.900	2647.600	TOP
28147	9978643.450	781437.594	2647.608	TOP
28148	9978643.620	781437.346	2647.612	TOP
28149	9978643.846	781437.170	2647.610	TOP
28150	9978643.979	781436.883	2647.617	TOP
28151	9978644.184	781436.685	2647.617	TOP
28152	9978644.278	781436.372	2647.626	TOP
28153	9978644.739	781436.026	2647.619	TOP
28154	9978644.944	781435.822	2647.620	TOP
28155	9978645.009	781435.476	2647.630	TOP
28156	9978645.078	781435.152	2647.640	TOP
28157	9978645.169	781435.033	2647.634	TOP
28158	9978645.552	781434.814	2647.635	TOP
28159	9978645.747	781434.592	2647.636	TOP
28160	9978645.803	781434.254	2647.647	TOP
28161	9978645.936	781433.988	2647.651	TOP
28162	9978646.111	781433.756	2647.653	TOP
28163	9978647.056	781433.457	2647.628	TOP
28164	9978647.281	781433.281	2647.625	TOP
28165	9978647.425	781433.020	2647.629	TOP
28166	9978647.405	781432.611	2647.645	TOP
28167	9978645.156	781431.460	2643.575	TOP
28168	9978644.971	781431.660	2643.575	TOP
28169	9978644.558	781431.644	2643.608	TOP
28170	9978644.159	781431.672	2643.636	TOP
28171	9978643.789	781431.683	2643.663	TOP
28172	9978643.423	781431.715	2643.688	TOP
28173	9978643.211	781431.891	2643.691	TOP
28174	9978643.066	781431.145	2643.683	TOP
28175	9978642.841	781432.303	2643.688	TOP
28176	9978642.445	781433.073	2643.660	TOP
28177	9978642.197	781433.263	2643.669	TOP
28178	9978641.628	781434.189	2643.636	TOP
28179	9978641.599	781434.576	2643.609	TOP
28180	9978641.537	781434.901	2643.589	TOP
28181	9978641.372	781435.145	2643.582	TOP
28182	9978641.253	781435.417	2643.570	TOP
28183	9978641.064	781435.621	2643.567	TOP
28184	9978640.412	781436.150	2643.573	TOP
28185	9978640.191	781436.320	2643.575	TOP
28186	9978639.126	781437.216	2643.578	TOP
28187	9978638.919	781437.403	2643.578	TOP
28188	9978638.750	781437.609	2643.574	TOP
28189	9978638.586	781437.867	2643.564	TOP





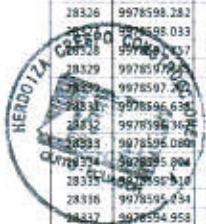
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28190	9978638.322	781437.994	2643.571	TOP
28191	9978638.118	781438.188	2643.570	TOP
28192	9978638.192	781438.716	2643.522	TOP
28193	9978638.069	781439.006	2643.507	TOP
28194	9978637.877	781439.208	2643.504	TOP
28195	9978637.793	781439.544	2643.482	TOP
28196	9978637.818	781440.030	2643.441	TOP
28197	9978637.620	781440.235	2643.440	TOP
28198	9978637.307	781440.292	2643.456	TOP
28199	9978637.390	781440.841	2643.405	TOP
28200	9978637.102	781440.926	2643.414	TOP
28201	9978637.363	781441.719	2643.335	TOP
28202	9978637.183	781441.959	2643.327	TOP
28203	9978636.988	781442.172	2643.322	TOP
28204	9978636.617	781442.160	2643.347	TOP
28205	9978636.535	781442.511	2643.323	TOP
28206	9978636.038	781442.412	2643.359	TOP
28207	9978635.693	781442.836	2643.349	TOP
28208	9978635.994	781442.903	2643.362	TOP
28209	9978634.945	781442.772	2643.401	TOP
28210	9978634.737	781442.971	2643.397	TOP
28211	9978634.481	781443.114	2643.400	TOP
28212	9978634.308	781443.358	2643.390	TOP
28213	9978634.202	781443.695	2643.368	TOP
28214	9978634.228	781444.219	2643.322	TOP
28215	9978634.175	781444.644	2643.289	TOP
28216	9978634.202	781445.180	2643.242	TOP
28217	9978633.983	781445.378	2643.238	TOP
28218	9978633.876	781445.737	2643.214	TOP
28219	9978633.679	781445.957	2643.206	TOP
28220	9978632.345	781445.541	2643.321	TOP
28221	9978632.900	781445.992	2643.284	TOP
28222	9978632.329	781446.555	2643.233	TOP
28223	9978632.082	781446.695	2643.235	TOP
28224	9978631.914	781446.968	2643.221	TOP
28225	9978631.681	781447.139	2643.220	TOP
28226	9978631.510	781447.407	2643.206	TOP
28227	9978631.348	781447.694	2643.190	TOP
28228	9978631.073	781447.797	2643.194	TOP
28229	9978630.899	781448.056	2643.183	TOP
28230	9978630.665	781448.239	2643.180	TOP
28231	9978630.468	781448.456	2643.171	TOP
28232	9978630.232	781448.651	2643.167	TOP
28233	9978630.031	781448.865	2643.159	TOP
28234	9978629.794	781449.039	2643.156	TOP
28235	9978629.570	781449.232	2643.151	TOP
28236	9978629.383	781449.509	2643.136	TOP
28237	9978629.158	781449.691	2643.132	TOP
28238	9978628.849	781449.760	2643.142	TOP
28239	9978628.587	781449.879	2643.145	TOP
28240	9978627.413	781449.602	2643.234	TOP
28241	9978627.144	781449.718	2643.237	TOP
28242	9978626.631	781449.970	2643.240	TOP
28243	9978626.295	781449.973	2643.257	TOP
28244	9978626.066	781450.168	2643.251	TOP
28245	9978625.783	781450.269	2643.256	TOP
28246	9978625.569	781450.464	2643.249	TOP
28247	9978625.304	781450.578	2643.251	TOP
28248	9978625.079	781450.774	2643.244	TOP
28249	9978624.842	781450.960	2643.239	TOP
28250	9978624.619	781451.148	2643.232	TOP
28251	9978624.388	781451.307	2643.229	TOP
28252	9978624.044	781451.300	2643.246	TOP
28253	9978623.530	781451.563	2643.246	TOP
28254	9978623.278	781451.705	2643.244	TOP
28255	9978623.028	781451.854	2643.242	TOP
28256	9978622.747	781451.925	2643.248	TOP
28257	9978622.522	781452.114	2643.241	TOP
28258	9978621.973	781452.332	2643.246	TOP
28259	9978621.689	781452.403	2643.254	TOP
28260	9978620.838	781452.636	2643.269	TOP
28261	9978620.537	781452.673	2643.279	TOP
28262	9978620.262	781452.772	2643.282	TOP
28263	9978619.992	781452.869	2643.284	TOP
28264	9978619.739	781453.007	2643.282	TOP
28265	9978619.027	781453.529	2643.262	TOP
28266	9978618.791	781453.713	2643.254	TOP
28267	9978618.585	781453.926	2643.243	TOP
28268	9978618.103	781454.104	2643.226	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28269	9978617.890	781454.568	2643.209	TOP
28270	9978617.637	781454.724	2643.204	TOP
28271	9978617.242	781455.271	2643.167	TOP
28272	9978616.974	781455.402	2643.165	TOP
28273	9978616.763	781455.660	2643.148	TOP
28274	9978616.525	781455.842	2643.139	TOP
28275	9978616.296	781456.056	2643.127	TOP
28276	9978616.058	781456.236	2643.123	TOP
28277	9978615.770	781456.300	2643.125	TOP
28278	9978615.526	781456.495	2643.116	TOP
28279	9978615.283	781456.636	2643.111	TOP
28280	9978615.023	781456.809	2643.103	TOP
28281	9978614.790	781457.031	2643.090	TOP
28282	9978614.589	781457.330	2643.068	TOP
28283	9978614.352	781457.540	2643.056	TOP
28284	9978614.166	781457.901	2643.027	TOP
28285	9978613.942	781458.177	2643.007	TOP
28286	9978613.668	781458.274	2643.007	TOP
28287	9978613.418	781458.463	2642.997	TOP
28288	9978613.124	781458.500	2643.009	TOP
28289	9978612.828	781458.574	2643.006	TOP
28290	9978612.563	781458.711	2643.000	TOP
28291	9978612.316	781458.930	2642.988	TOP
28292	9978612.031	781459.003	2642.990	TOP
28293	9978611.778	781459.189	2642.982	TOP
28294	9978611.422	781459.035	2643.008	TOP
28295	9978610.790	781460.033	2642.929	TOP
28296	9978610.650	781460.597	2642.877	TOP
28297	9978610.662	781461.678	2642.769	TOP
28298	9978610.163	781462.164	2642.735	TOP
28299	9978609.724	781461.742	2642.790	TOP
28300	9978609.499	781462.049	2642.766	TOP
28301	9978608.996	781462.501	2642.734	TOP
28302	9978608.715	781462.649	2642.727	TOP
28303	9978607.980	781462.232	2642.792	TOP
28304	9978607.606	781461.981	2642.827	TOP
28305	9978607.222	781461.727	2642.863	TOP
28306	9978603.845	781459.139	2643.208	TOP
28307	9978603.493	781458.810	2643.240	TOP
28308	9978603.191	781458.861	2643.252	TOP
28309	9978602.888	781458.951	2643.259	TOP
28310	9978602.579	781458.792	2643.276	TOP
28311	9978602.296	781458.849	2643.275	TOP
28312	9978602.038	781459.011	2643.264	TOP
28313	9978601.748	781459.051	2643.266	TOP
28314	9978601.479	781459.178	2643.258	TOP
28315	9978601.220	781459.354	2643.246	TOP
28316	9978600.947	781459.505	2643.236	TOP
28317	9978600.641	781459.431	2643.249	TOP
28318	9978600.359	781459.472	2643.250	TOP
28319	9978600.108	781459.703	2643.231	TOP
28320	9978599.845	781459.909	2643.215	TOP
28321	9978599.531	781459.759	2643.236	TOP
28322	9978599.308	781460.185	2643.197	TOP
28323	9978599.118	781460.780	2643.139	TOP
28324	9978598.824	781460.787	2643.146	TOP
28325	9978598.550	781460.908	2643.136	TOP
28326	9978598.282	781461.092	2643.125	TOP
28327	9978598.033	781461.392	2643.096	TOP
28328	9978597.757	781461.524	2643.087	TOP
28329	9978597.523	781461.685	2643.075	TOP
28330	9978597.257	781461.829	2643.064	TOP
28331	9978596.956	781462.058	2643.049	TOP
28332	9978596.362	781462.195	2643.039	TOP
28333	9978596.080	781462.345	2643.027	TOP
28334	9978595.904	781462.441	2643.021	TOP
28335	9978595.510	781462.608	2643.008	TOP
28336	9978595.434	781462.770	2642.997	TOP
28337	9978594.958	781462.978	2642.979	TOP
28338	9978594.630	781462.715	2643.010	TOP
28339	9978594.053	781462.853	2643.002	TOP
28340	9978593.750	781462.892	2643.002	TOP
28341	9978593.185	781463.229	2642.973	TOP
28342	9978592.899	781463.319	2642.966	TOP
28343	9978592.596	781463.385	2642.962	TOP
28344	9978592.319	781463.698	2642.932	TOP
28345	9978592.033	781463.780	2642.926	TOP
28346	9978591.754	781464.115	2642.894	TOP
28347	9978591.467	781464.260	2642.884	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28348	9978591.180	781464.443	2642.867	TOP
28349	9978590.876	781464.398	2642.874	TOP
28350	9978589.400	781464.885	2642.833	TOP
28351	9978589.107	781465.017	2642.821	TOP
28352	9978588.793	781464.880	2642.837	TOP
28353	9978587.310	781465.829	2642.747	TOP
28354	9978585.412	781463.857	2638.409	TOP
28355	9978585.712	781464.201	2638.355	TOP
28356	9978586.018	781464.181	2638.357	TOP
28357	9978587.494	781463.437	2638.466	TOP
28358	9978587.800	781463.602	2638.436	TOP
28359	9978588.110	781463.849	2638.399	TOP
28360	9978588.412	781463.936	2638.383	TOP
28361	9978588.707	781463.860	2638.393	TOP
28362	9978588.992	781463.591	2638.433	TOP
28363	9978589.285	781463.521	2638.441	TOP
28364	9978589.566	781463.225	2638.484	TOP
28365	9978589.854	781463.054	2638.508	TOP
28366	9978590.130	781462.874	2638.533	TOP
28367	9978590.424	781462.832	2638.537	TOP
28368	9978590.712	781462.709	2638.553	TOP
28369	9978591.002	781462.554	2638.573	TOP
28370	9978591.290	781462.495	2638.579	TOP
28371	9978591.573	781462.348	2638.598	TOP
28372	9978591.859	781462.292	2638.603	TOP
28373	9978592.152	781462.222	2638.610	TOP
28374	9978592.438	781462.131	2638.620	TOP
28375	9978592.731	781462.058	2638.627	TOP
28376	9978593.022	781462.017	2638.629	TOP
28377	9978593.301	781461.880	2638.648	TOP
28378	9978593.590	781461.769	2638.659	TOP
28379	9978594.132	781461.907	2638.721	TOP
28380	9978594.418	781461.200	2638.732	TOP
28381	9978594.682	781461.001	2638.758	TOP
28382	9978594.965	781460.925	2638.764	TOP
28383	9978595.249	781460.819	2638.775	TOP
28384	9978595.540	781460.783	2638.775	TOP
28385	9978596.678	781460.535	2638.790	TOP
28386	9978596.932	781460.163	2638.841	TOP
28387	9978597.209	781460.097	2638.845	TOP
28388	9978597.533	781460.325	2638.803	TOP
28389	9978597.813	781460.241	2638.807	TOP
28390	9978598.077	781460.050	2638.829	TOP
28391	9978598.342	781459.906	2638.845	TOP
28392	9978598.640	781459.906	2638.837	TOP
28393	9978598.915	781459.821	2638.843	TOP
28394	9978599.175	781459.663	2638.861	TOP
28395	9978599.419	781459.386	2638.896	TOP
28396	9978599.713	781459.391	2638.888	TOP
28397	9978600.003	781459.376	2638.882	TOP
28398	9978600.284	781459.278	2638.899	TOP
28399	9978600.556	781459.191	2638.894	TOP
28400	9978600.845	781459.186	2638.887	TOP
28401	9978601.142	781459.169	2638.880	TOP
28402	9978601.446	781459.202	2638.866	TOP
28403	9978601.713	781459.053	2638.881	TOP
28404	9978601.979	781458.892	2638.895	TOP
28405	9978602.251	781458.783	2638.909	TOP
28406	9978602.506	781458.621	2638.919	TOP
28407	9978602.765	781458.474	2638.933	TOP
28408	9978603.071	781458.454	2638.925	TOP
28409	9978603.375	781458.510	2638.907	TOP
28410	9978603.670	781458.502	2638.898	TOP
28411	9978603.975	781458.558	2638.879	TOP
28412	9978604.273	781458.550	2638.870	TOP
28413	9978604.658	781458.913	2638.801	TOP
28414	9978604.942	781458.842	2638.803	TOP
28415	9978605.486	781457.446	2638.989	TOP
28416	9978605.927	781458.015	2638.887	TOP
28417	9978606.752	781456.676	2639.054	TOP
28418	9978607.119	781456.935	2639.001	TOP
28419	9978607.355	781456.719	2639.023	TOP
28420	9978607.628	781456.625	2639.026	TOP
28421	9978607.888	781456.513	2639.032	TOP
28422	9978609.795	781451.358	2639.706	TOP
28423	9978610.051	781451.276	2639.706	TOP
28424	9978610.390	781451.430	2639.667	TOP
28425	9978610.477	781450.828	2639.751	TOP
28426	9978610.739	781450.765	2639.747	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28427	9978611.111	781451.022	2639.690	TOP
28428	9978612.807	781455.026	2639.016	TOP
28429	9978613.071	781454.907	2639.020	TOP
28430	9978613.314	781454.717	2639.035	TOP
28431	9978613.585	781454.637	2639.032	TOP
28432	9978614.876	781454.816	2638.937	TOP
28433	9978615.144	781454.711	2638.937	TOP
28434	9978615.318	781454.380	2638.975	TOP
28435	9978615.659	781454.468	2638.943	TOP
28436	9978615.915	781454.362	2638.944	TOP
28437	9978616.212	781454.305	2638.936	TOP
28438	9978616.437	781454.104	2638.950	TOP
28439	9978616.667	781453.900	2638.965	TOP
28440	9978616.896	781453.718	2638.979	TOP
28441	9978617.189	781453.664	2638.969	TOP
28442	9978617.440	781453.528	2638.973	TOP
28443	9978618.191	781453.093	2638.990	TOP
28444	9978618.435	781452.943	2638.997	TOP
28445	9978618.673	781452.770	2639.007	TOP
28446	9978618.907	781452.591	2639.017	TOP
28447	9978619.153	781452.440	2639.023	TOP
28448	9978619.394	781452.279	2639.029	TOP
28449	9978615.633	781452.117	2639.036	TOP
28450	9978619.896	781452.009	2639.035	TOP
28451	9978620.150	781451.872	2639.038	TOP
28452	9978620.345	781451.619	2639.061	TOP
28453	9978620.626	781451.530	2639.055	TOP
28454	9978620.892	781451.445	2639.049	TOP
28455	9978621.133	781451.287	2639.055	TOP
28456	9978621.344	781451.078	2639.070	TOP
28457	9978621.604	781450.948	2639.072	TOP
28458	9978621.858	781450.820	2639.071	TOP
28459	9978622.176	781450.837	2639.047	TOP
28460	9978622.428	781450.697	2639.048	TOP
28461	9978622.682	781450.577	2639.049	TOP
28462	9978622.866	781450.309	2639.071	TOP
28463	9978624.016	781449.465	2639.105	TOP
28464	9978624.270	781449.326	2639.106	TOP
28465	9978624.545	781449.245	2639.097	TOP
28466	9978624.789	781449.087	2639.099	TOP
28467	9978625.046	781448.971	2639.098	TOP
28468	9978625.265	781448.765	2639.109	TOP
28469	9978625.492	781448.596	2639.115	TOP
28470	9978625.696	781448.371	2639.130	TOP
28471	9978625.934	781448.219	2639.133	TOP
28472	9978625.989	781447.745	2639.191	TOP
28473	9978625.195	781447.537	2639.203	TOP
28474	9978625.505	781447.608	2639.165	TOP
28475	9978625.835	781447.519	2639.154	TOP
28476	9978627.076	781447.560	2639.158	TOP
28477	9978627.310	781447.305	2639.161	TOP
28478	9978627.590	781447.132	2639.148	TOP
28479	9978627.806	781446.934	2639.158	TOP
28480	9978627.873	781446.483	2639.212	TOP
28481	9978628.158	781446.424	2639.197	TOP
28482	9978628.429	781446.319	2639.190	TOP
28483	9978628.547	781446.626	2639.197	TOP
28484	9978629.320	781446.684	2639.069	TOP
28485	9978629.384	781446.260	2639.119	TOP
28486	9978629.531	781445.960	2639.147	TOP
28487	9978629.666	781445.652	2639.176	TOP
28488	9978629.873	781445.455	2639.182	TOP
28489	9978629.875	781445.172	2639.207	TOP
28490	9978629.852	781444.398	2639.322	TOP
28491	9978629.154	781444.337	2639.304	TOP
28492	9978629.899	781444.450	2639.441	TOP
28493	9978630.232	781443.455	2639.412	TOP
28494	9978630.291	781443.048	2639.460	TOP
28495	9978631.212	781443.422	2639.332	TOP
28496	9978631.393	781443.183	2639.347	TOP
28497	9978631.519	781442.887	2639.373	TOP
28498	9978631.670	781442.611	2639.396	TOP
28499	9978631.852	781442.390	2639.408	TOP
28500	9978631.919	781442.001	2639.451	TOP
28501	9978632.127	781441.813	2639.456	TOP
28502	9978632.497	781441.853	2639.416	TOP
28503	9978632.725	781441.697	2639.415	TOP
28504	9978632.967	781441.565	2639.410	TOP
28505	9978633.175	781441.380	2639.414	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO-NORTE A QUITO (PUNTOS TOPOGRÁFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28506	9978633.402	781441.213	2639.414	TOP
28507	9978633.792	781441.199	2639.387	TOP
28508	9978633.992	781441.088	2639.376	TOP
28509	9978634.548	781441.359	2639.291	TOP
28510	9978634.852	781441.336	2639.262	TOP
28511	9978635.224	781441.327	2639.232	TOP
28512	9978635.454	781441.163	2639.230	TOP
28513	9978635.687	781441.004	2639.228	TOP
28514	9978635.919	781440.851	2639.225	TOP
28515	9978636.136	781440.684	2639.225	TOP
28516	9978636.336	781440.477	2639.221	TOP
28517	9978636.550	781440.296	2639.232	TOP
28518	9978636.764	781440.116	2639.234	TOP
28519	9978636.911	781439.855	2639.251	TOP
28520	9978637.094	781439.644	2639.257	TOP
28521	9978637.275	781439.421	2639.266	TOP
28522	9978637.510	781439.205	2639.262	TOP
28523	9978637.607	781439.181	2639.243	TOP
28524	9978638.018	781439.001	2639.243	TOP
28525	9978638.234	781438.828	2639.243	TOP
28526	9978638.435	781438.630	2639.246	TOP
28527	9978638.657	781438.447	2639.246	TOP
28528	9978638.892	781438.299	2639.240	TOP
28529	9978639.101	781438.107	2639.241	TOP
28530	9978639.252	781437.855	2639.256	TOP
28531	9978639.463	781437.664	2639.257	TOP
28532	9978639.648	781437.451	2639.263	TOP
28533	9978639.857	781437.257	2639.264	TOP
28534	9978640.033	781437.036	2639.271	TOP
28535	9978640.267	781436.886	2639.265	TOP
28536	9978640.487	781436.707	2639.261	TOP
28537	9978640.761	781436.591	2639.248	TOP
28538	9978640.938	781436.364	2639.255	TOP
28539	9978641.106	781436.139	2639.264	TOP
28540	9978641.280	781435.910	2639.269	TOP
28541	9978641.411	781435.648	2639.285	TOP
28542	9978641.517	781435.351	2639.308	TOP
28543	9978641.681	781435.118	2639.317	TOP
28544	9978641.808	781434.844	2639.334	TOP
28545	9978641.911	781434.548	2639.356	TOP
28546	9978641.879	781434.170	2639.408	TOP
28547	9978641.953	781433.799	2639.416	TOP
28548	9978642.095	781433.551	2639.448	TOP
28549	9978642.158	781433.223	2639.478	TOP
28550	9978642.227	781432.899	2639.506	TOP
28551	9978642.211	781432.502	2639.552	TOP
28552	9978642.346	781432.247	2639.505	TOP
28553	9978642.440	781431.965	2639.585	TOP
28554	9978643.564	781430.006	2639.671	TOP
28555	9978643.720	781429.785	2639.677	TOP
28556	9978643.858	781429.548	2639.687	TOP
28557	9978644.045	781429.348	2639.687	TOP
28558	9978644.212	781429.138	2639.680	TOP
28559	9978643.198	781429.780	2639.563	TOP
28560	9978643.995	781429.971	2639.566	TOP
28561	9978642.783	781430.140	2639.574	TOP
28562	9978642.613	781430.354	2639.569	TOP
28563	9978642.447	781430.563	2639.563	TOP
28564	9978642.287	781430.786	2639.555	TOP
28565	9978642.165	781431.044	2639.535	TOP
28566	9978642.005	781431.266	2639.527	TOP
28567	9978641.846	781431.491	2639.517	TOP
28568	9978641.561	781432.353	2639.432	TOP
28569	9978641.418	781432.591	2639.418	TOP
28570	9978641.286	781432.850	2639.399	TOP
28571	9978641.124	781433.074	2639.389	TOP
28572	9978640.964	781433.296	2639.379	TOP
28573	9978640.871	781433.580	2639.349	TOP
28574	9978640.714	781433.816	2639.336	TOP
28575	9978640.555	781434.047	2639.324	TOP
28576	9978640.234	781435.725	2639.114	TOP
28577	9978640.093	781435.994	2639.092	TOP
28578	9978639.970	781436.267	2639.067	TOP
28579	9978639.811	781436.508	2639.052	TOP
28580	9978639.646	781436.727	2639.041	TOP
28581	9978639.423	781436.908	2639.043	TOP
28582	9978639.202	781437.085	2639.046	TOP
28583	9978638.999	781437.270	2639.044	TOP
28584	9978638.742	781437.993	2639.060	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28585	9978638.478	781437.507	2639.078	TOP
28586	9978638.270	781437.698	2639.075	TOP
28587	9978638.024	781437.838	2639.086	TOP
28588	9978637.777	781437.987	2639.095	TOP
28589	9978637.480	781438.061	2639.123	TOP
28590	9978637.276	781438.245	2639.121	TOP
28591	9978637.048	781438.407	2639.125	TOP
28592	9978636.817	781438.554	2639.131	TOP
28593	9978636.618	781438.743	2639.128	TOP
28594	9978636.498	781439.052	2639.093	TOP
28595	9978636.300	781439.244	2639.088	TOP
28596	9978635.995	781439.301	2639.118	TOP
28597	9978635.758	781439.452	2639.123	TOP
28598	9978635.478	781439.541	2639.144	TOP
28599	9978635.236	781439.672	2639.154	TOP
28600	9978634.952	781439.757	2639.176	TOP
28601	9978634.679	781439.853	2639.195	TOP
28602	9978634.379	781439.916	2639.222	TOP
28603	9978634.073	781439.965	2639.252	TOP
28604	9978633.796	781440.059	2639.271	TOP
28605	9978633.539	781440.170	2639.285	TOP
28606	9978633.264	781440.255	2639.304	TOP
28607	9978633.029	781439.719	2639.484	TOP
28608	9978632.280	781439.849	2639.493	TOP
28609	9978632.040	781439.974	2639.501	TOP
28610	9978631.778	781440.082	2639.514	TOP
28611	9978631.545	781440.211	2639.521	TOP
28612	9978631.290	781440.323	2639.532	TOP
28613	9978629.705	781440.872	2639.628	TOP
28614	9978629.454	781440.989	2639.637	TOP
28615	9978628.470	781441.939	2639.586	TOP
28616	9978628.132	781441.907	2639.629	TOP
28617	9978627.834	781441.946	2639.656	TOP
28618	9978627.590	781442.048	2639.665	TOP
28619	9978626.790	781442.789	2639.623	TOP
28620	9978626.648	781443.065	2639.590	TOP
28621	9978626.470	781444.340	2639.384	TOP
28622	9978626.224	781444.470	2639.387	TOP
28623	9978625.973	781444.578	2639.394	TOP
28624	9978625.749	781444.738	2639.389	TOP
28625	9978625.228	781444.915	2639.412	TOP
28626	9978624.989	781445.064	2639.410	TOP
28627	9978624.487	781445.290	2639.420	TOP
28628	9978624.236	781445.392	2639.428	TOP
28629	9978623.604	781445.961	2639.390	TOP
28630	9978623.386	781446.139	2639.379	TOP
28631	9978623.195	781446.366	2639.357	TOP
28632	9978622.877	781446.334	2639.393	TOP
28633	9978622.670	781446.545	2639.375	TOP
28634	9978622.503	781446.802	2639.344	TOP
28635	9978622.267	781446.947	2639.340	TOP
28636	9978622.099	781447.201	2639.310	TOP
28637	9978621.877	781447.176	2639.298	TOP
28638	9978621.693	781447.599	2639.275	TOP
28639	9978621.486	781447.813	2639.254	TOP
28640	9978621.313	781448.074	2639.222	TOP
28641	9978621.078	781448.223	2639.217	TOP
28642	9978620.853	781448.370	2639.210	TOP
28643	9978620.653	781448.587	2639.188	TOP
28644	9978620.422	781448.745	2639.179	TOP
28645	9978620.265	781449.017	2639.144	TOP
28646	9978620.027	781449.204	2639.129	TOP
28647	9978618.979	781449.542	2639.079	TOP
28648	9978618.645	781449.683	2639.073	TOP
28649	9978618.459	781449.939	2639.041	TOP
28650	9978618.253	781450.180	2639.014	TOP
28651	9978618.025	781450.343	2639.003	TOP
28652	9978618.812	781450.552	2639.981	TOP
28653	9978618.573	781450.694	2639.975	TOP
28654	9978618.173	781450.483	2639.048	TOP
28655	9978617.841	781450.426	2639.087	TOP
28656	9978617.704	781450.815	2639.024	TOP
28657	9978617.420	781450.849	2639.041	TOP
28658	9978617.252	781451.173	2639.993	TOP
28659	9978617.021	781451.329	2639.983	TOP
28660	9978616.855	781451.662	2639.932	TOP
28661	9978616.663	781451.938	2639.895	TOP
28662	9978616.279	781452.360	2639.851	TOP
28663	9978616.990	781452.523	2639.838	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRÁFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28664	9978615.750	781452.671	2634.828	TOP
28665	9978615.503	781452.809	2634.820	TOP
28666	9978615.239	781452.909	2634.821	TOP
28667	9978615.018	781453.112	2634.799	TOP
28668	9978614.635	781452.886	2634.871	TOP
28669	9978614.507	781453.353	2634.790	TOP
28670	9978614.276	781453.527	2634.773	TOP
28671	9978614.014	781453.634	2634.772	TOP
28672	9978613.707	781453.612	2634.798	TOP
28673	9978613.420	781453.655	2634.810	TOP
28674	9978613.133	781453.658	2634.830	TOP
28675	9978612.817	781453.637	2634.856	TOP
28676	9978612.457	781453.471	2634.913	TOP
28677	9978612.136	781453.398	2634.949	TOP
28678	9978611.865	781453.472	2634.953	TOP
28679	9978611.541	781453.380	2634.993	TOP
28680	9978611.154	781453.119	2635.070	TOP
28681	9978610.910	781453.268	2635.059	TOP
28682	9978610.709	781453.565	2635.014	TOP
28683	9978610.471	781453.712	2635.001	TOP
28684	9978610.228	781453.881	2634.983	TOP
28685	9978609.840	781453.564	2635.070	TOP
28686	9978609.692	781454.030	2634.987	TOP
28687	9978609.516	781454.414	2634.923	TOP
28688	9978609.330	781454.773	2634.863	TOP
28689	9978608.271	781456.170	2634.650	TOP
28690	9978608.021	781458.412	2634.218	TOP
28691	9978607.699	781458.336	2634.251	TOP
28692	9978607.315	781458.039	2634.334	TOP
28693	9978603.937	781457.496	2634.641	TOP
28694	9978603.084	781457.649	2634.623	TOP
28695	9978602.831	781457.873	2634.591	TOP
28696	9978602.584	781458.043	2634.568	TOP
28697	9978602.313	781458.182	2634.552	TOP
28698	9978602.062	781458.358	2634.527	TOP
28699	9978601.801	781458.506	2634.508	TOP
28700	9978601.542	781458.689	2634.481	TOP
28701	9978601.271	781458.752	2634.472	TOP
28702	9978600.964	781458.760	2634.491	TOP
28703	9978600.412	781458.909	2634.482	TOP
28704	9978600.142	781459.042	2634.465	TOP
28705	9978599.860	781459.092	2634.465	TOP
28706	9978599.605	781459.282	2634.436	TOP
28707	9978599.323	781459.360	2634.430	TOP
28708	9978599.051	781459.470	2634.418	TOP
28709	9978598.779	781459.548	2634.413	TOP
28710	9978598.494	781459.666	2634.399	TOP
28711	9978598.211	781459.740	2634.393	TOP
28712	9978597.939	781459.826	2634.385	TOP
28713	9978597.653	781459.830	2634.393	TOP
28714	9978597.371	781459.907	2634.386	TOP
28715	9978597.097	781460.020	2634.371	TOP
28716	9978596.820	781460.141	2634.355	TOP
28717	9978596.542	781460.249	2634.341	TOP
28718	9978596.270	781460.392	2634.319	TOP
28719	9978595.980	781460.399	2634.326	TOP
28720	9978595.689	781460.404	2634.333	TOP
28721	9978595.399	781460.473	2634.329	TOP
28722	9978595.111	781460.520	2634.327	TOP
28723	9978594.823	781460.558	2634.326	TOP
28724	9978594.534	781460.554	2634.334	TOP
28725	9978594.252	781460.586	2634.332	TOP
28726	9978593.971	781460.743	2634.308	TOP
28727	9978593.688	781460.854	2634.292	TOP
28728	9978593.414	781460.966	2634.275	TOP
28729	9978593.139	781461.011	2634.272	TOP
28730	9978592.849	781461.222	2634.234	TOP
28731	9978592.589	781461.495	2634.185	TOP
28732	9978592.005	781461.637	2634.167	TOP
28733	9978591.705	781461.906	2634.178	TOP
28734	9978591.427	781461.789	2634.145	TOP
28735	9978591.144	781461.878	2634.132	TOP
28736	9978590.846	781461.893	2634.133	TOP
28737	9978590.560	781461.929	2634.130	TOP
28738	9978590.267	781462.025	2634.114	TOP
28739	9978589.996	781462.165	2634.089	TOP
28740	9978589.699	781462.165	2634.095	TOP
28741	9978589.407	781462.181	2634.095	TOP
28742	9978589.119	781462.271	2634.080	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28743	9978588.826	781462.299	2634.077	TOP
28744	9978587.952	781462.340	2634.077	TOP
28745	9978587.657	781462.479	2634.051	TOP
28746	9978587.073	781462.783	2633.992	TOP
28747	9978586.780	781462.825	2633.985	TOP
28748	9978586.490	781462.911	2633.969	TOP
28749	9978586.192	781462.957	2633.963	TOP
28750	9978585.305	781463.311	2633.893	TOP
28751	9978585.004	781463.263	2633.903	TOP
28752	9978584.706	781462.953	2633.967	TOP
28753	9978584.108	781463.218	2633.913	TOP
28754	9978583.815	781463.267	2633.902	TOP
28755	9978581.104	781464.410	2633.656	TOP
28756	9978579.557	781465.232	2633.472	TOP
28757	9978579.257	781465.201	2633.478	TOP
28758	9978578.953	781465.213	2633.472	TOP
28759	9978578.648	781465.313	2633.447	TOP
28760	9978578.337	781465.391	2633.427	TOP
28761	9978578.026	781465.375	2633.426	TOP
28762	9978577.713	781465.401	2633.416	TOP
28763	9978577.403	781465.489	2633.393	TOP
28764	9978577.096	781465.619	2633.361	TOP
28765	9978576.783	781465.636	2633.351	TOP
28766	9978577.451	781463.906	2628.995	TOP
28767	9978577.060	781463.799	2629.028	TOP
28768	9978575.773	781463.564	2629.118	TOP
28769	9978580.083	781463.382	2629.172	TOP
28770	9978580.385	781463.074	2629.235	TOP
28771	9978580.681	781463.169	2629.234	TOP
28772	9978580.983	781462.905	2629.305	TOP
28773	9978581.282	781462.903	2629.309	TOP
28774	9978581.574	781462.917	2629.308	TOP
28775	9978581.872	781462.887	2629.317	TOP
28776	9978582.174	781462.597	2629.395	TOP
28777	9978582.460	781462.528	2629.415	TOP
28778	9978582.751	781462.670	2629.377	TOP
28779	9978583.053	781462.840	2629.334	TOP
28780	9978583.342	781462.946	2629.308	TOP
28781	9978584.531	781462.648	2629.387	TOP
28782	9978584.829	781462.625	2629.392	TOP
28783	9978585.119	781462.547	2629.412	TOP
28784	9978585.407	781462.490	2629.426	TOP
28785	9978585.707	781462.440	2629.438	TOP
28786	9978585.998	781462.351	2629.460	TOP
28787	9978586.297	781462.342	2629.461	TOP
28788	9978586.580	781462.239	2629.486	TOP
28789	9978586.875	781462.200	2629.494	TOP
28790	9978587.169	781462.159	2629.502	TOP
28791	9978587.462	781462.089	2629.519	TOP
28792	9978587.753	781462.060	2629.522	TOP
28793	9978588.050	781461.979	2629.540	TOP
28794	9978588.330	781461.919	2629.553	TOP
28795	9978588.622	781461.780	2629.585	TOP
28796	9978588.911	781461.757	2629.585	TOP
28797	9978589.204	781461.735	2629.587	TOP
28798	9978589.495	781461.751	2629.579	TOP
28799	9978589.787	781461.751	2629.574	TOP
28800	9978590.075	781461.733	2629.574	TOP
28801	9978590.357	781461.616	2629.599	TOP
28802	9978590.643	781461.530	2629.616	TOP
28803	9978590.937	781461.800	2629.529	TOP
28804	9978591.229	781461.871	2629.517	TOP
28805	9978591.521	781461.821	2629.511	TOP
28806	9978591.814	781461.708	2629.533	TOP
28807	9978592.107	781461.655	2629.538	TOP
28808	9978592.400	781461.632	2629.536	TOP
28809	9978592.692	781461.608	2629.535	TOP
28810	9978592.985	781461.656	2629.515	TOP
28811	9978593.277	781461.665	2629.504	TOP
28812	9978593.570	781461.638	2629.503	TOP
28813	9978593.862	781461.590	2629.520	TOP
28814	9978594.154	781461.332	2629.565	TOP
28815	9978594.446	781461.294	2629.566	TOP
28816	9978594.738	781461.301	2629.554	TOP
28817	9978595.030	781461.189	2629.574	TOP
28818	9978595.322	781461.131	2629.579	TOP
28819	9978595.614	781461.131	2629.579	TOP
28820	9978595.906	781461.039	2629.591	TOP
28821	9978596.197	781460.995	2629.582	TOP
28822	9978596.487	781460.995	2629.582	TOP
28823	9978596.779	781460.672	2629.666	TOP





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28830	9978597.027	781460.744	2629.636	TOP
28831	9978597.309	781460.677	2629.642	TOP
28832	9978597.644	781460.927	2629.563	TOP
28833	9978597.899	781460.667	2629.622	TOP
28834	9978599.836	781459.941	2629.722	TOP
28835	9978600.591	781459.233	2629.862	TOP
28836	9978600.843	781459.068	2629.896	TOP
28837	9978601.087	781458.836	2629.943	TOP
28838	9978601.544	781458.145	2630.095	TOP
28839	9978601.818	781458.045	2630.106	TOP
28840	9978602.036	781457.693	2630.182	TOP
28841	9978602.280	781457.495	2630.219	TOP
28842	9978602.494	781457.149	2630.297	TOP
28843	9978602.751	781456.982	2630.323	TOP
28844	9978603.013	781456.860	2630.339	TOP
28845	9978603.303	781456.864	2630.321	TOP
28846	9978603.595	781456.881	2630.300	TOP
28847	9978603.921	781457.011	2630.248	TOP
28848	9978604.203	781456.964	2630.243	TOP
28849	9978604.476	781456.875	2630.249	TOP
28850	9978604.755	781456.821	2630.245	TOP
28851	9978604.979	781456.565	2630.295	TOP
28852	9978606.782	781456.750	2630.129	TOP
28853	9978606.967	781456.955	2630.215	TOP
28854	9978607.167	781456.014	2630.287	TOP
28855	9978607.236	781455.188	2630.488	TOP
28856	9978607.622	781454.533	2630.624	TOP
28857	9978607.879	781454.430	2630.631	TOP
28858	9978608.090	781454.145	2630.686	TOP
28859	9978608.313	781453.934	2630.720	TOP
28860	9978608.584	781453.846	2630.721	TOP
28861	9978608.724	781453.367	2630.830	TOP
28862	9978608.954	781453.187	2630.856	TOP
28863	9978609.218	781453.106	2630.856	TOP
28864	9978609.463	781452.949	2630.876	TOP
28865	9978609.763	781452.982	2630.844	TOP
28866	9978610.019	781452.292	2630.846	TOP
28867	9978610.312	781452.900	2630.820	TOP
28868	9978610.564	781452.790	2630.827	TOP
28869	9978610.777	781452.559	2630.866	TOP
28870	9978611.152	781452.787	2630.779	TOP
28871	9978611.408	781452.683	2630.781	TOP
28872	9978611.592	781452.357	2630.845	TOP
28873	9978611.860	781452.294	2630.837	TOP
28874	9978612.161	781452.303	2630.809	TOP
28875	9978612.393	781452.119	2630.834	TOP
28876	9978612.656	781452.043	2630.829	TOP
28877	9978612.795	781451.624	2630.919	TOP
28878	9978614.112	781451.251	2630.889	TOP
28879	9978613.866	781449.129	2631.424	TOP
28880	9978614.229	781449.302	2631.346	TOP
28881	9978614.442	781449.102	2631.374	TOP
28882	9978614.609	781448.796	2631.431	TOP
28883	9978615.380	781449.959	2631.077	TOP
28884	9978615.820	781449.607	2631.118	TOP
28885	9978616.029	781449.348	2631.161	TOP
28886	9978616.143	781448.962	2631.239	TOP
28887	9978616.306	781448.799	2631.258	TOP
28888	9978616.570	781448.594	2631.283	TOP
28889	9978616.838	781448.532	2631.270	TOP
28890	9978617.068	781448.381	2631.280	TOP
28891	9978617.248	781448.110	2631.326	TOP
28892	9978617.452	781447.923	2631.348	TOP
28893	9978617.604	781447.731	2631.371	TOP
28894	9978618.082	781447.343	2631.417	TOP
28895	9978618.299	781447.166	2631.430	TOP
28896	9978618.825	781446.504	2631.534	TOP
28897	9978618.794	781446.333	2631.577	TOP
28898	9978618.564	781446.067	2631.619	TOP
28899	9978619.136	781445.856	2631.647	TOP
28900	9978619.577	781445.700	2631.658	TOP
28901	9978619.593	781445.547	2631.667	TOP
28902	9978619.827	781445.432	2631.667	TOP
28903	9978620.072	781445.330	2631.662	TOP
28904	9978620.528	781445.253	2631.650	TOP
28905	9978620.568	781445.140	2631.648	TOP
28906	9978620.823	781445.047	2631.639	TOP
28907	9978621.066	781444.949	2631.633	TOP
28908	9978621.311	781444.847	2631.627	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28909	9978621.542	781444.718	2631.629	TOP
28910	9978621.771	781444.577	2631.634	TOP
28911	9978622.001	781444.455	2631.634	TOP
28912	9978622.739	781444.134	2631.616	TOP
28913	9978622.976	781444.010	2631.614	TOP
28914	9978624.377	781443.241	2631.607	TOP
28915	9978624.644	781443.162	2631.590	TOP
28916	9978625.228	781442.582	2631.642	TOP
28917	9978625.453	781442.435	2631.644	TOP
28918	9978625.923	781442.198	2631.634	TOP
28919	9978626.383	781441.932	2631.628	TOP
28920	9978626.611	781441.787	2631.629	TOP
28921	9978626.838	781441.650	2631.628	TOP
28922	9978627.054	781441.502	2631.630	TOP
28923	9978627.510	781441.415	2631.614	TOP
28924	9978627.604	781441.381	2631.580	TOP
28925	9978627.890	781441.335	2631.550	TOP
28926	9978628.127	781441.206	2631.544	TOP
28927	9978628.388	781441.119	2631.526	TOP
28928	9978628.716	781441.134	2631.476	TOP
28929	9978628.929	781440.987	2631.477	TOP
28930	9978629.160	781440.838	2631.476	TOP
28931	9978629.501	781440.863	2631.471	TOP
28932	9978629.759	781440.757	2631.406	TOP
28933	9978629.989	781440.629	2631.400	TOP
28934	9978630.240	781440.517	2631.387	TOP
28935	9978630.487	781440.408	2631.374	TOP
28936	9978630.746	781440.295	2631.357	TOP
28937	9978631.004	781440.200	2631.339	TOP
28938	9978631.266	781440.102	2631.320	TOP
28939	9978631.520	781439.987	2631.306	TOP
28940	9978631.778	781439.890	2631.287	TOP
28941	9978632.092	781439.860	2631.246	TOP
28942	9978632.337	781439.729	2631.236	TOP
28943	9978632.582	781439.695	2631.144	TOP
28944	9978633.193	781439.525	2631.147	TOP
28945	9978633.445	781439.406	2631.132	TOP
28946	9978633.694	781439.280	2631.119	TOP
28947	9978633.931	781439.140	2631.111	TOP
28948	9978634.160	781438.991	2631.105	TOP
28949	9978634.381	781438.939	2631.102	TOP
28950	9978634.606	781438.687	2631.097	TOP
28951	9978634.928	781438.659	2631.051	TOP
28952	9978635.311	781438.701	2630.981	TOP
28953	9978635.507	781438.509	2630.989	TOP
28954	9978636.160	781438.456	2630.892	TOP
28955	9978636.573	781438.527	2630.810	TOP
28956	9978636.896	781438.488	2630.765	TOP
28957	9978637.265	781438.551	2630.702	TOP
28958	9978637.438	781438.340	2630.697	TOP
28959	9978637.670	781438.129	2630.708	TOP
28960	9978637.892	781437.958	2630.706	TOP
28961	9978638.103	781437.767	2630.709	TOP
28962	9978638.315	781437.599	2630.706	TOP
28963	9978638.516	781437.393	2630.713	TOP
28964	9978638.641	781437.118	2630.746	TOP
28965	9978638.820	781436.902	2630.758	TOP
28966	9978639.012	781436.636	2630.787	TOP
28967	9978639.156	781436.439	2630.791	TOP
28968	9978639.389	781436.284	2630.781	TOP
28969	9978639.568	781436.078	2630.790	TOP
28970	9978639.762	781435.875	2630.796	TOP
28971	9978639.873	781435.588	2630.832	TOP
28972	9978640.043	781435.357	2630.847	TOP
28973	9978640.188	781435.117	2630.864	TOP
28974	9978640.385	781434.930	2630.865	TOP
28975	9978640.573	781434.720	2630.874	TOP
28976	9978640.765	781434.519	2630.877	TOP
28977	9978640.956	781434.310	2630.885	TOP
28978	9978641.062	781434.028	2630.917	TOP
28979	9978641.281	781433.812	2630.926	TOP
28980	9978641.533	781433.517	2630.965	TOP
28981	9978641.467	781433.263	2630.988	TOP
28982	9978641.598	781433.003	2631.013	TOP
28983	9978641.734	781432.752	2631.035	TOP
28984	9978641.873	781432.507	2631.055	TOP
28985	9978641.946	781432.195	2631.099	TOP
28986	9978642.022	781431.886	2631.142	TOP
28987	9978642.073	781431.564	2631.192	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
28988	9978642.239	781431.340	2631.202	TOP
28989	9978642.367	781431.087	2631.224	TOP
28990	9978642.511	781430.641	2631.242	TOP
28991	9978642.662	781430.617	2631.255	TOP
28992	9978642.771	781430.542	2631.284	TOP
28993	9978642.924	781430.120	2631.295	TOP
28994	9978643.163	781429.963	2631.278	TOP
28995	9978644.289	781430.632	2626.493	TOP
28996	9978644.126	781430.860	2626.480	TOP
28997	9978643.780	781432.051	2626.300	TOP
28998	9978643.585	781432.257	2626.290	TOP
28999	9978643.313	781432.375	2626.335	TOP
29000	9978643.104	781432.561	2626.339	TOP
29001	9978642.983	781432.825	2626.308	TOP
29002	9978642.811	781433.042	2626.297	TOP
29003	9978642.735	781433.348	2626.246	TOP
29004	9978642.528	781433.540	2626.248	TOP
29005	9978642.332	781433.738	2626.247	TOP
29006	9978642.155	781433.951	2626.238	TOP
29007	9978641.348	781435.101	2626.151	TOP
29008	9978641.177	781435.330	2626.135	TOP
29009	9978641.000	781435.543	2626.124	TOP
29010	9978640.775	781435.714	2626.131	TOP
29011	9978640.601	781435.934	2626.118	TOP
29012	9978640.436	781436.165	2626.099	TOP
29013	9978640.252	781436.362	2626.096	TOP
29014	9978640.060	781436.578	2626.081	TOP
29015	9978639.859	781436.777	2626.077	TOP
29016	9978639.388	781437.089	2626.101	TOP
29017	9978639.215	781437.306	2626.085	TOP
29018	9978639.007	781437.499	2626.082	TOP
29019	9978638.883	781437.778	2626.041	TOP
29020	9978638.650	781437.913	2626.060	TOP
29021	9978638.397	781438.068	2626.071	TOP
29022	9978638.184	781438.256	2626.069	TOP
29023	9978637.962	781438.435	2626.070	TOP
29024	9978637.689	781438.537	2626.101	TOP
29025	9978637.436	781438.663	2626.121	TOP
29026	9978637.052	781438.637	2626.203	TOP
29027	9978636.772	781438.743	2626.233	TOP
29028	9978636.515	781438.857	2626.256	TOP
29029	9978636.211	781438.917	2626.301	TOP
29030	9978635.897	781438.976	2626.348	TOP
29031	9978635.414	781438.798	2626.486	TOP
29032	9978635.146	781438.901	2626.512	TOP
29033	9978634.862	781438.985	2626.546	TOP
29034	9978634.604	781439.102	2626.517	TOP
29035	9978634.337	781439.200	2626.594	TOP
29036	9978633.987	781439.190	2626.665	TOP
29037	9978633.664	781439.217	2626.717	TOP
29038	9978633.219	781439.077	2626.839	TOP
29039	9978632.971	781439.201	2626.854	TOP
29040	9978632.750	781439.345	2626.859	TOP
29041	9978632.530	781439.511	2626.859	TOP
29042	9978632.314	781439.674	2626.858	TOP
29043	9978632.060	781439.791	2626.875	TOP
29044	9978631.859	781439.979	2626.864	TOP
29045	9978631.612	781440.094	2626.880	TOP
29046	9978631.107	781440.317	2626.915	TOP
29047	9978630.862	781440.433	2626.929	TOP
29048	9978630.653	781440.609	2626.932	TOP
29049	9978630.434	781440.762	2626.921	TOP
29050	9978629.739	781440.693	2627.063	TOP
29051	9978629.507	781440.844	2627.065	TOP
29052	9978629.218	781440.904	2627.099	TOP
29053	9978628.921	781440.940	2627.142	TOP
29054	9978628.687	781441.064	2627.150	TOP
29055	9978628.476	781441.228	2627.144	TOP
29056	9978628.257	781441.376	2627.143	TOP
29057	9978628.050	781441.551	2627.132	TOP
29058	9978627.881	781441.787	2627.098	TOP
29059	9978627.665	781441.942	2627.094	TOP
29060	9978627.446	781442.090	2627.092	TOP
29061	9978626.413	781442.448	2627.168	TOP
29062	9978626.134	781442.502	2627.200	TOP
29063	9978625.807	781442.476	2627.260	TOP
29064	9978625.549	781442.567	2627.277	TOP
29065	9978625.285	781442.658	2627.295	TOP
29066	9978625.039	781442.748	2627.311	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29067	9978624.825	781442.923	2627.297	TOP
29068	9978624.649	781443.140	2627.267	TOP
29069	9978624.404	781443.253	2627.277	TOP
29070	9978624.161	781443.370	2627.284	TOP
29071	9978624.012	781443.649	2627.231	TOP
29072	9978623.791	781443.795	2627.225	TOP
29073	9978623.560	781443.930	2627.224	TOP
29074	9978623.387	781444.009	2627.380	TOP
29075	9978622.129	781444.100	2627.394	TOP
29076	9978621.872	781444.173	2627.411	TOP
29077	9978621.282	781444.762	2627.535	TOP
29078	9978621.023	781444.832	2627.563	TOP
29079	9978620.800	781444.969	2627.347	TOP
29080	9978620.556	781445.087	2627.349	TOP
29081	9978620.057	781445.226	2627.393	TOP
29082	9978619.779	781445.305	2627.397	TOP
29083	9978619.228	781445.361	2627.458	TOP
29084	9978618.954	781445.403	2627.484	TOP
29085	9978618.713	781445.522	2627.485	TOP
29086	9978618.431	781445.542	2627.518	TOP
29087	9978617.832	781445.711	2627.537	TOP
29088	9978616.905	781446.639	2627.407	TOP
29089	9978616.660	781446.738	2627.410	TOP
29090	9978613.854	781448.286	2627.306	TOP
29091	9978613.643	781448.474	2627.275	TOP
29092	9978613.455	781448.714	2627.227	TOP
29093	9978613.139	781448.637	2627.285	TOP
29094	9978611.359	781449.974	2627.086	TOP
29095	9978611.151	781450.180	2627.047	TOP
29096	9978610.947	781450.406	2627.001	TOP
29097	9978610.580	781450.177	2627.107	TOP
29098	9978610.302	781450.160	2627.138	TOP
29099	9978610.035	781450.236	2627.144	TOP
29100	9978609.820	781450.438	2627.106	TOP
29101	9978609.705	781450.949	2626.968	TOP
29102	9978609.469	781451.070	2626.954	TOP
29103	9978609.197	781451.113	2626.968	TOP
29104	9978608.942	781451.205	2626.965	TOP
29105	9978608.655	781451.193	2626.996	TOP
29106	9978608.375	781451.209	2627.017	TOP
29107	9978608.148	781451.369	2626.991	TOP
29108	9978607.868	781451.375	2627.014	TOP
29109	9978607.430	781451.809	2626.924	TOP
29110	9978607.184	781451.938	2626.906	TOP
29111	9978607.017	781452.327	2626.804	TOP
29112	9978606.790	781452.510	2626.769	TOP
29113	9978606.595	781452.799	2626.698	TOP
29114	9978606.457	781453.324	2626.551	TOP
29115	9978606.264	781453.655	2626.467	TOP
29116	9978606.013	781453.777	2626.452	TOP
29117	9978605.319	781454.385	2626.325	TOP
29118	9978604.761	781455.520	2626.024	TOP
29119	9978604.479	781455.557	2626.034	TOP
29120	9978604.199	781455.580	2626.048	TOP
29121	9978603.887	781455.475	2626.103	TOP
29122	9978602.950	781455.144	2626.271	TOP
29123	9978602.781	781455.507	2626.213	TOP
29124	9978601.925	781455.655	2626.187	TOP
29125	9978601.610	781455.512	2626.251	TOP
29126	9978601.404	781455.845	2626.162	TOP
29127	9978601.145	781455.026	2626.123	TOP
29128	9978600.895	781455.135	2626.105	TOP
29129	9978600.205	781456.496	2626.025	TOP
29130	9978599.958	781456.783	2625.951	TOP
29131	9978599.880	781456.821	2625.955	TOP
29132	9978599.653	781457.173	2625.859	TOP
29133	9978599.178	781457.676	2625.731	TOP
29134	9978598.867	781457.541	2625.789	TOP
29135	9978598.616	781457.717	2625.748	TOP
29136	9978598.346	781457.804	2625.738	TOP
29137	9978598.106	781458.087	2625.667	TOP
29138	9978597.845	781458.251	2625.625	TOP
29139	9978597.668	781458.949	2625.417	TOP
29140	9978597.364	781458.808	2625.476	TOP
29141	9978597.120	781458.157	2625.385	TOP
29142	9978596.847	781459.219	2625.372	TOP
29143	9978596.668	781460.017	2625.133	TOP
29144	9978596.425	781460.388	2625.029	TOP
29145	9978596.169	781460.601	2624.973	TOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29146	9978592.359	781460.581	2625.117	TOP
29147	9978592.091	781460.908	2625.022	TOP
29148	9978591.445	781460.076	2625.302	TOP
29149	9978591.180	781460.383	2625.213	TOP
29150	9978590.959	781461.258	2624.944	TOP
29151	9978590.676	781461.401	2624.906	TOP
29152	9978590.387	781461.411	2624.910	TOP
29153	9978590.059	781461.450	2624.904	TOP
29154	9978589.825	781461.637	2624.850	TOP
29155	9978589.539	781461.795	2624.806	TOP
29156	9978589.250	781461.813	2624.806	TOP
29157	9978588.961	781461.867	2624.794	TOP
29158	9978588.567	781461.876	2624.796	TOP
29159	9978588.384	781462.012	2624.757	TOP
29160	9978588.094	781462.059	2624.747	TOP
29161	9978587.799	781462.051	2624.755	TOP
29162	9978587.503	781461.994	2624.776	TOP
29163	9978586.328	781462.024	2624.777	TOP
29164	9978586.036	781461.987	2624.791	TOP
29165	9978585.158	781462.196	2624.729	TOP
29166	9978584.873	781462.153	2624.743	TOP
29167	9978584.279	781462.064	2624.734	TOP
29168	9978583.986	781462.162	2624.743	TOP
29169	9978583.689	781462.139	2624.749	TOP
29170	9978583.398	781462.016	2624.787	TOP
29171	9978582.815	781461.894	2624.823	TOP
29172	9978582.520	781461.875	2624.826	TOP
29173	9978582.232	781461.905	2624.815	TOP
29174	9978581.651	781461.903	2624.811	TOP
29175	9978581.361	781461.882	2624.814	TOP
29176	9978581.067	781461.885	2624.812	TOP
29177	9978580.775	781461.851	2624.819	TOP
29178	9978580.488	781461.882	2624.806	TOP
29179	9978580.195	781461.915	2624.791	TOP
29180	9978579.897	781461.914	2624.787	TOP
29181	9978579.594	781461.959	2624.768	TOP
29182	9978578.427	781461.780	2624.801	TOP
29183	9978578.111	781462.178	2624.670	TOP
29184	9978576.893	781462.006	2624.509	TOP
29185	9978576.600	781462.544	2624.520	TOP
29186	9978576.326	781462.258	2624.602	TOP
29187	9978576.045	781462.119	2624.637	TOP
29188	9978575.728	781462.320	2624.565	TOP
29189	9978575.417	781462.458	2624.512	TOP
29190	9978575.126	781462.411	2624.517	TOP
29191	9978574.841	781462.289	2624.546	TOP
29192	9978574.537	781462.300	2624.512	TOP
29193	9978574.239	781462.382	2624.514	TOP
29194	99785612.124	781447.931	2623.236	TOP
29195	99785612.375	781447.861	2623.228	TOP
29196	99785612.592	781447.698	2623.256	TOP
29197	99785612.803	781447.518	2623.287	TOP
29198	99785613.025	781447.372	2623.308	TOP
29199	99785613.194	781447.077	2623.386	TOP
29200	99785613.399	781446.890	2623.423	TOP
29201	99785613.973	781446.925	2623.331	TOP
29202	99785614.243	781446.880	2623.307	TOP
29203	99785614.515	781446.844	2623.281	TOP
29204	99785614.761	781446.744	2623.280	TOP
29205	99785614.988	781446.612	2623.292	TOP
29206	99785615.270	781446.616	2623.251	TOP
29207	99785615.544	781446.582	2623.222	TOP
29208	99785615.827	781446.575	2623.183	TOP
29209	99785616.079	781446.485	2623.175	TOP
29210	99785616.876	781446.345	2623.102	TOP
29211	99785618.951	781445.765	2622.968	TOP
29212	99785619.166	781445.603	2622.987	TOP
29213	99785619.391	781445.458	2622.999	TOP
29214	99785619.582	781445.263	2622.932	TOP
29215	99785619.783	781445.081	2622.957	TOP
29216	99785620.032	781444.979	2622.950	TOP
29217	99785620.330	781444.988	2622.997	TOP
29218	99785620.558	781444.477	2622.160	TOP
29219	99785620.847	781444.848	2622.956	TOP
29220	99785621.070	781444.698	2622.967	TOP
29221	99785621.261	781444.499	2622.900	TOP
29222	99785621.468	781444.318	2622.921	TOP
29223	99785621.606	781444.017	2622.905	TOP
29224	99785621.863	781443.945	2622.974	TOP

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29245	9978622.127	781443.878	2623.049	TOP
29246	9978622.325	781443.672	2623.081	TOP
29247	9978622.526	781443.494	2623.103	TOP
29248	9978622.718	781443.275	2623.140	TOP
29249	9978622.903	781443.076	2623.171	TOP
29250	9978623.130	781442.941	2623.173	TOP
29251	9978623.366	781442.831	2623.163	TOP
29252	9978623.645	781442.772	2623.132	TOP
29253	9978624.726	781442.531	2623.007	TOP
29254	9978625.338	781442.520	2622.896	TOP
29255	9978625.577	781442.399	2622.888	TOP
29256	9978626.959	781442.095	2622.715	TOP
29257	9978627.276	781442.114	2622.646	TOP
29258	9978627.594	781442.102	2622.587	TOP
29259	9978627.834	781441.977	2622.578	TOP
29260	9978628.067	781441.845	2622.573	TOP
29261	9978628.304	781441.709	2622.567	TOP
29262	9978628.527	781441.566	2622.567	TOP
29263	9978628.750	781441.434	2622.565	TOP
29264	9978628.953	781441.252	2622.577	TOP
29265	9978629.141	781441.037	2622.604	TOP
29266	9978629.413	781440.964	2622.570	TOP
29267	9978629.727	781440.942	2622.513	TOP
29268	9978629.967	781440.819	2622.500	TOP
29269	9978630.214	781440.716	2622.477	TOP
29270	9978630.448	781440.572	2622.472	TOP
29271	9978630.659	781440.395	2622.481	TOP
29272	9978631.193	781440.222	2622.420	TOP
29273	9978631.428	781440.088	2622.410	TOP
29274	9978631.702	781440.007	2622.375	TOP
29275	9978632.035	781440.001	2622.305	TOP
29276	9978632.314	781439.919	2622.269	TOP
29277	9978632.601	781439.849	2622.227	TOP
29278	9978632.858	781439.764	2622.194	TOP
29279	9978633.569	781440.244	2621.897	TOP
29280	9978633.835	781440.147	2621.868	TOP
29281	9978634.054	781439.966	2621.872	TOP
29282	9978634.277	781439.822	2621.865	TOP
29283	9978634.544	781439.700	2621.841	TOP
29284	9978634.789	781439.585	2621.819	TOP
29285	9978635.002	781439.399	2621.823	TOP
29286	9978635.248	781439.273	2621.804	TOP
29287	9978635.489	781439.128	2621.791	TOP
29288	9978635.751	781439.027	2621.760	TOP
29289	9978635.971	781438.865	2621.757	TOP
29290	9978636.169	781438.672	2621.767	TOP
29291	9978637.825	781437.634	2621.674	TOP
29292	9978639.453	781436.550	2621.582	TOP
29293	9978639.632	781436.537	2621.597	TOP
29294	9978639.790	781436.090	2621.627	TOP
29295	9978639.855	781435.856	2621.650	TOP
29296	9978640.095	781435.594	2621.687	TOP
29297	9978640.267	781435.371	2621.705	TOP
29298	9978640.437	781435.156	2621.722	TOP
29299	9978640.635	781434.968	2621.733	TOP
29300	9978640.843	781434.779	2621.722	TOP
29301	9978641.030	781434.575	2621.729	TOP
29302	9978641.193	781434.340	2621.752	TOP
29303	9978641.375	781434.145	2621.757	TOP
29304	9978641.545	781433.963	2621.753	TOP
29305	9978641.725	781433.780	2621.751	TOP
29306	9978641.776	781433.337	2621.879	TOP
29307	9978642.276	781433.406	2621.699	TOP
29308	9978642.594	781433.430	2621.635	TOP
29309	9978642.734	781433.183	2621.663	TOP
29310	9978642.856	781432.909	2621.703	TOP
29311	9978643.047	781432.713	2621.704	TOP
29312	9978643.245	781432.510	2621.706	TOP
29313	9978643.440	781432.320	2621.704	TOP
29314	9978643.646	781432.136	2621.697	TOP
29315	9978643.826	781431.928	2621.700	TOP
29316	9978644.040	781431.743	2621.691	TOP
29317	9978644.144	781431.459	2621.736	TOP
29318	9978644.135	781431.069	2621.838	TOP
29319	9978644.454	781430.991	2621.773	TOP
29320	9978644.651	781430.802	2621.767	TOP
29321	9978644.654	781569.521	2743.357	PD
29322	9978679.776	781582.884	2752.295	TALE
29323	9978631.506	781626.763	2751.826	HE





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29324	9978630.080	781622.801	2751.164	TN
29325	9978620.169	781627.644	2750.468	TN
29326	9978629.520	781633.638	2752.370	PIE
29327	9978610.065	781631.142	2750.086	TN
29328	9978625.810	781643.686	2751.944	PIE
29329	9978604.272	781636.272	2750.408	TN
29330	9978622.388	781649.849	2751.657	PIE
29331	9978599.365	781641.126	2749.697	TN
29332	9978617.490	781653.174	2751.363	PIE
29333	9978592.092	781644.592	2750.033	TN
29334	9978610.811	781655.069	2753.755	PIE
29335	9978607.930	781660.808	2754.267	PIE
29336	9978581.936	781647.148	2750.011	TN
29337	9978605.230	781667.075	2755.684	TN
29338	9978572.127	781651.888	2750.049	TN
29339	9978601.178	781660.984	2753.962	PIE
29340	9978603.142	781660.113	2752.455	PIE
29341	9978595.965	781653.627	2750.255	TN
29342	9978588.934	781657.581	2747.907	TN
29343	9978598.493	781659.988	2751.731	PIE
29344	9978598.079	781673.188	2751.506	PIE
29345	9978575.972	781666.419	2747.938	TN
29346	9978586.340	781676.136	2748.953	PIE
29347	9978579.011	781679.260	2748.218	PIE
29348	9978571.850	781678.026	2747.836	PIE
29349	9978601.826	781649.527	2750.368	TN
29350	9978605.927	781647.353	2749.747	TN
29351	9978610.910	781645.164	2751.452	TN
29352	9978614.715	781643.149	2750.175	TN
29353	9978612.652	781643.548	2750.678	TN
29354	9978619.990	781636.626	2752.587	TN
29355	9978625.764	781629.885	2751.620	TN
29356	9978768.305	781329.416	2804.727	TN
29357	9978771.257	781323.154	2805.891	TN
29358	9978772.652	781319.144	2805.121	TN
29359	9978774.847	781313.161	2805.619	TN
29360	9978776.646	781306.309	2805.447	TN
29361	9978773.886	781299.173	2802.230	TN
29362	9978773.054	781292.712	2801.879	TN
29363	9978757.469	781332.695	2799.582	TN
29364	9978755.768	781338.306	2800.505	TN
29365	9978760.197	781342.205	2804.146	TN
29366	9978761.904	781346.806	2807.558	TN
29367	9978762.274	781353.778	2811.120	TN
29368	9978761.834	781360.061	2812.725	TN
29369	9978765.158	781364.908	2816.771	TN
29370	9978763.400	781373.434	2815.449	TN
29371	9978760.562	781382.435	2823.984	TN
29372	9978759.415	781389.553	2812.826	TN
29373	9978758.332	781394.726	2812.232	TN
29374	9978760.385	781400.254	2811.157	TN
29375	9978761.182	781407.949	2810.305	TN
29376	9978756.838	781417.389	2805.532	TN
29377	9978757.441	781424.593	2808.679	TN
29378	9978755.091	781434.888	2806.923	TN
29379	9978754.634	781430.600	2806.341	TN
29380	9978751.204	781445.279	2803.791	TN
29381	9978749.551	781451.360	2802.755	TN
29382	9978748.129	781457.569	2803.898	TN
29383	9978745.853	781462.637	2804.752	TN
29384	9978745.198	781464.714	2805.583	TN
29385	9978744.803	781468.755	2803.295	TN
29386	9978744.190	781473.918	2801.980	TN
29387	9978743.213	781477.411	2802.926	TN
29388	9978742.678	781482.482	2800.980	TN
29389	9978743.548	781488.519	2800.762	TN
29390	9978743.758	781492.690	2799.469	TN
29391	9978740.510	781497.342	2796.813	TN
29392	9978738.925	781505.126	2794.671	TN
29393	9978736.002	781511.500	2794.406	TN
29394	9978733.593	781516.115	2794.057	TN
29395	9978730.513	781519.847	2792.261	TN
29396	9978866.714	780912.741	2772.584	AUX B A
29398	9978858.332	780911.736	2772.462	AUX C L D
29399	9978843.980	781024.850	2775.519	EJE
29400	9978834.659	781042.706	2777.192	EJE
29401	9978830.120	781051.639	2778.247	EJE
29402	9978852.920	781007.170	2774.537	EJE
29403	9978863.950	780969.422	2772.361	EJE

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29404	9978867.779	780949.455	2771.950	EJE
29405	9978867.408	780929.360	2772.327	EJE
29406	9978866.124	780909.503	2772.604	EJE
29407	9978864.968	780889.513	2772.836	EJE
29408	9978865.105	780869.598	2772.459	EJE
29409	9978861.194	781496.955	2682.548	TN
29410	9978861.201	781498.328	2681.558	TN
29412	9978731.763	781290.498	2761.992	AUX1-A
29413	9978731.767	781290.508	2761.960	AUX1-A
29414	9978803.653	781180.220	2798.959	TN
29415	9978801.090	781161.633	2789.612	TN
29416	9978800.970	781158.650	2789.936	TN
29417	9978807.877	781172.626	2799.141	TN
29418	9978808.061	781172.789	2799.359	TN
29419	9978804.368	781153.263	2790.736	TN
29420	9978811.611	781158.414	2797.647	TN
29421	9978811.775	781151.901	2799.081	TN
29422	9978806.495	781140.349	2793.872	TN
29423	9978816.321	781151.578	2801.697	TN
29424	9978809.839	781141.689	2793.625	TN
29425	9978821.767	781146.080	2802.309	BSQ
29426	9978825.785	781143.209	2800.425	TN
29427	9978825.801	781143.212	2800.323	BSQ
29428	9978813.965	781136.489	2792.889	BSQ
29429	9978827.879	781142.428	2798.067	TN
29430	9978832.973	781139.011	2797.319	TN
29431	9978835.986	781137.614	2796.654	TN
29432	9978819.314	781133.123	2787.840	TN
29433	9978841.485	781134.600	2794.308	TN
29434	9978820.845	781125.515	2781.413	TN
29435	9978844.575	781131.540	2793.002	BSQ
29436	9978844.942	781130.942	2782.986	FQ
29437	9978829.524	781121.784	2778.534	BSQ
29438	9978823.610	781121.189	2774.581	FO
29439	9978827.147	781129.685	2788.244	TN
29440	9978820.814	781125.105	2772.549	FQ
29441	9978820.654	781114.738	2773.983	BSQ
29442	9978814.206	781108.429	2772.862	TN
29443	9978820.908	781110.219	2780.439	TN
29444	9978817.433	781104.435	2776.767	TN
29446	9978824.494	781110.900	2783.138	TN
29447	9978827.505	781102.468	2786.456	TN
29448	9978847.639	781125.659	2785.137	FQ
29449	9978847.909	781125.142	2791.274	BSQ
29450	9978848.992	781120.142	2793.528	TN
29451	9978846.141	781115.960	2795.273	TN
29452	9978831.757	781097.429	2789.656	TN
29453	9978841.873	781109.102	2796.165	TN
29454	9978841.416	781103.429	2796.599	TN
29455	9978834.851	781088.776	2789.661	TN
29456	9978845.685	781095.319	2788.005	TN
29457	9978839.222	781077.461	2788.666	TN
29458	9978849.199	781089.307	2797.151	TN
29459	9978843.798	781069.930	2789.001	TN
29460	9978855.377	781080.760	2798.240	TN
29461	9978861.549	781071.192	2799.459	TN
29462	9978860.969	781063.050	2780.442	TN
29463	9978867.569	781062.669	2800.827	TN
29464	9978852.049	781055.874	2789.483	TN
29465	9978843.510	781049.763	2801.978	TN
29466	9978876.797	781040.063	2801.555	TN
29467	9978857.289	781047.103	2790.380	TN
29468	9978859.654	781039.230	2790.197	TN
29469	9978862.684	781031.995	2790.015	TN
29470	9978879.841	781031.758	2800.859	TN
29471	9978868.469	781026.604	2790.241	TN
29472	9978882.125	781025.145	2801.888	TN
29473	9978872.978	781017.571	2789.342	TN
29474	9978882.546	781025.011	2800.521	TN
29475	9978884.288	781020.730	2801.208	TN
29476	9978869.912	781006.676	2788.228	TN
29477	9978886.972	781012.048	2804.101	TN
29478	9978873.738	781001.908	2791.115	TN
29479	9978889.644	781005.373	2804.598	TN
29480	9978878.554	780994.425	2794.185	TN
29481	9978889.594	780998.203	2805.045	TN
29482	9978892.468	780989.593	2806.638	TN
29483	9978878.927	780987.944	2795.611	TN
29484	9978895.829	780979.142	2807.064	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29485	9978878.796	780985.387	2796.304	TN
29486	9978880.623	780981.122	2797.393	TN
29487	9978882.406	780973.007	2797.543	TN
29488	9978882.571	780973.228	2798.202	BS
29489	9978875.468	780977.266	2793.409	BS
29490	9978869.430	780966.976	2788.281	BS
29491	9978870.473	780951.638	2789.341	BS
29492	9978863.064	781004.762	2783.897	BS
29493	9978865.444	780997.907	2785.837	BS
29494	9978858.884	781008.571	2780.824	BS
29495	9978857.435	781010.693	2779.906	BS
29496	9978855.806	781014.040	2778.917	BS
29497	9978854.888	781014.942	2776.499	BS
29498	9978849.109	781024.890	2778.186	BS
29499	9978845.818	781035.920	2780.077	BS
29500	9978852.876	781020.903	2779.490	BS
29501	9978839.617	781050.080	2779.309	BS
29502	9978833.691	781066.562	2781.298	BS
29503	9978821.919	781075.180	2779.678	BS
29504	9978820.096	781090.144	2780.772	BS
29505	9978816.489	781096.882	2779.826	BS
29506	9978815.608	781098.115	2778.488	BS
29508	9978731.763	781290.498	2761.992	AUX1-A
29509	9978731.767	781290.508	2761.960	AUX1-A
29510	9978803.651	781180.220	2798.359	TN
29511	9978801.090	781161.833	2789.622	TN
29512	9978800.970	781158.050	2788.936	TN
29513	9978807.877	781172.626	2799.141	TN
29514	9978808.061	781172.789	2799.559	TN
29515	9978804.368	781153.263	2790.736	TN
29516	9978811.611	781168.414	2797.647	TN
29517	9978811.775	781161.901	2799.081	TN
29518	9978806.495	781149.349	2793.872	TN
29519	9978816.321	781151.578	2801.697	TN
29520	9978809.839	781141.689	2793.625	TN
29521	9978821.767	781146.080	2802.309	BSQ
29522	9978825.785	781143.209	2800.325	TN
29523	9978825.801	781143.712	2800.323	BSQ
29524	9978813.965	781136.489	2792.889	BSQ
29525	9978827.879	781142.428	2798.067	TN
29526	9978832.973	781139.011	2797.319	TN
29527	9978835.986	781137.614	2796.654	TN
29528	9978819.314	781183.123	2787.840	TN
29529	9978841.485	781134.600	2794.308	TN
29530	9978820.845	781125.515	2781.413	TN
29531	9978844.575	781131.540	2793.002	BSQ
29532	9978844.942	781130.942	2782.986	TN
29533	9978823.524	781121.784	2778.534	BSQ
29534	9978823.610	781121.189	2774.581	FQ
29535	9978827.147	781129.085	2788.244	TN
29536	9978820.814	781115.105	2772.549	FQ
29537	9978820.654	781114.738	2773.983	BSQ
29538	9978814.206	781108.429	2772.862	TN
29539	9978820.908	781110.219	2780.439	TN
29540	9978817.433	781104.695	2776.767	TN
29541	9978857.078	781111.994	2811.516	C-LUZ
29542	9978824.494	781110.900	2783.138	TN
29543	9978827.505	781102.468	2786.456	TN
29544	9978847.639	781125.659	2785.137	FQ
29545	9978847.909	781125.142	2791.274	BSQ
29546	9978848.992	781120.142	2783.523	TN
29547	9978846.141	781115.960	2795.273	TN
29548	9978831.757	781097.429	2789.656	TN
29549	9978841.873	781109.102	2796.195	TN
29550	9978841.416	781103.429	2796.599	TN
29551	9978834.851	781088.776	2789.661	TN
29552	9978845.685	781095.319	2798.005	TN
29553	9978839.221	781077.461	2788.666	TN
29554	9978849.199	781089.307	2797.151	TN
29555	9978843.798	781069.930	2789.001	TN
29556	9978855.177	781080.760	2798.240	TN
29557	9978861.549	781073.192	2799.459	TN
29558	9978848.699	781063.050	2789.442	TN
29559	9978867.659	781062.663	2800.827	TN
29560	9978857.049	781055.874	2789.483	TN
29561	9978873.510	781049.763	2801.378	TN
29562	9978876.742	781040.063	2801.555	TN
29563	9978857.769	781047.108	2790.380	TN
29564	9978859.654	781039.230	2790.197	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29565	9978862.886	781031.595	2790.015	TN
29566	9978879.847	781031.758	2800.859	TN
29567	9978866.469	781026.604	2790.241	TN
29568	9978882.125	781025.145	2801.838	TN
29569	9978872.378	781017.571	2789.342	TN
29570	9978882.546	781025.012	2800.521	TN
29571	9978884.288	781020.730	2801.203	TN
29572	9978869.912	781006.676	2788.228	TN
29573	9978886.972	781012.048	2804.101	TN
29574	9978873.738	781001.508	2781.115	TN
29575	9978889.644	781005.373	2804.598	TN
29576	9978876.554	780994.425	2794.185	TN
29577	9978880.594	780998.209	2805.045	TN
29578	9978892.468	780989.593	2806.638	TN
29579	9978876.927	780987.944	2795.611	TN
29580	9978895.829	780979.142	2807.064	TN
29581	9978878.796	780985.387	2796.304	TN
29582	9978886.625	780981.122	2797.393	TN
29583	9978882.406	780973.007	2797.543	TN
29584	9978882.571	780973.228	2798.202	BS
29585	9978875.468	780977.266	2793.403	BS
29586	9978869.430	780966.976	2788.281	BS
29587	9978870.473	780951.638	2789.341	BS
29588	9978863.064	781004.762	2783.897	BS
29589	9978865.444	780997.907	2785.837	BS
29590	9978858.884	781008.571	2780.824	BS
29591	9978857.435	781010.693	2779.906	BS
29592	9978855.806	781014.040	2778.917	BS
29593	9978854.888	781014.942	2776.499	BS
29594	9978849.109	781024.890	2778.186	BS
29595	9978845.818	781035.920	2780.077	BS
29596	9978852.876	781020.903	2779.490	BS
29597	9978839.617	781050.080	2779.309	BS
29598	9978833.691	781066.562	2781.298	BS
29599	9978821.919	781075.180	2779.678	BS
29600	9978820.096	781090.144	2780.772	BS
29601	9978816.489	781096.882	2779.826	BS
29602	9978815.608	781098.115	2778.488	BS
29603	9978834.724	781028.280	2775.215	AUX-A
29604	9978834.754	781028.282	2775.211	AUX-A
29605	9978804.002	781110.680	2769.663	TN
29606	9978808.403	781114.994	2772.020	TN
29607	9978811.305	781117.267	2773.758	TN
29608	9978816.227	781118.846	2775.133	TN
29609	9978813.758	781104.855	2773.378	TN
29610	9978813.420	781105.336	2772.210	TN
29611	9978809.781	781108.678	2770.221	TN
29612	9978813.765	781107.943	2772.848	TN
29613	9978820.096	781120.398	2777.338	TN
29614	9978812.894	781121.966	2779.308	TN
29615	9978818.991	781109.069	2778.290	TN
29616	9978821.522	781111.062	2780.358	TN
29617	9978816.971	781125.780	2781.972	TN
29618	9978813.581	781110.886	2771.703	TN
29619	9978825.908	781111.138	2783.491	TN
29620	9978817.721	781118.063	2774.683	TN
29621	9978810.565	781114.752	2774.047	TN
29622	9978824.853	781128.439	2787.764	TN
29623	9978816.930	781129.305	2787.903	TN
29624	9978836.836	781128.363	2786.859	TN
29625	9978841.659	781128.415	2788.551	TN
29626	9978827.914	781111.978	2782.636	TN
29627	9978830.965	781113.109	2781.729	TN
29628	9978821.661	781115.233	2773.913	TN
29629	9978813.008	781115.708	2779.206	TN
29630	9978820.630	781115.884	2772.511	FQ
29631	9978826.507	781118.711	2775.283	FQ
29632	9978831.833	781116.682	2778.466	BSQ
29633	9978825.352	781119.825	2775.497	BSQ
29634	9978820.913	781115.115	2773.935	BSQ
29635	9978835.237	781121.574	2778.361	FQ
29636	9978831.140	781120.738	2777.416	FQ
29637	9978835.455	781120.663	2779.786	BSQ
29638	9978831.764	781122.911	2778.264	BSQ
29639	9978835.951	781122.940	2778.597	BSQ
29640	9978827.579	781116.616	2775.507	BSQ
29641	9978818.979	781115.648	2772.918	FQ
29642	9978816.389	781117.170	2773.723	BSQ
29643	9978813.655	781112.120	2771.786	BSQ





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29644	9978813.831	781119.420	2770.616	BSQ
29645	9978813.179	781114.457	2771.167	FQ
29646	9978812.865	781115.939	2771.754	BSQ
29647	9978811.259	781112.939	2769.577	FQ
29648	9978866.714	780912.741	2772.584	AUX-B
29650	9978866.898	780912.721	2772.597	AUX-B
29651	9978859.401	780799.776	2771.862	AUX-D
29652	9978858.332	780911.736	2772.462	AUX-C
29654	9978859.400	780799.778	2771.851	AUX-D
29658	9978782.874	781396.405	2820.210	TN
29659	9978792.076	781339.553	2829.492	TN
29660	9978802.001	781344.029	2835.572	TN
29661	9978785.043	781326.829	2819.315	TN
29662	9978787.983	781315.639	2818.234	TN
29663	9978799.396	781322.617	2828.244	TN
29664	9978786.224	781305.774	2815.384	TN
29665	9978800.208	781310.718	2827.027	TN
29666	9978804.072	781309.973	2830.484	TN
29667	9978785.213	781297.638	2819.500	TN
29668	9978806.976	781303.307	2831.265	TN
29669	9978801.562	781295.069	2826.230	TN
29670	9978784.780	781289.307	2812.075	TN
29671	9978809.020	781295.201	2831.692	TN
29672	9978802.690	781288.964	2826.557	TN
29673	9978810.161	781286.691	2831.249	TN
29674	9978783.460	781278.262	2810.329	TN
29675	9978804.954	781279.247	2827.725	TN
29676	9978811.639	781279.705	2831.330	TN
29677	9978804.538	781267.859	2826.396	TN
29678	9978811.102	781269.953	2829.620	TN
29679	9978783.755	781266.783	2808.944	TN
29680	9978807.879	781259.144	2827.753	TN
29681	9978784.886	781257.520	2809.244	TN
29682	9978808.025	781250.355	2826.210	TN
29683	9978786.992	781250.599	2808.530	TN
29684	9978815.391	781257.789	2831.009	TN
29685	9978812.065	781243.688	2825.663	TN
29686	9978789.891	781241.752	2809.758	TN
29687	9978819.064	781249.738	2831.189	TN
29688	9978793.052	781231.546	2806.506	TN
29689	9978816.608	781234.032	2824.830	TN
29690	9978822.894	781242.329	2830.907	TN
29691	9978795.877	781221.801	2806.697	TN
29692	9978816.190	781226.511	2822.300	TN
29693	9978827.760	781232.588	2831.095	TN
29694	9978801.028	781210.850	2809.382	TN
29695	9978818.191	781214.658	2829.575	TN
29696	9978803.948	781199.145	2804.693	TN
29697	9978808.884	781190.090	2803.492	TN
29698	9978813.952	781177.014	2803.610	TN
29699	9978815.064	781171.224	2805.314	TN
29700	9978822.457	781169.097	2804.874	TN
29701	9978819.125	781199.159	2813.745	TN
29702	9978826.884	781214.568	2829.922	TN
29703	9978824.297	781159.390	2807.517	TN
29704	9978837.328	781209.134	2828.773	TN
29705	9978827.315	781185.973	2815.992	TN
29706	9978842.137	781200.277	2828.312	TN
29707	9978835.368	781178.346	2813.896	TN
29708	9978849.234	781195.541	2827.448	TN
29709	9978827.104	781153.194	2807.682	TN
29710	9978827.103	781153.205	2807.761	TN
29711	9978849.710	781189.115	2822.095	TN
29712	9978837.237	781157.963	2817.433	TN
29713	9978831.289	781148.799	2808.555	TN
29714	9978834.256	781147.259	2807.930	TN
29715	9978840.718	781150.334	2815.513	TN
29716	9978834.533	781146.969	2807.575	TN
29717	9978844.002	781148.900	2814.111	TN
29718	9978840.551	781146.804	2812.295	TN
29719	9978852.867	781109.959	2827.096	TN
29720	9978857.253	781164.652	2826.569	TN
29721	9978857.279	781154.966	2822.165	TN
29722	9978849.872	781146.700	2816.852	TN
29723	9978861.695	781151.837	2818.148	TN
29724	9978855.882	781148.127	2816.271	TN
29725	9978854.148	781143.631	2814.967	TN
29726	9978859.562	781142.709	2811.729	TN
29727	9978861.590	781141.129	2808.533	FO

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29728	9978866.347	781159.715	2821.102	TN
29729	9978873.315	781154.978	2811.100	TN
29730	9978873.406	781155.111	2813.430	TN
29731	9978872.597	781156.006	2811.535	FQ
29732	9978591.653	781384.272	2596.957	TN
29733	9978862.088	781180.841	2832.118	TN
29734	9978868.210	781176.495	2829.973	TN
29735	9978857.670	781177.850	2828.666	TN
29736	9978871.284	781185.924	2832.784	TN
29737	9978865.987	781196.530	2831.864	TN
29738	9978873.437	781194.648	2837.033	TN
29739	9978859.893	781191.931	2827.051	TN
29740	9978862.043	781202.956	2831.196	TN
29741	9978872.993	781205.581	2839.838	TN
29742	9978866.724	781213.383	2839.287	TN
29743	9978857.034	781199.275	2827.750	TN
29744	9978845.512	781207.030	2830.491	TN
29745	9978856.272	781225.945	2839.027	TN
29746	9978844.117	781225.092	2835.241	TN
29747	9978845.991	781237.232	2838.967	TN
29748	9978836.506	781233.567	2834.405	TN
29749	9978839.156	781216.431	2831.771	TN
29750	9978841.688	781246.175	2835.640	TN
29751	9978816.903	781258.950	2840.659	TN
29752	9978828.391	781240.424	2832.615	TN
29753	9978834.013	781248.935	2837.251	TN
29754	9978831.307	781272.435	2841.161	TN
29755	9978820.307	781263.371	2833.719	TN
29756	9978834.059	781273.358	2842.945	TN
29757	9978833.541	781285.475	2843.879	TN
29758	9978819.621	781287.973	2837.271	TN
29759	9978827.984	781301.221	2843.283	TN
29760	9978816.177	781384.048	2835.116	TN
29761	9978822.858	781310.792	2844.040	TN
29762	9978819.626	781294.905	2838.399	TN
29763	9978816.595	781292.699	2836.501	TN
29764	9978823.357	781300.924	2841.342	TN
29765	9978813.531	781301.159	2836.318	TN
29766	9978572.049	781348.113	2675.809	BO
29767	9978575.834	781333.554	2670.695	TN
29768	9978577.744	781325.332	2669.209	TN
29769	9978582.837	781306.880	2668.413	TN
29770	9978582.846	781306.932	2668.384	TN
29771	9978587.157	781299.761	2667.382	TN
29772	9978597.926	781286.646	2665.951	TN
29773	9978605.637	781277.818	2666.834	TN
29774	9978604.765	781276.778	2653.705	TN
29775	9978597.031	781285.594	2652.985	TN
29776	9978587.096	781300.209	2653.054	TN
29777	9978581.115	781308.798	2654.646	TN
29778	9978581.664	781323.331	2651.851	TN
29779	9978581.463	781330.449	2651.619	TN
29780	9978619.246	781272.589	2634.204	TN
29781	9978600.850	781288.507	2632.794	TN
29782	9978616.253	781314.235	2619.679	TN
29783	9978585.938	781306.094	2634.461	TN
29784	9978588.900	781325.561	2631.677	TN
29785	9978586.247	781328.891	2629.137	TN
29786	9978586.225	781345.390	2630.174	TN
29787	9978592.182	781356.437	2628.518	TN
29788	9978583.030	781357.883	2649.158	TN
29789	9978585.803	781350.740	2641.648	TN
29790	9978587.803	781365.188	2639.753	TN
29791	9978587.249	781374.461	2641.502	TN
29792	9978588.438	781378.476	2634.309	TN
29793	9978585.643	781387.944	2628.867	TN
29794	9978598.567	781364.881	2621.090	TN
29795	9978596.216	781357.296	2619.400	TN
29796	9978595.674	781349.364	2617.127	TN
29797	9978594.629	781336.252	2614.095	TN
29798	9978594.006	781328.611	2617.252	TN
29799	9978599.184	781321.156	2607.107	TN
29800	9978599.316	781328.906	2607.889	TN
29801	9978600.674	781364.418	2607.563	TN
29802	9978599.093	781365.437	2614.132	TN
29803	9978593.755	781378.015	2618.751	TN
29804	9978591.590	781380.757	2612.070	TN
29805	9978589.960	781386.231	2605.590	TN
29806	9978590.147	781391.658	2605.741	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29807	9978500.814	781389.392	2610.633	TN
29808	9978501.830	781384.407	2614.032	TN
29809	9978592.005	781381.301	2617.718	TN
29810	9978590.975	781399.555	2604.389	TN
29811	9978591.624	781406.930	2608.907	TN
29812	9978589.625	781406.464	2617.030	TN
29813	9978589.555	781391.020	2616.821	TN
29814	9978656.530	781274.269	2610.532	TN
29815	9978653.021	781266.422	2611.113	PIE
29816	9978649.411	781278.721	2611.531	TN
29817	9978647.618	781267.947	2613.944	PIE
29818	9978643.084	781278.583	2615.024	TN
29819	9978642.040	781268.442	2617.779	PIE
29820	9978635.210	781285.179	2619.113	TN
29821	9978635.862	781272.719	2619.103	PIE
29822	9978627.693	781276.029	2622.719	PIE
29823	9978625.071	781287.178	2617.812	TN
29824	9978621.205	781282.313	2619.620	PIE
29825	9978622.226	781298.496	2614.586	TN
29826	9978606.112	781400.191	2592.810	TN
29827	9978612.055	781288.556	2620.047	PIE
29828	9978604.409	781295.431	2620.186	PIE
29829	9978596.151	781299.841	2623.244	PIE
29830	9978607.614	781302.208	2614.898	TN
29831	9978596.962	781305.748	2621.308	PIE
29832	9978599.766	781311.725	2614.915	PIE
29833	9978604.121	781311.481	2611.622	TN
29834	9978597.485	781321.124	2612.778	PIE
29835	9978595.456	781330.320	2611.400	PIE
29836	9978600.921	781329.115	2609.840	TN
29837	9978606.234	781324.770	2608.842	TN
29838	9978597.022	781317.216	2607.630	PIE
29839	9978608.787	781320.843	2607.635	TN
29840	9978599.901	781343.005	2605.091	PIE
29841	9978607.714	781410.170	2590.284	TN
29842	9978606.172	781339.483	2605.289	TN
29843	9978615.677	781318.382	2608.333	TN
29844	9978610.121	781333.075	2605.464	TN
29845	9978635.695	781322.115	2604.485	TN
29846	9978641.425	781318.516	2604.816	TN
29847	9978639.860	781309.672	2609.925	TN
29848	9978642.812	781307.034	2609.298	TN
29849	9978622.570	781316.789	2609.752	TN
29850	9978638.392	781330.077	2599.316	TN
29851	9978642.102	781328.283	2599.035	TN
29852	9978639.600	781322.778	2602.514	TN
29853	9978648.376	781309.316	2605.307	TN
29854	9978642.803	781306.565	2609.593	TN
29855	9978616.384	781328.461	2602.689	TN
29856	9978628.208	781310.852	2612.191	TN
29857	9978650.157	781326.926	2599.806	TN
29858	9978654.865	781321.977	2599.767	TN
29859	9978661.167	781312.179	2600.472	TN
29860	9978634.278	781303.343	2613.247	TN
29861	9978650.484	781328.817	2599.637	TN
29862	9978645.909	781330.816	2599.066	TN
29863	9978644.836	781332.593	2599.305	TN
29864	9978619.730	781327.224	2603.381	TN
29865	9978641.604	781295.981	2613.691	TN
29866	9978643.889	781320.992	2603.506	TN
29867	9978648.545	781309.148	2605.340	TN
29868	9978643.827	781301.393	2611.063	TN
29869	9978635.557	781315.063	2607.722	TN
29870	9978647.108	781310.649	2605.173	TN
29871	9978625.514	781323.149	2605.790	TN
29872	9978660.183	781288.714	2609.052	TN
29873	9978630.903	781317.907	2606.484	TN
29874	9978646.421	781303.025	2608.294	TN
29875	9978661.486	781280.461	2509.745	TN
29876	9978651.370	781300.081	2606.212	TN
29877	9978668.554	781286.845	2606.800	TN
29878	9978657.358	781293.769	2607.159	TN
29879	9978666.087	781292.307	2606.641	TN
29880	9978661.080	781292.555	2607.468	TN
29881	9978663.238	781298.272	2605.009	TN
29882	9978662.462	781304.252	2602.550	TN
29883	9978657.486	781307.547	2601.844	TN
29884	9978662.748	781314.935	2599.527	BO
29885	9978670.197	781318.574	2598.634	FQ

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29886	9978664.000	781315.073	2598.588	FQ
29887	9978673.736	781320.220	2598.731	PIE
29888	9978673.866	781312.923	2598.521	FQ
29889	9978676.552	781315.320	2599.183	PIE
29890	9978666.365	781308.318	2600.353	BO
29891	9978667.001	781308.697	2599.782	FQ
29892	9978675.628	781306.623	2600.270	FQ
29893	9978678.843	781307.668	2601.082	PIE
29894	9978670.149	781302.110	2600.945	BO
29895	9978670.329	781302.818	2600.500	FQ
29896	9978682.574	781301.747	2601.526	BO
29897	9978680.384	781300.967	2600.816	FQ
29898	9978674.142	781298.535	2601.580	BO
29899	9978682.277	781295.613	2601.135	FQ
29900	9978674.796	781299.309	2600.968	FQ
29901	9978683.732	781295.427	2601.544	BO
29902	9978676.857	781294.621	2601.596	BO
29903	9978677.601	781294.876	2601.104	FQ
29904	9978685.422	781290.136	2601.709	FQ
29905	9978686.962	781290.661	2601.802	BO
29906	9978675.956	781286.704	2602.323	BO
29907	9978676.578	781287.203	2601.753	FQ
29908	9978686.388	781281.890	2602.383	FQ
29909	9978687.671	781282.024	2602.703	BO
29910	9978681.799	781273.801	2603.099	FQ
29911	9978685.821	781273.552	2605.295	BO
29912	9978685.243	781269.017	2604.611	FO
29913	9978687.874	781269.799	2604.756	BO
29914	9978696.974	781265.324	2607.291	TN
29915	9978697.989	781273.781	2606.576	TN
29916	9978705.695	781258.125	2612.565	PIE
29917	9978699.733	781252.801	2611.112	PIE
29918	9978695.383	781249.113	2611.061	PIE
29919	9978694.063	781253.460	2608.997	TN
29920	9978699.709	781275.661	2606.900	TN
29921	9978694.005	781261.481	2606.671	TN
29922	9978698.081	781281.846	2604.983	TN
29923	9978708.507	781258.124	2613.735	PIE
29924	9978712.326	781261.088	2615.461	HE
29925	9978696.639	781288.670	2604.216	TN
29926	9978711.849	781266.448	2614.616	PIE
29927	9978715.230	781272.222	2612.979	PIE
29928	9978695.094	781294.224	2603.590	TN
29929	9978712.738	781277.788	2611.676	PIE
29930	9978692.199	781297.899	2602.721	TN
29931	9978709.783	781281.289	2610.483	PIE
29932	9978691.115	781302.316	2602.567	PIE
29933	9978706.754	781283.108	2607.405	PIE
29934	9978708.303	781269.741	2612.221	TN
29935	9978706.068	781266.834	2612.902	TN
29936	9978704.056	781287.360	2606.011	PIE
29937	9978696.791	781296.974	2603.589	PIE
29938	9978703.348	781262.111	2611.909	TN
29939	9978700.158	781261.468	2609.661	TN
29940	9978700.029	781292.882	2605.569	PIE
29941	9978699.992	781292.801	2604.571	PIE
29942	9978700.008	781270.772	2608.484	TN
29943	9978704.250	781272.367	2610.082	TN
29944	9978703.830	781278.276	2608.196	TN
29945	9978665.317	781302.865	2602.159	PIE
29946	9978678.243	781315.715	2606.921	PIE
29947	9978678.250	781315.750	2606.909	BO
29948	9978678.718	781319.852	2605.969	BO
29949	9978678.686	781327.844	2608.699	BO
29950	9978673.307	781331.351	2608.502	BO
29951	9978678.956	781335.229	2608.739	BO
29952	9978654.843	781339.109	2608.088	BO
29953	9978651.929	781341.870	2606.778	BO
29954	9978648.424	781349.890	2608.319	BO
29955	9978642.612	781352.536	2605.188	BO
29956	9978639.546	781350.748	2602.726	BO
29957	9978637.122	781349.317	2600.166	BO
29958	9978631.790	781349.675	2598.470	BO
29959	9978628.613	781350.865	2597.185	BO
29960	9978621.919	781357.299	2597.394	BO
29961	9978623.692	781349.129	2596.997	TN
29962	9978636.981	781349.134	2598.553	TN
29963	9978646.350	781348.882	2600.973	TN
29964	9978650.759	781342.543	2601.189	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
29965	9978652.597	781339.849	2601.944	TN
29966	9978657.859	781337.135	2602.927	TN
29967	9978661.628	781332.899	2603.097	TN
29968	9978665.881	781329.936	2603.662	TN
29969	9978673.998	781321.933	2601.238	TN
29970	9978675.189	781320.045	2599.382	PIE
29971	9978671.907	781326.346	2598.399	PIE
29972	9978664.301	781330.879	2597.565	PIE
29973	9978658.428	781336.227	2596.900	PIE
29974	9978653.371	781338.120	2596.921	PIE
29975	9978651.581	781341.699	2597.433	PIE
29976	9978653.490	781337.788	2596.491	PIE
29977	9978635.724	781345.930	2595.035	FQ
29978	9978639.251	781344.369	2595.367	FQ
29979	9978642.154	781343.319	2595.602	FQ
29980	9978646.029	781340.095	2596.121	FQ
29981	9978648.677	781339.264	2596.294	FQ
29982	9978655.410	781336.759	2596.782	FQ
29983	9978661.755	781331.432	2597.158	FQ
29984	9978666.589	781325.405	2597.789	FQ
29985	9978623.732	781265.602	2649.637	TN
29986	9978633.197	781260.515	2648.826	TN
29987	9978644.384	781258.635	2648.912	TN
29988	9978653.999	781255.964	2646.360	TN
29989	9978664.544	781250.403	2646.559	TN
29990	9978677.561	781248.420	2644.184	TN
29991	9978671.519	781252.567	2643.045	TN
29992	9978686.320	781247.762	2647.946	TN
29993	9978694.836	781247.533	2648.521	TN
29994	9978700.904	781247.844	2649.763	TN
29995	9978708.394	781250.482	2650.708	TN
29996	9978717.354	781259.382	2650.097	TN
29997	9978722.132	781264.581	2649.967	TN
29998	9978723.264	781271.492	2648.145	TN
29999	9978722.182	781281.790	2644.672	TN
30000	9978716.508	781292.403	2642.156	TN
30001	9978699.777	781309.872	2630.713	TN
30002	9978691.825	781316.437	2624.157	TN
30003	9978674.199	781325.255	2612.132	TN
30004	9978696.743	781313.253	2625.794	TN
30005	9978703.431	781303.366	2631.676	TN
30006	9978707.254	781299.923	2638.032	TN
30007	9978716.535	781282.225	2622.699	TN
30008	9978717.261	781273.497	2624.211	TN
30009	9978645.831	781334.474	2597.404	TN
30010	9978641.072	781335.781	2597.125	TN
30011	9978637.454	781336.555	2597.497	TN
30012	9978629.655	781337.450	2596.532	TN
30013	9978633.866	781332.132	2599.810	TN
30014	9978627.639	781331.748	2600.929	TN
30015	9978616.954	781336.646	2600.470	TN
30016	9978619.451	781338.181	2597.726	TN
30017	9978639.421	781337.102	2598.336	TN
30018	9978618.217	781330.690	2603.723	TN
30019	9978612.883	781338.245	2603.578	TN
30020	9978658.642	781327.523	2597.128	TN
30021	9978658.634	781327.527	2597.130	FQ
30022	9978657.795	781327.984	2597.414	TN
30023	9978654.199	781332.051	2596.720	BD
30024	9978654.852	781333.185	2595.070	FQ
30025	9978651.410	781335.554	2596.006	FQ
30026	9978651.153	781335.073	2596.176	BD
30027	9978651.106	781341.220	2596.555	PIE
30028	9978645.810	781338.740	2595.800	FQ
30029	9978645.413	781338.065	2596.252	BD
30030	9978649.257	781344.940	2597.081	PIE
30031	9978638.635	781340.715	2594.828	FQ
30032	9978645.001	781348.979	2596.774	PIE
30033	9978638.099	781339.598	2596.590	BD
30034	9978631.270	781344.427	2594.319	FQ
30035	9978639.274	781351.995	2596.357	PIE
30036	9978614.778	781406.784	2589.742	TN
30037	9978631.018	781343.679	2595.305	BD
30038	9978635.666	781347.686	2595.711	BD
30039	9978625.558	781348.184	2594.250	FQ
30040	9978625.295	781347.739	2595.523	BD
30041	9978617.616	781355.160	2592.636	FQ
30042	9978617.031	781354.584	2593.486	BD
30043	9978614.112	781355.386	2594.603	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30044	9978612.711	781355.389	2596.597	TN
30045	9978612.233	781358.806	2596.337	TN
30046	9978591.865	781382.694	2597.913	TN
30047	9978630.179	781349.996	2597.458	BD
30048	9978614.740	781361.827	2592.207	FQ
30049	9978626.917	781354.240	2597.988	BD
30050	9978613.419	781361.891	2592.900	BD
30051	9978609.757	781362.542	2593.558	PIE
30052	9978610.589	781360.174	2593.382	PIE
30053	9978601.673	781371.667	2595.759	PIE
30054	9978595.983	781376.385	2594.224	PIE
30055	9978594.405	781382.535	2594.138	PIE
30056	9978607.783	781400.249	2592.180	TN
30057	9978602.071	781397.461	2593.603	TN
30058	9978604.253	781401.062	2594.135	TN
30059	9978600.882	781389.212	2593.171	TN
30060	9978601.518	781398.648	2594.425	TN
30061	9978605.514	781377.269	2596.180	TN
30062	9978608.227	781392.777	2591.768	TN
30063	9978607.905	781401.751	2592.109	TN
30064	9978601.466	781376.732	2595.244	TN
30065	9978589.246	781396.925	2616.529	TN
30066	9978589.891	781404.957	2617.916	TN
30067	9978571.897	781459.784	2603.461	TN
30068	9978566.781	781463.252	2616.650	TN
30069	9978569.778	781463.944	2626.496	BD
30070	9978571.611	781463.880	2633.022	BD
30071	9978576.188	781464.694	2638.907	BD
30072	9978583.287	781464.304	2636.134	BD
30073	9978585.072	781463.326	2634.666	BD
30074	9978589.101	781463.887	2640.076	BD
30075	9978591.626	781464.913	2644.745	BD
30076	9978595.172	781463.016	2648.489	BD
30077	9978600.147	781450.779	2643.279	BD
30078	9978603.031	781462.915	2647.517	BD
30079	9978614.946	781460.264	2647.910	BD
30080	9978624.399	781451.812	2648.273	BD
30081	9978631.802	781448.509	2645.830	BD
30082	9978634.376	781441.890	2640.942	BD
30083	9978640.899	781435.738	2643.701	BD
30084	9978644.065	781429.236	2640.737	BD
30085	9978647.637	781423.288	2641.778	BD
30086	9978651.428	781416.317	2643.119	BD
30087	9978654.570	781410.995	2638.059	BD
30088	9978654.296	781410.488	2631.014	BD
30089	9978653.346	781406.980	2621.842	BD
30090	9978651.506	781417.363	2632.863	BD
30091	9978570.309	781432.182	2589.292	TN
30092	9978566.260	781431.099	2591.456	TN
30093	9978566.036	781431.933	2595.176	TN
30094	9978568.537	781431.949	2597.991	TN
30095	9978571.293	781432.153	2595.574	TN
30096	9978634.970	781438.652	2629.619	TOP
30097	9978619.441	781445.237	2614.922	TN
30098	9978631.007	781438.504	2616.041	TN
30099	9978640.391	781435.097	2629.244	TN
30100	9978640.23	781432.389	2614.110	TN
30101	9978642.621	781426.294	2606.636	TN
30102	9978633.021	781436.267	2606.154	TN
30103	9978628.255	781438.404	2615.147	TN
30104	9978632.316	781439.127	2623.842	TN
30105	9978628.354	781439.668	2631.689	TN
30106	9978624.063	781427.325	2634.492	TN
30107	9978635.597	781428.520	2626.485	TN
30108	9978646.656	781426.492	2619.439	TN
30109	9978651.712	781416.408	2629.369	TN
30110	9978629.387	781364.877	2605.304	TN
30111	9978638.208	781420.643	2598.575	TN
30112	9978632.650	781433.209	2602.483	TN
30113	9978624.770	781440.188	2605.311	TN
30114	9978616.129	781448.859	2607.259	TN
30115	9978606.744	781447.159	2602.827	TN
30116	9978598.441	781446.903	2600.948	TN
30117	9978602.321	781448.626	2611.551	TN
30118	9978607.400	781446.463	2611.275	TN
30119	9978614.456	781446.781	2616.751	TN
30120	9978624.052	781441.541	2616.626	TN
30121	9978630.557	781437.793	2612.713	TN
30122	9978627.683	781442.131	2625.287	TN



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO-NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30123	9978618.871	781446.831	2624.325	TN
30124	9978624.890	781441.436	2619.312	TN
30125	9978621.969	781449.181	2637.212	TOP
30126	9978610.969	781453.136	2633.118	TN
30127	9978601.789	781458.693	2638.364	TN
30128	9978594.168	781460.841	2637.104	TN
30129	9978585.145	781463.386	2632.064	TN
30130	9978572.068	781463.798	2623.980	TN
30131	9978579.450	781461.521	2619.755	TN
30132	9978571.904	781463.042	2617.915	TN
30133	9978585.674	781462.420	2629.477	TN
30134	9978587.918	781461.653	2620.743	TN
30135	9978599.533	781453.353	2618.698	TN
30136	9978593.766	781450.630	2612.006	TN
30137	9978601.498	781453.072	2621.583	TN
30138	9978611.263	781447.995	2620.511	TN
30139	9978607.154	781452.004	2626.481	TN
30140	9978595.749	781461.266	2628.547	TN
30141	9978622.157	781443.470	2614.035	TN
30142	9978622.169	781443.732	2623.581	TN
30143	9978622.019	781445.683	2634.483	TN
30144	9978610.867	781453.128	2632.882	TN
30145	9978620.907	781459.019	2634.159	TN
30146	9978632.336	781439.959	2634.467	TN
30147	9978620.474	781449.958	2636.346	TN
30148	9978640.153	781435.199	2631.617	TN
30149	9978581.913	781455.264	2601.155	TN
30150	9978573.353	781459.743	2607.399	TN
30151	9978575.616	781460.801	2613.976	TN
30152	9978584.609	781455.514	2605.042	TN
30153	9978595.250	781452.918	2616.226	TN
30154	9978603.078	781447.254	2592.062	TN
30155	9978611.818	781447.183	2601.908	TN
30156	9978605.917	781446.353	2590.808	TN
30157	9978625.667	781439.398	2595.847	TN
30158	9978631.210	781432.966	2600.643	TN
30159	9978633.094	781423.386	2594.353	TN
30160	9978629.760	781426.220	2588.892	TN
30161	9978633.781	781416.519	2590.689	TN
30162	9978629.631	781438.025	2611.926	TN
30163	9978634.576	781434.878	2605.181	TN
30164	9978640.034	781434.584	2619.663	TN
30165	9978628.966	781365.817	2604.604	TN
30166	9978641.961	781423.587	2603.695	TN
30167	9978617.005	781402.864	2589.067	TN
30168	9978618.327	781441.205	2584.027	BD
30169	9978618.590	781440.409	2583.586	FQ
30170	9978618.041	781442.026	2584.481	PIE
30171	9978616.982	781424.420	2588.585	AUX PC-5
30172	9978623.719	781439.727	2585.026	PIE
30173	9978623.690	781437.996	2584.580	BD
30174	9978623.422	781437.818	2583.868	FQ
30175	9978614.885	781434.829	2584.693	AUX PC-6
30176	9978629.221	781428.508	2585.658	PIE
30177	9978628.411	781428.661	2585.525	BD
30178	9978627.788	781428.773	2584.569	FQ
30179	9978621.128	781419.347	2585.540	FQ
30180	9978623.969	781419.033	2585.836	BD
30181	9978629.778	781420.123	2587.200	PIE
30182	9978633.152	781413.054	2589.489	PIE
30183	9978627.209	781411.319	2586.584	BD
30184	9978626.626	781410.976	2585.901	FQ
30185	9978633.001	781405.259	2591.591	TN
30186	9978636.870	781407.128	2595.116	TN
30187	9978641.246	781408.146	2599.424	TN
30188	9978641.699	781393.537	2601.375	TN
30189	9978643.242	781387.081	2606.755	TN
30190	9978639.992	781390.621	2606.234	TN
30191	9978635.340	781376.416	2603.879	TN
30192	9978631.747	781374.173	2602.529	TN
30193	9978628.845	781373.673	2598.924	Th
30194	9978624.827	781370.694	2597.224	TN
30195	9978626.370	781372.386	2595.989	TN
30196	9978631.547	781374.026	2598.087	TN
30197	9978635.658	781377.272	2596.780	TN
30198	9978638.339	781382.286	2595.540	TN
30199	9978640.351	781394.435	2592.400	TN
30200	9978642.530	781390.478	2600.497	TN
30201	9978640.481	781383.132	2600.353	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30202	9978611.850	781381.433	2593.119	TN
30203	9978637.802	781390.997	2591.527	TN
30204	9978628.018	781379.481	2591.754	TN
30205	9978633.605	781385.440	2591.665	TN
30206	9978623.378	781394.567	2589.743	TN
30207	9978616.770	781394.670	2589.781	TN
30208	9978612.109	781398.804	2590.261	TN
30209	9978608.321	781405.366	2590.441	TN
30210	9978604.745	781406.713	2592.165	TN
30211	9978608.972	781418.245	2590.236	TN
30212	9978605.808	781420.856	2590.919	TN
30213	9978605.315	781422.838	2592.774	TN
30214	9978599.066	781426.150	2591.254	TN
30215	9978590.756	781430.528	2585.979	PIE
30216	9978596.725	781426.935	2586.701	PIE
30217	9978601.795	781423.532	2586.535	PIE
30218	9978607.908	781421.092	2587.363	PIE
30219	9978609.075	781417.756	2588.271	PIE
30220	9978625.117	781380.533	2588.681	BD
30221	9978625.103	781380.609	2587.571	FQ
30222	9978616.540	781444.041	2592.061	TN
30223	9978604.796	781447.453	2590.028	TN
30224	9978593.286	781445.066	2590.771	TN
30225	9978576.355	781449.404	2589.257	TN
30226	9978555.080	781453.876	2588.838	TN
30227	9978574.915	781451.209	2594.374	TN
30228	9978553.921	781456.624	2592.852	TN
30229	9978529.060	781453.403	2582.988	TN
30230	9978531.903	781453.687	2588.872	TN
30231	9978532.090	781453.659	2591.934	TN
30232	9978531.461	781456.723	2597.312	TN
30233	9978517.156	781386.289	2588.111	BD
30234	9978626.962	781386.668	2587.231	FQ
30235	9978636.654	781394.424	2586.335	BD
30236	9978635.877	781395.063	2585.960	FQ
30237	9978614.588	781401.170	2586.657	BD
30238	9978614.251	781401.070	2588.091	FQ
30239	9978597.682	781432.847	2581.630	FQ
30240	9978607.050	781440.207	2583.051	FQ
30241	9978597.854	781432.398	2582.450	BD
30242	9978608.147	781440.359	2584.084	BD
30243	9978588.429	781434.368	2581.291	FQ
30244	9978600.295	781442.506	2582.975	BD
30245	9978600.878	781442.064	2582.299	FQ
30246	9978588.437	781433.577	2581.559	BD
30247	9978593.817	781438.565	2582.107	BD
30248	9978593.949	781438.040	2581.182	FCI
30249	9978555.289	781428.749	2586.965	TN
30250	9978578.739	781437.955	2580.422	FQ
30251	9978587.009	781441.291	2581.334	BD
30252	9978579.000	781437.382	2580.725	BD
30253	9978585.490	781440.687	2580.743	FQ
30254	9978574.466	781441.336	2579.252	FQ
30255	9978574.740	781440.914	2579.299	BD
30256	9978581.613	781446.476	2580.566	BD
30257	9978581.560	781446.019	2579.701	FQ
30258	9978580.244	781445.151	2579.098	BD
30259	9978570.476	781445.792	2578.732	FQ
30260	9978573.476	781447.895	2579.404	BD
30261	9978573.587	781447.174	2578.764	FQ
30262	9978562.814	781445.957	2578.732	BD
30263	9978562.818	781446.602	2578.432	FQ
30264	9978560.436	781441.509	2579.172	PIE
30265	9978561.176	781449.121	2578.858	BD
30266	9978561.465	781448.572	2578.362	FQ
30267	9978561.582	781449.731	2579.214	PIE
30268	9978566.251	781440.317	2579.284	PIE
30269	9978553.661	781450.774	2579.231	PIE
30270	9978552.817	781442.588	2578.804	PIE
30271	9978553.568	781448.720	2578.593	BD
30272	9978552.588	781443.811	2578.961	BD
30273	9978553.462	781447.825	2577.936	FQ
30274	9978551.597	781445.039	2578.108	FQ
30275	9978547.469	781451.915	2578.973	PIE
30276	9978548.058	781447.762	2578.090	FQ
30277	9978547.965	781449.196	2578.493	BD
30278	9978512.418	781454.626	2577.396	AUX PC 7
30279	9978526.413	781454.015	2577.801	PIE
30280	9978530.890	781453.051	2578.051	PIE





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30281	9978538.348	781452.742	2578.329	PE
30282	9978550.878	781430.001	2594.151	TN
30283	9978545.174	781441.958	2581.222	TN
30284	9978543.088	781440.327	2585.392	TN
30285	9978546.579	781442.361	2583.880	TN
30286	9978539.691	781441.756	2582.628	TN
30287	9978538.458	781438.787	2587.206	TN
30288	9978527.666	781442.867	2581.088	TN
30289	9978525.603	781440.026	2584.303	TN
30290	9978526.158	781436.714	2586.349	TN
30291	9978525.942	781434.693	2589.024	TN
30292	9978499.134	781454.135	2579.399	TN
30293	9978499.895	781453.975	2584.397	TN
30294	9978498.397	781453.616	2588.388	TN
30295	9978496.251	781453.050	2582.955	TN
30296	9978498.190	781451.120	2599.917	TN
30297	9978502.010	781443.494	2599.134	TN
30298	9978504.143	781442.567	2592.624	TN
30299	9978501.888	781447.787	2592.595	TN
30300	9978504.812	781436.388	2595.196	TN
30301	9978504.596	781436.444	2598.931	TN
30302	9978508.642	781432.480	2595.733	TN
30303	9978506.466	781445.106	2585.363	TN
30304	9978505.682	781449.081	2581.486	TN
30305	9978522.324	781445.891	2578.524	TN
30306	9978519.055	781445.753	2580.499	TN
30307	9978524.198	781440.450	2583.380	TN
30308	9978517.510	781424.902	2601.446	TN
30309	9978499.011	781424.337	2608.224	TN
30310	9978528.058	781422.126	2608.631	TN
30311	9978532.918	781430.825	2598.099	TN
30312	9978525.446	781431.255	2592.955	TN
30313	9978525.173	781447.588	2575.852	FO
30314	9978516.587	781447.666	2575.173	FO
30315	9978531.655	781446.320	2576.060	FO
30316	9978537.937	781444.546	2576.348	FO
30317	9978540.663	781444.495	2576.995	FO
30318	9978544.263	781444.967	2576.497	FO
30319	9978547.937	781444.702	2576.722	FO
30320	9978551.506	781444.638	2576.701	FO
30321	9978549.654	781443.299	2577.167	FO
30322	9978544.860	781441.150	2577.949	BD
30323	9978538.982	781444.406	2577.314	BD
30324	9978531.738	781444.680	2577.261	BD
30325	9978523.057	781446.366	2576.943	BD
30326	9978506.097	781449.236	2574.899	FO
30327	9978506.296	781449.241	2575.275	FO
30328	9978511.024	781451.893	2576.454	FO
30329	9978511.313	781452.981	2576.760	BD
30330	9978519.054	781453.029	2577.516	BD
30331	9978523.783	781443.806	2579.060	TN
30332	9978519.255	781450.973	2575.644	TN
30333	9978527.438	781450.273	2577.245	FD
30334	9978528.132	781452.457	2577.733	BD
30335	9978536.556	781450.856	2578.075	BD
30336	9978536.599	781448.363	2577.797	FO
30337	9978545.392	781447.904	2578.038	FO
30338	9978545.814	781449.743	2578.610	BD
30339	9978497.613	781454.491	2584.961	BD
30340	9978516.298	781442.355	2579.429	TN
30341	9978767.910	782505.700	2721.969	TN
30342	9978512.638	781448.611	2573.535	FO
30343	9978503.976	781451.403	2575.272	FO
30344	9978498.588	781450.611	2599.334	BD
30345	9978494.381	781439.756	2612.620	BD
30346	9978497.927	781427.292	2621.969	BD
30347	9978493.248	781415.959	2630.373	BD
30348	9978488.530	781408.267	2635.336	BD
30349	9978505.159	781414.062	2624.089	BD
30350	9978516.132	781415.850	2628.723	BD
30351	9978534.701	781421.071	2610.437	BD
30352	9978497.307	781467.109	2575.814	AUX PC B
30353	9978526.698	781457.866	2585.456	BD
30354	9978524.521	781460.520	2597.372	BD
30355	9978523.353	781463.442	2598.159	BD
30356	9978520.817	781467.228	2594.418	BD
30357	9978523.999	781481.903	2607.251	BD
30358	9978520.586	781492.656	2618.286	BD
30359	9978513.795	781499.710	2624.519	BD

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30360	9978501.870	781515.269	2633.120	BD
30361	9978496.129	781514.239	2626.701	BD
30362	9978483.594	781531.214	2634.290	BD
30363	9978479.111	781527.620	2627.206	BD
30364	9978467.554	781526.474	2620.956	BD
30365	9978461.911	781525.741	2611.720	BD
30366	9978458.074	781527.588	2609.997	BD
30367	9978450.376	781530.104	2606.702	BD
30368	9978444.347	781531.121	2602.359	BD
30369	9978435.703	781533.910	2599.875	BD
30370	9978431.211	781534.425	2590.625	BD
30371	9978429.213	781534.958	2589.428	BD
30372	9978434.475	781533.875	2589.014	TN
30373	9978432.826	781534.258	2587.885	TN
30374	9978439.690	781536.322	2583.576	TN
30375	9978447.857	781529.338	2590.710	TN
30376	9978438.612	781534.979	2599.639	TN
30377	9978449.563	781530.701	2597.654	TN
30378	9978450.344	781530.044	2602.466	TN
30379	9978460.102	781525.640	2607.268	TN
30380	9978461.277	781517.889	2605.835	TN
30381	9978470.958	781517.040	2604.433	TN
30382	9978480.508	781515.171	2585.784	TN
30383	9978495.063	781506.187	2588.411	TN
30384	9978502.248	781502.817	2589.059	TN
30385	9978507.728	781498.336	2590.833	TN
30386	9978511.958	781495.318	2590.634	TN
30387	9978515.024	781495.087	2595.934	TN
30388	9978506.899	781501.157	2596.707	TN
30389	9978504.036	781501.765	2593.288	TN
30390	9978498.818	781506.369	2597.754	TN
30391	9978492.840	781510.877	2595.129	TN
30392	9978491.618	781515.461	2601.878	TN
30393	9978484.253	781518.563	2602.028	TN
30394	9978460.644	781525.484	2607.929	TN
30395	9978470.483	781525.439	2619.798	TN
30396	9978475.764	781524.826	2618.249	TN
30397	9978488.574	781520.323	2616.181	TN
30398	9978501.086	781508.794	2611.784	TN
30399	9978511.110	781502.260	2610.622	TN
30400	9978517.528	781495.376	2609.704	TN
30401	9978521.072	781492.959	2610.470	TN
30402	9978520.756	781495.637	2619.045	TN
30403	9978515.749	781499.988	2622.479	TN
30404	9978511.721	781501.042	2620.660	TN
30405	9978504.622	781510.114	2625.187	TN
30406	9978496.541	781512.599	2623.365	TN
30407	9978484.676	781531.181	2634.548	TN
30408	9978518.899	781498.576	2617.903	TN
30409	9978520.703	781464.965	2586.594	TN
30410	9978525.184	781457.914	2581.744	TN
30411	9978525.371	781454.952	2582.162	TN
30412	9978530.040	781454.337	2587.148	TN
30413	9978528.623	781454.566	2592.223	TN
30414	9978526.921	781457.988	2591.662	TN
30415	9978526.008	781464.298	2587.253	TN
30416	9978524.228	781461.870	2596.599	TN
30417	9978519.179	781466.383	2590.505	TN
30418	9978520.655	781478.517	2594.530	TN
30419	9978522.035	781489.528	2608.533	TN
30420	9978519.826	781473.760	2590.576	TN
30421	9978520.958	781452.684	2576.840	FO
30422	9978520.044	781455.993	2576.020	FO
30423	9978497.011	781455.833	2579.849	TN
30424	9978491.155	781459.197	2580.049	TN
30425	9978488.220	781465.261	2589.306	BD
30426	9978490.399	781462.231	2591.431	BD
30427	9978496.683	781457.209	2591.493	BD
30428	9978491.370	781461.047	2591.790	BD
30429	9978491.597	781462.072	2581.236	TN
30430	9978486.272	781467.330	2583.279	TN
30431	9978488.628	781464.325	2587.119	TN
30432	9978495.362	781458.560	2584.842	TN
30433	9978496.268	781457.681	2587.545	TN
30434	9978489.156	781463.500	2587.786	TN
30435	9978514.960	781430.117	2591.130	TN
30436	9978522.083	781425.754	2597.816	TN
30437	9978522.455	781424.419	2604.100	TN
30438	9978519.359	781434.537	2613.778	TN



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30439	9978511.773	781427.210	2598.532	TN
30440	9978511.446	781436.190	2586.919	TN
30441	9978521.965	781430.866	2590.591	TN
30442	9978513.161	781443.225	2580.163	TN
30443	9978511.780	781427.689	2597.719	TN
30444	9978508.537	781431.923	2595.917	TN
30445	9978506.607	781434.159	2597.591	TN
30446	9978537.531	781439.918	2586.226	TN
30447	9978543.790	781420.398	2608.984	BD
30448	9978564.684	781425.198	2609.489	BD
30449	9978569.915	781430.767	2605.300	BD
30450	9978521.626	781458.408	2578.802	PIE
30451	9978517.803	781460.254	2579.212	PIE
30452	9978519.378	781463.080	2581.605	PIE
30453	9978508.227	781465.805	2578.826	TN
30454	9978503.468	781466.984	2576.441	TN
30455	9978517.253	781467.082	2580.330	PIE
30456	9978508.882	781471.629	2579.405	TN
30457	9978504.490	781469.859	2575.705	TN
30458	9978494.150	781497.549	2572.210	FQ
30459	9978496.824	781489.828	2572.741	FQ
30460	9978499.109	781486.997	2573.012	FQ
30461	9978498.811	781471.598	2574.602	FQ
30462	9978495.950	781468.638	2575.162	FQ
30463	9978497.125	781484.104	2573.216	FQ
30464	9978495.803	781477.278	2574.230	FQ
30465	9978494.656	781473.108	2574.495	FQ
30466	9978491.085	781469.028	2575.197	FQ
30467	9978492.349	781465.744	2575.569	FQ
30468	9978492.715	781461.929	2575.555	FQ
30469	9978494.885	781457.944	2575.896	FQ
30470	9978494.667	781464.264	2575.793	FQ
30471	9978496.858	781460.688	2575.797	FQ
30472	9978498.011	781459.688	2576.624	FQ
30473	9978499.428	781458.782	2576.273	FQ
30474	9978502.637	781451.252	2576.040	FQ
30475	9978522.717	781484.395	2602.476	TN
30476	9978517.544	781483.179	2588.125	TN
30477	9978518.719	781472.146	2584.670	PIE
30478	9978508.061	781478.906	2577.324	TN
30479	9978516.151	781485.818	2588.724	TN
30480	9978516.988	781478.388	2583.842	PIE
30481	9978514.068	781476.937	2582.683	PIE
30482	9978506.583	781484.276	2578.970	TN
30483	9978503.584	781490.710	2579.023	TN
30484	9978502.539	781497.062	2576.953	PIE
30485	9978515.879	781483.698	2582.989	PIE
30486	9978496.780	781504.576	2575.721	PIE
30487	9978490.913	781509.775	2572.690	PIE
30488	9978513.499	781486.627	2583.161	PIE
30489	9978511.456	781491.785	2583.184	PIE
30490	9978497.271	781495.444	2573.692	BD
30491	9978500.300	781488.261	2574.579	BD
30492	9978501.914	781480.441	2574.494	BD
30493	9978500.662	781471.667	2575.850	BD
30494	9978499.128	781464.054	2575.820	BD
30495	9978502.877	781457.761	2576.931	BD
30496	9978491.181	781465.310	2576.071	BD
30497	9978492.424	781470.890	2576.159	BD
30498	9978493.955	781476.636	2574.862	BD
30499	9978495.221	781477.919	2574.979	BD
30500	9978508.401	781494.350	2582.277	PIE
30501	9978506.400	781490.274	2580.629	AUX PC 9
30502	9978499.848	781513.615	2574.010	AUX PC 10
30503	9978488.948	781468.603	2576.225	PIE
30504	9978777.009	782714.645	2668.821	TN
30505	9978758.545	782698.379	2667.385	CASA
30506	9978769.832	782722.990	2662.118	PIE
30507	9978777.007	782714.564	2670.113	TN
30508	9978764.608	782716.187	2662.892	PIE
30509	9978771.082	782694.088	2667.384	CASA
30510	9978942.650	780631.937	2767.047	VIA C
30511	9978483.231	781471.841	2577.648	PIE
30512	9978490.242	781482.464	2573.830	TN
30513	9978495.792	781485.515	2572.862	FQ
30514	9978491.199	781488.687	2572.355	FQ
30515	9978487.265	781493.469	2572.464	FQ
30516	9978483.257	781496.717	2571.784	FQ
30517	9978480.136	781501.895	2571.023	FQ

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30518	9978478.378	781503.811	2570.713	FQ
30519	9978473.988	781507.771	2569.747	FQ
30520	9978470.192	781509.151	2569.579	FQ
30521	9978485.402	781477.837	2576.040	TN
30522	9978478.162	781470.179	2580.908	PIE
30523	9978473.693	781511.203	2569.573	FQ
30524	9978477.599	781510.906	2569.826	FQ
30525	9978480.755	781510.217	2569.829	FQ
30526	9978485.282	781505.088	2571.300	FQ
30527	9978480.346	781480.837	2574.358	TN
30528	9978474.297	781470.773	2579.738	PIE
30529	9978475.907	781484.267	2574.792	TN
30530	9978468.774	781472.000	2580.558	PIE
30531	9978470.614	781486.888	2576.727	TN
30532	9978462.506	781470.572	2582.696	PIE
30533	9978358.789	781533.732	2578.280	AUX PC 11
30534	9978455.884	781469.039	2581.941	PIE
30535	9978465.828	781489.611	2575.703	TN
30536	9978451.593	781472.491	2578.450	PIE
30537	9978446.587	781478.056	2577.005	PIE
30538	9978457.545	781492.055	2574.892	TN
30539	9978487.447	781466.294	2588.728	BD
30540	9978491.309	781460.969	2591.431	BD
30541	9978485.635	781469.042	2585.803	BD
30542	9978477.721	781468.617	2587.144	BD
30543	9978474.725	781470.142	2590.239	BD
30544	9978469.347	781469.155	2590.525	BD
30545	9978455.469	781483.489	2588.237	BD
30546	9978451.031	781466.676	2588.971	BD
30547	9978436.689	781473.585	2601.909	BD
30548	9978446.449	781470.803	2602.130	BD
30549	9978437.177	781482.370	2601.478	BD
30550	9978430.567	781489.226	2600.689	BD
30551	9978426.092	781494.421	2597.637	BD
30552	9978423.228	781499.486	2592.370	BD
30553	9978421.825	781501.823	2588.159	BD
30554	9978419.724	781505.221	2584.627	BD
30555	9978411.927	781508.557	2583.950	BD
30556	9978463.251	781509.787	2569.094	FQ
30557	9978443.891	781482.734	2574.550	PIE
30558	9978471.111	781510.997	2568.913	FQ
30559	9978451.732	781493.522	2573.809	TN
30560	9978476.306	781512.794	2569.721	PIE
30561	9978434.908	781491.574	2573.488	PIE
30562	9978484.075	781511.384	2570.798	PIE
30563	9978478.702	781499.449	2571.752	TN
30564	9978446.991	781493.893	2574.087	TN
30565	9978469.667	781499.396	2573.585	TN
30566	9978429.811	781496.487	2571.264	PIE
30567	9978465.483	781499.760	2574.342	TN
30568	9978426.697	781494.514	2595.846	TN
30569	9978433.314	781487.242	2595.753	TN
30570	9978441.289	781480.528	2593.295	TN
30571	9978448.284	781470.793	2591.294	TN
30572	9978473.405	781468.479	2586.593	TN
30573	9978469.690	781468.742	2584.108	TN
30574	9978482.466	781468.739	2582.080	TN
30575	9978472.725	781468.499	2584.449	TN
30576	9978469.670	781469.554	2586.010	TN
30577	9978450.600	781465.038	2589.023	TN
30578	9978446.698	781471.489	2586.397	TN
30579	9978438.591	7814501.202	2573.786	TN
30580	9978438.522	781456.769	2573.413	TN
30581	9978437.693	781495.556	2575.043	TN
30582	9978438.417	781482.284	2589.269	TN
30583	9978430.153	781489.155	2587.342	TN
30584	9978423.939	781498.104	2583.921	TN
30585	9978413.497	781509.165	2580.398	TN
30586	9978422.173	781501.522	2574.600	TN
30587	9978426.435	781495.805	2578.707	TN
30588	9978411.455	781488.164	2583.718	TN
30589	9978441.404	781480.087	2582.553	TN
30590	9978449.527	781482.096	2578.035	TN
30591	9978465.357	781507.307	2569.558	BD
30592	9978458.198	781511.213	2569.233	FQ
30593	9978458.295	781481.897	2579.252	TN
30594	9978473.284	781507.871	2569.738	BD
30595	9978468.493	781511.908	2570.180	PIE
30596	9978476.589	781504.212	2571.317	PIE



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30597	9978476.589	781504.211	2571.316	BD
30598	9978479.113	781499.872	2571.497	BD
30599	9978483.715	781495.171	2572.471	BD
30600	9978488.666	781488.030	2573.441	BD
30601	9978470.717	781512.196	2570.070	PIE
30602	9978494.218	781483.829	2574.039	BD
30603	9978499.721	781493.621	2576.625	BD
30604	9978499.503	781495.052	2577.815	BD
30605	9978494.067	781501.082	2575.398	BD
30606	9978482.197	781510.890	2571.980	BD
30607	9978463.608	781484.054	2578.079	TN
30608	9978467.906	781481.940	2577.823	TN
30609	9978472.052	781478.992	2579.442	TN
30610	9978482.418	781477.642	2575.746	TN
30611	9978417.633	781507.141	2570.560	TN
30612	9978421.677	781502.218	2571.480	TN
30613	9978425.261	781496.973	2573.727	TN
30614	9978430.163	781490.175	2576.695	TN
30615	9978435.360	781487.203	2574.226	TN
30616	9978430.194	781495.143	2572.621	TN
30617	9978441.896	781497.287	2570.560	TN
30618	9978443.410	781490.800	2575.157	TN
30619	9978440.468	781489.735	2574.236	TN
30620	9978456.231	781489.990	2574.907	TN
30621	9978453.804	781489.967	2576.146	TN
30622	9978456.677	781505.585	2569.076	PIE
30623	9978452.890	781510.028	2569.015	PIE
30624	9978452.738	781509.426	2568.974	BD
30625	9978450.471	781504.225	2568.472	FQ
30626	9978448.751	781512.202	2568.288	BD
30627	9978449.134	781512.816	2568.903	PIE
30628	9978442.926	781510.553	2568.758	BD
30629	9978452.134	781507.807	2568.744	FQ
30630	9978443.102	781510.516	2567.751	FQ
30631	9978448.987	781505.627	2567.987	FQ
30632	9978436.526	781507.544	2567.430	FQ
30633	9978440.007	781503.618	2567.480	FQ
30634	9978436.719	781508.928	2567.841	BD
30635	9978431.280	781506.615	2567.410	BD
30636	9978439.294	781504.243	2567.169	FQ
30637	9978431.430	781505.992	2566.736	FQ
30638	9978425.437	781505.038	2566.411	FQ
30639	9978430.707	781502.484	2567.209	FQ
30640	9978425.476	781505.390	2567.469	BD
30641	9978430.549	781503.350	2566.819	FQ
30642	9978418.584	781509.226	2567.035	BD
30643	9978424.871	781502.440	2566.997	BD
30644	9978425.098	781502.758	2566.506	FQ
30645	9978418.021	781508.703	2566.447	FQ
30646	9978434.712	781510.584	2568.445	TN
30649	9978412.917	781520.834	2565.765	FQ
30650	9978428.680	781513.518	2568.396	TN
30651	9978413.681	781520.498	2566.154	BD
30652	9978418.377	781504.131	2567.185	PIE
30653	9978418.470	781504.184	2566.579	FQ
30654	9978420.418	781517.751	2567.519	TN
30655	9978413.624	781510.123	2565.686	BD
30656	9978414.046	781510.674	2565.219	FQ
30657	9978409.508	781515.302	2565.516	BD
30658	9978410.460	781515.245	2565.702	FQ
30659	9978984.501	780818.102	2707.161	FQ
30660	9978978.652	780825.248	2707.002	FQ
30661	9978429.682	781501.698	2567.643	BD
30662	9978434.393	781502.047	2568.544	BD
30663	9978441.074	781502.923	2569.398	BD
30664	9978446.359	781504.125	2569.493	BD
30665	9978452.130	781503.681	2570.140	BD
30666	9978436.256	781504.708	2570.685	BD
30667	9978460.157	781505.865	2570.523	BD
30668	9978452.951	781508.504	2569.102	FQ
30669	9978499.880	781514.628	2575.727	TN
30670	9978424.463	781529.516	2572.701	TN
30671	9978423.650	781520.306	2570.970	TN
30672	9978426.483	781535.449	2574.327	PIE
30673	9978427.470	781517.185	2571.467	TN
30674	9978431.580	781515.902	2572.027	TN
30675	9978431.426	781519.481	2573.525	TN
30676	9978434.451	781522.645	2575.107	TN
30677	9978437.065	781528.178	2577.325	PIE

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30678	9978445.351	781528.673	2581.382	PIE
30679	9978439.991	781521.646	2577.304	TN
30680	9978444.013	781520.763	2579.761	TN
30681	9978449.915	781526.603	2585.807	PIE
30682	9978446.956	781522.620	2581.566	TN
30683	9978446.699	781523.197	2582.876	PIE
30684	9978409.899	781508.914	2585.847	BD
30685	9978409.915	781504.648	2589.073	BD
30686	9978406.125	781500.095	2591.700	BD
30688	9978391.400	781495.718	2604.345	BD
30689	9978376.453	781492.687	2605.528	BD
30690	9978368.795	781490.819	2607.146	BD
30691	9978358.115	781490.519	2607.949	BD
30692	9978346.226	781491.808	2608.297	BD
30693	9978338.898	781499.920	2605.309	BD
30694	9978331.591	781505.176	2601.670	BD
30695	9978330.365	781512.540	2594.693	BD
30696	9978329.842	781517.039	2588.689	BD
30697	9978330.490	781521.918	2584.385	BD
30698	9978333.671	781531.026	2574.965	BD
30699	9978334.198	781535.702	2571.990	BD
30700	9978336.246	781531.389	2568.986	TN
30701	9978334.003	781525.418	2574.233	TN
30702	9978331.700	781520.450	2576.768	TN
30703	9978330.514	781516.524	2581.462	TN
30704	9978330.380	781513.880	2585.613	TN
30705	9978330.821	781509.542	2589.320	TN
30706	9978333.247	781506.186	2591.936	TN
30707	9978338.236	781500.004	2592.573	TN
30708	9978343.346	781498.530	2592.891	TN
30709	9978347.848	781494.418	2593.005	TN
30710	9978347.889	781494.418	2593.998	TN
30711	9978358.010	781491.744	2593.398	TN
30712	9978368.861	781491.466	2593.875	TN
30713	9978375.154	781492.358	2594.207	TN
30714	9978381.717	781493.722	2594.736	TN
30715	9978392.787	781497.587	2595.891	TN
30716	9978419.505	781529.741	2569.896	TN
30717	9978419.873	781539.661	2572.486	PIE
30718	9978405.646	781548.180	2575.444	BD
30719	9978411.240	781543.806	2579.411	BD
30720	9978416.118	781540.876	2569.874	PIE
30721	9978416.033	781533.300	2568.326	TN
30722	9978411.962	781542.938	2569.362	PIE
30723	9978426.820	781536.815	2588.084	BD
30724	9978420.492	781529.516	2583.545	BD
30725	9978414.105	781534.719	2567.028	TN
30726	9978404.784	781548.533	2571.621	PIE
30727	9978410.042	781538.286	2567.717	TN
30728	9978403.087	781555.232	2577.490	TN
30729	9978404.674	781540.890	2567.109	TN
30730	9978403.332	781539.642	2580.729	TN
30731	9978397.729	781542.091	2568.634	TN
30732	9978392.322	781545.356	2570.840	TN
30733	9978395.135	781553.409	2576.535	TN
30734	9978385.090	781547.147	2572.255	TN
30735	9978384.896	781562.314	2587.491	TN
30736	9978390.249	781558.380	2578.626	TN
30737	9978379.115	781548.084	2573.569	TN
30738	9978380.907	781552.120	2575.137	TN
30739	9978380.271	781556.372	2579.334	TN
30740	9978376.259	781544.717	2572.385	TN
30741	9978376.259	781544.717	2581.400	TN
30742	9978376.259	781553.015	2582.076	BD
30743	9978370.999	781541.298	2571.929	TN
30744	9978371.880	781548.272	2580.438	BD
30745	9978368.378	781536.636	2570.598	BD
30746	9978368.378	781536.637	2570.599	TN
30747	9978367.216	781544.296	2579.324	BD
30748	9978366.878	781529.608	2568.425	TN
30749	9978362.685	781538.537	2577.821	BD
30750	9978358.796	781533.311	2578.216	BD
30751	9978364.660	781525.089	2567.036	TN
30752	9978360.766	781529.575	2574.783	BD
30753	9978362.516	781519.851	2565.861	TN
30754	9978359.609	781525.183	2572.191	BD
30755	9978356.572	781517.679	2565.989	TN
30756	9978357.906	781521.948	2568.847	BD
30757	9978356.451	781528.000	2571.926	TN



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PREUMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30758	9978358.294	781512.541	2562.994	TN
30759	9978352.897	781531.552	2572.170	BD
30760	9978351.573	781529.649	2571.332	BD
30761	9978353.936	781524.078	2567.766	BD
30762	9978364.758	781515.660	2564.902	TN
30763	9978366.184	781521.103	2566.691	TN
30764	9978370.969	781520.359	2564.610	TN
30765	9978373.138	781529.710	2567.554	TN
30766	9978374.527	781525.073	2566.177	TN
30767	9978379.787	781537.903	2568.982	TN
30768	9978379.397	781529.980	2566.807	TN
30769	9978387.372	781543.555	2570.708	TN
30770	9978387.256	781534.865	2566.531	TN
30771	9978392.285	781536.131	2567.648	TN
30772	9978397.433	781537.967	2566.425	TN
30773	9978403.319	781535.764	2566.417	TN
30774	9978407.782	781531.677	2565.290	FO
30775	9978408.192	781532.722	2565.510	BD
30776	9978404.253	781533.692	2564.513	FO
30777	9978404.510	781534.544	2565.208	BD
30778	9978397.162	781534.667	2565.212	BD
30779	9978397.878	781534.896	2564.238	FO
30780	9978387.751	781532.383	2564.612	BD
30781	9978388.384	781532.613	2564.279	FO
30782	9978381.641	781525.987	2564.256	BD
30783	9978382.574	781525.304	2563.921	FO
30784	9978376.758	781521.457	2563.613	BD
30785	9978377.581	781521.288	2563.293	FO
30786	9978371.137	781514.301	2563.551	BD
30787	9978371.268	781514.069	2562.995	FO
30788	9978365.033	781510.268	2562.211	BD
30789	9978365.540	781509.289	2562.220	FO
30790	9978358.472	781507.589	2562.002	BD
30791	9978359.413	781507.083	2561.482	FO
30792	9978356.223	781511.242	2560.888	BD
30793	9978355.992	781510.715	2560.098	FO
30794	9978348.826	781510.885	2560.638	FO
30795	9978349.458	781508.080	2560.576	FO
30796	9978353.309	781505.158	2560.542	FO
30797	9978352.759	781503.906	2560.892	BD
30798	9978353.852	781504.772	2560.423	FO
30799	9978356.965	781501.996	2561.755	BD
30800	9978357.817	781500.618	2561.959	PIE
30801	9978357.033	781502.652	2561.184	FO
30802	9978357.260	781498.329	2562.184	PIE
30803	9978365.294	781501.149	2562.237	BD
30804	9978363.229	781501.788	2561.907	FO
30805	9978359.326	781495.417	2562.732	PIE
30806	9978368.764	781502.503	2562.415	BD
30807	9978368.346	781502.894	2561.750	FO
30808	9978365.640	781493.164	2562.957	PIE
30809	9978371.843	781506.650	2562.856	BD
30810	9978371.254	781506.838	2562.470	FO
30811	9978372.866	781494.078	2565.185	PIE
30812	9978375.814	781512.615	2564.067	BD
30813	9978379.647	781513.282	2563.034	FO
30814	9978375.585	781495.271	2567.665	PIE
30815	9978380.408	781517.988	2564.063	BD
30816	9978380.211	781518.573	2563.351	FO
30817	9978379.464	781493.713	2569.623	PIE
30818	9978385.517	781521.816	2564.215	BD
30819	9978385.405	781522.179	2563.790	FO
30820	9978386.967	781495.812	2568.071	PIE
30821	9978391.751	781528.119	2564.734	BD
30822	9978390.893	781528.148	2564.067	FO
30823	9978394.097	781498.052	2567.540	PIE
30824	9978397.054	781510.406	2564.853	BD
30825	9978397.167	781531.074	2564.570	FO
30826	9978401.310	781501.151	2567.902	PIE
30827	9978403.255	781528.768	2565.914	BD
30828	9978403.512	781529.311	2565.435	FO
30829	9978405.281	781506.649	2570.001	PIE
30830	9978406.674	781511.887	2570.383	PIE
30831	9978401.605	781524.317	2566.174	TN
30832	9978407.844	781513.803	2569.042	PIE
30833	9978394.798	781522.568	2566.071	TN
30834	9978406.711	781515.589	2567.455	TN
30835	9978388.481	781515.927	2565.728	TN
30836	9978382.231	781510.165	2564.969	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30837	9978401.133	781517.822	2567.647	TN
30838	9978376.753	781504.208	2564.209	TN
30839	9978368.975	781498.620	2563.531	TN
30840	9978396.867	781514.324	2567.654	TN
30841	9978379.602	781499.835	2568.514	TN
30842	9978392.906	781511.956	2568.237	TN
30843	9978388.353	781503.588	2567.783	TN
30844	9978387.040	781508.753	2567.395	TN
30845	9978394.583	781506.079	2568.055	TN
30846	9978381.827	781504.898	2566.605	TN
30847	9978378.872	781502.077	2566.378	TN
30848	9978401.410	781511.796	2568.855	TN
30849	9978405.867	781516.642	2567.537	TN
30850	9978371.675	781499.072	2564.144	TN
30851	9978409.677	781513.667	2575.287	TN
30852	9978404.811	781503.865	2576.909	TN
30853	9978390.422	781496.061	2575.478	TN
30854	9978377.211	781491.905	2575.789	TN
30855	9978357.028	781490.300	2577.778	TN
30856	9978347.994	781492.036	2578.145	TN
30857	9978337.391	781504.073	2579.646	TN
30858	9978333.668	781510.405	2578.628	TN
30859	9978331.201	781515.886	2577.807	TN
30860	9978332.410	781522.223	2575.741	TN
30861	9978334.486	781527.761	2572.583	TN
30862	9978333.954	781534.235	2568.208	TN
30863	9978333.079	781535.264	2572.861	BD
30864	9978333.455	781528.916	2576.853	BD
30865	9978331.899	781523.604	2580.894	TN
30866	9978329.819	781514.159	2587.856	TN
30867	9978333.747	781506.072	2595.032	TN
30868	9978339.075	781502.803	2595.933	TN
30869	9978346.571	781495.107	2598.633	TN
30870	9978352.878	781492.261	2601.434	TN
30871	9978360.097	781492.097	2599.391	TN
30872	9978372.328	781491.431	2592.632	TN
30873	9978337.946	781531.379	2566.056	TN
30874	9978335.922	781524.376	2568.213	TN
30875	9978333.688	781518.128	2573.617	TN
30876	9978346.582	781503.036	2562.465	PIE
30877	9978347.554	781511.192	2560.731	BD
30878	9978348.203	781511.331	2560.276	FO
30879	9978340.054	781505.023	2564.566	PIE
30880	9978346.524	781517.416	2559.038	BD
30881	9978347.232	781517.698	2559.514	FO
30882	9978340.716	781500.689	2564.814	PIE
30883	9978338.048	781518.875	2567.704	TN
30884	9978338.133	781511.936	2570.887	TN
30885	9978344.862	781525.828	2599.530	BD
30886	9978345.905	781525.814	2588.988	FO
30887	9978341.866	781512.491	2562.765	PIE
30888	9978333.744	781508.303	2576.614	TN
30889	9978340.890	781505.356	2576.768	TN
30890	9978342.712	781499.935	2575.059	TN
30891	9978342.693	781504.944	2570.512	TN
30892	9978339.514	781522.511	2561.514	PIE
30893	9978339.774	781528.501	2561.614	PIE
30894	9978339.569	781533.838	2559.310	BD
30895	9978339.870	781532.707	2561.084	PIE
30896	9978355.157	781497.411	2570.215	TN
30897	9978356.445	781532.800	2577.185	TN
30898	9978339.893	781506.262	2557.013	FO
30899	9978343.840	781582.738	2577.855	FO
30900	9978338.856	781538.997	2562.659	PIE
30901	9978343.349	781543.220	2559.779	BD
30902	9978344.187	781543.472	2560.212	FO
30903	9978336.149	781544.037	2563.055	PIE
30904	9978344.610	781553.240	2558.632	BD
30905	9978345.752	781553.188	2558.371	FO
30906	9978334.579	781549.570	2562.619	PIE
30907	9978345.985	781561.049	2557.899	BD
30908	9978346.710	781560.972	2557.039	FO
30909	9978331.355	781553.084	2562.361	TN
30910	9978347.598	781568.159	2558.194	BD
30911	9978348.537	781568.141	2557.729	FO
30912	9978347.205	781575.507	2557.861	BD
30913	9978348.089	781575.688	2557.587	FO
30914	9978342.414	781581.619	2557.670	BD
30915	9978342.851	781582.144	2557.225	FO





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30916	9978339.332	781537.638	2557.770	BO
30917	9978339.473	781537.735	2556.806	FC
30918	9978338.220	781590.581	2556.557	BO
30919	9978338.533	781590.667	2556.369	BO
30920	9978340.601	781592.946	2556.787	FC
30921	9978340.246	781592.214	2556.483	FC
30922	9978341.724	781596.190	2557.279	PIE
30923	9978340.136	781569.315	2561.732	AUX PC-12
30924	9978345.518	781593.010	2558.964	PIE
30925	9978338.689	781587.569	2560.716	TN
30926	9978344.906	781588.811	2557.519	BO
30927	9978344.574	781588.687	2557.095	FC
30928	9978348.602	781580.913	2557.962	BO
30929	9978348.181	781580.950	2557.590	FC
30930	9978338.512	781587.967	2560.622	GABION
30931	9978339.383	781581.721	2561.043	GABION
30932	9978340.080	781575.296	2561.547	GABION
30933	9978340.850	781566.275	2561.764	GABION
30934	9978349.558	781584.281	2559.691	PIE
30935	9978340.798	781557.743	2560.558	GABION
30936	9978340.815	781551.942	2562.277	GABION
30937	9978340.400	781545.606	2562.751	GABION
30938	9978354.262	781581.198	2561.313	PIE
30939	9978359.705	781542.152	2562.754	GABION
30940	9978356.020	781574.853	2560.879	PIE
30941	9978350.985	781574.808	2558.753	BO
30942	9978351.065	781574.134	2557.555	FC
30943	9978351.532	781566.919	2558.198	BO
30944	9978350.963	781566.257	2557.901	FC
30945	9978357.233	781567.256	2561.296	PIE
30946	9978339.148	781587.374	2557.810	PIE
30947	9978339.962	781581.856	2557.769	PIE
30948	9978354.389	781559.697	2561.917	PIE
30949	9978340.803	781575.381	2558.173	PIE
30950	9978341.726	781566.322	2558.453	PIE
30951	9978349.709	781558.596	2558.160	FC
30952	9978341.614	781561.248	2558.909	PIE
30953	9978341.525	781554.859	2559.035	PIE
30954	9978348.188	781552.481	2558.904	BO
30955	9978347.478	781552.699	2558.383	FC
30956	9978341.500	781549.449	2559.107	PIE
30957	9978340.448	781542.842	2559.529	PIE
30958	9978332.371	781567.308	2561.161	TN
30959	9978333.646	781572.368	2560.685	TN
30960	9978334.932	781577.304	2560.699	TN
30961	9978336.643	781584.783	2560.671	TN
30962	9978337.660	781588.165	2560.474	TN
30963	9978331.451	781557.723	2561.524	TN
30964	9978330.988	781553.490	2562.220	TN
30965	9978329.708	781586.521	2560.756	MURO
30966	9978328.771	781580.066	2560.734	MURO
30967	9978327.940	781574.587	2560.749	MURO
30968	9978327.241	781569.928	2560.693	MURO
30969	9978328.967	781545.003	2567.283	MURO
30970	9978327.580	781535.964	2572.012	MURO
30971	9978326.315	781528.042	2579.607	MURO
30972	9978325.614	781523.083	2584.131	MURO
30973	9978323.200	781506.770	2602.062	MURO
30974	9978330.240	781548.187	2564.038	TN
30975	9978590.663	781414.147	2611.684	BO
30977	9978830.095	781051.522	0.000	PIA
30978	9978649.878	781331.965	2600.168	AUX PC 3
30979	9978835.948	781295.149	2617.072	AUX PC 4
30980	9978834.724	781028.280	2775.215	AUX A 1+330
30981	9978649.878	781331.965	2600.168	AUX PC 3
30982	9978549.087	781441.242	2582.602	TN
30983	9978635.948	781295.149	2617.072	AUX PC 4
30984	9978552.635	781436.340	2585.121	TN
30985	9978829.912	781360.210	2603.099	TN
30986	9978556.723	781437.159	2584.029	TN
30987	9978632.485	781358.503	2602.509	TN
30988	9978560.877	781436.629	2583.570	TN
30989	9978642.198	781354.985	2606.508	TN
30990	9978570.163	781432.074	2588.806	TN
30991	9978651.644	781343.847	2611.986	TN
30992	9978578.494	781481.855	2587.718	TN
30993	9978660.235	781343.945	2614.149	TN
30994	9978579.637	781431.980	2585.984	TN
30995	9978641.568	781353.968	2605.798	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
30996	9978579.310	781432.958	2588.475	TN
30997	9978628.816	781351.983	2598.004	TN
30998	9978630.951	781354.515	2600.237	TN
30999	9978677.386	781330.728	2618.679	TN
31000	9978673.752	781336.942	2618.403	TN
31001	9978669.523	781343.526	2618.017	TN
31002	9978661.645	781347.109	2615.905	TN
31003	9978645.472	781355.554	2620.171	TN
31004	9978634.641	781362.915	2607.805	TN
31005	9978650.169	781354.936	2613.064	TN
31006	9978664.421	781348.991	2617.821	TN
31007	9978661.008	781353.443	2617.629	TN
31008	9978655.927	781369.066	2620.263	TN
31009	9978646.115	781374.499	2612.296	TN
31010	9978640.775	781377.322	2608.821	TN
31011	9978595.979	781387.542	2594.627	PIE
31012	9978638.226	781370.937	2608.888	TN
31013	9978640.531	781363.646	2620.850	TN
31014	9978596.900	781393.735	2595.915	PIE
31015	9978644.127	781359.404	2610.694	TN
31016	9978598.219	781399.859	2594.940	PIE
31017	9978653.569	781353.444	2612.762	TN
31018	9978658.089	781346.991	2613.140	TN
31019	9978662.955	781339.866	2614.002	TN
31020	9978598.795	781406.162	2594.718	PIE
31021	9978590.792	781419.349	2605.336	TN
31022	9978602.616	781415.648	2590.872	PIE
31023	9978592.745	781408.186	2602.652	TN
31024	9978590.861	781400.552	2602.745	TN
31025	9978590.050	781396.170	2602.813	TN
31026	9978608.710	781417.884	2590.330	BO
31027	9978609.696	781418.330	2587.973	PIE
31028	9978609.291	781409.744	2589.927	TN
31029	9978618.481	781362.153	2593.265	PIE
31030	9978610.261	781402.979	2588.404	TN
31031	9978617.099	781363.516	2593.004	BO
31032	9978616.619	781363.831	2592.144	FC
31033	9978613.512	781398.934	2588.332	TN
31034	9978616.851	781369.301	2592.894	BO
31035	9978615.572	781370.053	2592.338	FC
31036	9978614.953	781392.859	2589.859	TN
31037	9978622.658	781369.059	2592.686	PIE
31038	9978610.401	781387.453	2591.117	TN
31039	9978624.752	781372.561	2592.877	PIE
31040	9978607.636	781383.827	2592.365	TN
31041	9978621.059	781375.360	2591.202	BO
31042	9978620.864	781375.075	2591.173	FC
31043	9978605.482	781379.442	2593.981	TN
31044	9978610.829	781376.531	2591.663	FC
31045	9978610.275	781376.995	2592.228	BO
31046	9978615.207	781383.133	2589.359	FC
31047	9978614.544	781383.960	2589.813	BO
31048	9978615.540	781387.989	2588.685	FC
31049	9978619.110	781388.815	2589.330	BO
31050	9978626.276	781392.005	2588.372	BO
31051	9978627.430	781390.960	2587.265	FC
31052	9978627.049	781400.112	2587.177	BO
31053	9978626.811	781401.231	2586.396	FC
31054	9978627.230	781408.886	2585.739	FC
31055	9978621.837	781408.295	2586.270	BO
31056	9978618.802	781418.758	2585.960	FC
31057	9978617.366	781418.727	2585.689	BO
31058	9978622.578	781425.685	2585.160	FC
31059	9978619.506	781430.347	2584.424	FC
31060	9978613.605	781430.341	2585.032	BO
31061	9978610.779	781436.385	2583.480	FC
31062	9978611.164	781435.210	2583.714	BO
31063	9978605.951	781433.208	2583.288	BO
31064	9978606.930	781434.416	2582.395	FC
31065	9978589.704	781389.429	2604.194	TN
31066	9978594.625	781374.007	2598.735	TN
31067	9978599.665	781370.512	2603.067	TN
31068	9978599.137	781361.071	2605.645	TN
31069	9978599.907	781361.076	2608.390	TN
31070	9978599.044	781362.100	2612.561	TN
31071	9978600.067	781366.645	2612.715	TN
31072	9978597.513	781372.792	2607.359	TN
31073	9978591.016	781382.502	2606.909	TN
31074	9978590.414	781396.801	2609.024	TN





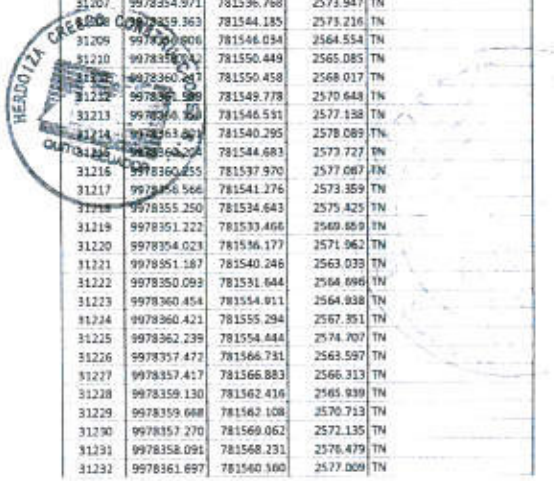
ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31075	9978591.809	781407.128	2606.915	TN
31076	9978591.776	781411.357	2610.672	TN
31077	9978589.754	781405.636	2616.622	TN
31078	9978589.271	781404.791	2618.603	TN
31079	9978590.908	781390.164	2616.127	TN
31080	9978592.160	781383.248	2616.141	TN
31081	9978592.343	781379.091	2620.694	TN
31082	9978588.139	781380.463	2633.096	TN
31083	9978605.217	781377.827	2594.922	TN
31084	9978610.655	781367.109	2593.509	BO
31085	9978615.823	781405.608	2589.453	TN
31086	9978618.601	781390.958	2589.699	BO
31087	9978590.663	781414.147	2611.684	BO
31088	9978589.508	781409.047	2617.617	BO
31089	9978589.480	781404.123	2621.290	BO
31090	9978585.134	781397.836	2626.517	BO
31091	9978585.184	781392.795	2630.420	BO
31092	9978585.253	781389.193	2634.386	BO
31093	9978587.927	781382.141	2640.424	BO
31094	9978587.336	781376.247	2645.808	BO
31095	9978583.505	781359.479	2646.897	BO
31096	9978583.155	781353.621	2647.762	BO
31097	9978587.567	781317.400	2648.993	BO
31098	9978573.980	781346.218	2668.082	BO
31099	9978885.264	780797.409	2764.179	AUX I
31100	9978870.491	780799.289	2756.465	AUX PZ 1-100
31101	9978870.512	780799.529	2756.462	PZ
31102	9978871.253	780792.504	2758.105	TN
31103	9978865.516	780795.950	2757.231	TN
31104	9978856.186	780799.360	2754.839	TN
31105	9978849.598	780804.477	2754.381	TN
31106	9978845.506	780808.401	2752.562	TN
31107	9978839.174	780814.425	2750.791	TN
31108	9978827.760	780819.516	2750.227	TN
31109	9978823.056	780820.841	2750.955	TN
31110	9978819.341	780821.579	2751.645	TN
31111	9978819.906	780818.225	2754.333	TN
31112	9978815.218	780811.837	2757.660	TN
31113	9978818.176	780807.793	2759.725	TN
31114	9978842.277	780806.748	2756.318	TN
31115	9978849.856	780801.325	2759.244	TN
31116	9978846.886	780796.444	2762.119	TN
31117	9978847.422	780791.671	2764.796	TN
31118	9978857.956	780802.039	2763.239	TN
31119	9978848.073	780800.620	2760.521	TN
31120	9978831.887	780803.794	2765.380	TN
31121	9978831.779	780805.400	2765.034	TN
31122	9978816.177	780818.525	2756.610	TN
31123	9978815.314	780815.714	2760.561	TN
31124	9978810.756	780816.007	2763.074	TN
31125	9978822.518	780809.318	2765.186	TN
31126	9978810.445	780813.413	2766.039	TN
31127	9978815.771	780807.676	2769.531	TN
31128	9978808.853	780810.844	2768.714	TN
31129	9978824.634	780825.692	2747.147	TN
31130	9978826.667	780822.416	2749.156	TN
31131	9978839.256	780810.376	2756.943	TN
31132	9978865.344	780793.802	2759.293	TN
31133	9978871.493	780790.963	2757.940	TN
31134	9978872.059	780782.619	2768.236	TN
31135	9978868.769	780780.002	2773.243	TN
31136	9978862.348	780782.859	2773.286	TN
31137	9978850.388	780785.784	2770.287	TN
31138	9978843.901	780785.481	2772.971	TN
31139	9978840.989	780790.218	2771.135	TN
31140	9978831.588	780796.873	2771.637	TN
31141	9978831.217	780799.965	2772.576	TN
31142	9978825.696	780818.011	2752.542	TN
31143	9978865.406	780796.411	2757.101	TN
31144	9978860.991	780792.177	2764.184	TN
31145	9978816.979	780838.450	2734.455	FQ
31146	9978817.034	780837.746	2735.898	BO
31147	9978816.115	780836.121	2736.546	FQ
31148	9978817.762	780839.757	2736.147	BO
31149	9978822.413	780834.342	2737.229	BO
31150	9978821.654	780832.029	2737.637	FQ
31151	9978825.717	780832.985	2736.961	FQ
31152	9978829.178	780827.419	2740.667	FQ
31153	9978831.026	780832.469	2741.570	FQ

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31154	9978835.285	780822.488	2743.336	FQ
31155	9978816.668	780824.380	2743.724	FQ
31156	9978841.722	780820.232	2745.824	FQ
31157	9978847.872	780816.013	2747.803	FQ
31158	9978840.503	780817.752	2745.836	FQ
31159	9978853.992	780812.384	2749.150	FQ
31160	9978846.481	780815.996	2747.761	FQ
31161	9978851.915	780809.981	2749.085	FQ
31162	9978859.390	780808.777	2749.821	FQ
31163	9978857.519	780804.212	2749.360	FQ
31164	9978867.378	780803.209	2751.660	FQ
31165	9978871.617	780796.996	2753.352	FQ
31166	9978865.112	780797.637	2751.519	FQ
31167	9978870.506	780794.481	2754.132	FQ
31168	9978877.350	780791.661	2757.852	FQ
31169	9978876.514	780789.868	2757.762	FQ
31170	9978882.459	780781.613	2760.380	FQ
31171	9978882.014	780783.085	2760.763	FQ
31172	9978891.094	780780.928	2762.587	FQ
31173	9978890.871	780781.950	2763.063	FQ
31174	9978904.283	780774.978	2769.880	FQ
31175	9978893.791	780777.956	2769.879	FQ
31176	9978890.550	780772.576	2773.941	FQ
31177	9978885.091	780768.177	2779.453	FQ
31178	9978881.625	780773.020	2776.968	FQ
31179	9978878.749	780772.151	2778.894	FQ
31180	9978872.869	780769.529	2780.523	FQ
31181	9978880.300	780779.240	2770.566	FQ
31182	9978881.393	780782.104	2766.632	FQ
31183	9978884.605	780776.671	2771.294	FQ
31184	9978885.021	780770.615	2776.142	FQ
31185	9978894.662	780774.172	2771.285	FQ
31186	9978903.968	780773.871	2769.068	FQ
31187	9978919.328	780768.696	2771.927	FQ
31188	9978916.509	780766.174	2774.975	FQ
31189	9978901.544	780772.160	2773.007	FQ
31190	9978905.517	780772.954	2772.210	FQ
31191	9978879.081	780782.588	2765.667	FQ
31192	9978881.433	780775.190	2773.627	FQ
31193	9978885.038	780767.556	2779.352	FQ
31194	9978888.501	780767.822	2778.511	FQ
31195	9978895.984	780775.272	2770.146	FQ
31196	9978873.766	780788.616	2761.757	FQ
31197	9978874.375	780784.084	2767.045	FQ
31198	9978871.363	780780.400	2772.126	FQ
31199	9978876.210	780773.955	2775.382	FQ
31200	9978882.844	780780.949	2767.097	FQ
31201	9978930.186	781530.280	2567.132	TN
31202	9978930.711	781531.938	2569.892	TN
31203	9978930.124	781539.383	2562.723	TN
31204	9978932.514	781541.623	2563.971	TN
31205	9978932.815	781539.855	2567.202	TN
31206	9978932.055	781538.222	2567.044	TN
31207	9978934.971	781536.768	2573.947	TN
31208	9978939.363	781544.185	2573.216	TN
31209	9978939.806	781546.054	2564.554	TN
31210	9978939.042	781550.449	2565.085	TN
31211	9978936.251	781550.458	2568.017	TN
31212	9978936.989	781549.778	2570.648	TN
31213	9978936.650	781546.531	2577.138	TN
31214	9978936.891	781540.295	2578.089	TN
31215	9978936.204	781544.683	2573.727	TN
31216	9978936.855	781537.970	2577.067	TN
31217	9978936.566	781541.276	2573.359	TN
31218	9978935.250	781534.643	2575.425	TN
31219	9978931.222	781533.466	2569.869	TN
31220	9978934.023	781536.177	2571.962	TN
31221	9978931.187	781540.246	2563.039	TN
31222	9978935.093	781531.644	2564.696	TN
31223	9978930.454	781534.911	2564.938	TN
31224	9978930.421	781535.294	2567.351	TN
31225	9978932.239	781534.444	2574.707	TN
31226	9978937.472	781546.731	2563.597	TN
31227	9978937.417	781566.883	2566.313	TN
31228	9978939.130	781562.416	2565.939	TN
31229	9978939.688	781562.108	2570.713	TN
31230	9978937.270	781569.062	2572.135	TN
31231	9978938.091	781568.231	2576.479	TN
31232	99789361.697	781560.300	2577.009	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31233	9978366.313	781556.877	2582.903	TN
31234	9978358.407	781568.817	2579.448	TN
31235	9978363.181	781564.009	2581.382	TN
31236	9978356.030	781575.571	2564.295	TN
31237	9978355.747	781574.288	2568.126	TN
31238	9978355.216	781573.902	2571.037	TN
31239	9978356.266	781572.579	2573.814	TN
31240	9978358.723	781572.041	2579.944	TN
31241	9978357.656	781578.574	2580.938	TN
31242	9978356.681	781577.986	2575.859	TN
31243	9978355.348	781577.313	2571.210	TN
31244	9978354.808	781577.386	2567.140	TN
31245	9978354.529	781581.851	2565.219	TN
31246	9978354.054	781582.529	2571.344	TN
31247	9978355.298	781582.059	2575.815	TN
31248	9978355.635	781583.825	2582.116	TN
31249	9978353.061	781585.281	2567.565	TN
31250	9978353.175	781585.437	2571.905	TN
31251	9978353.681	781586.183	2576.085	TN
31252	9978354.120	781586.764	2581.001	TN
31253	9978346.950	781591.711	2567.594	TN
31254	9978347.225	781591.256	2571.699	TN
31255	9978347.859	781591.453	2577.650	TN
31256	9978348.793	781590.607	2582.826	TN
31257	9978349.801	781591.126	2588.193	TN
31258	9978344.310	781594.600	2590.028	TN
31259	9978343.917	781593.348	2582.511	TN
31260	9978343.170	781594.268	2577.499	TN
31261	9978342.595	781595.740	2573.604	TN
31262	9978343.523	781596.045	2569.899	TN
31263	9978344.957	781593.299	2568.671	TN
31264	9978344.264	781598.701	2572.083	TN
31265	9978342.582	781596.197	2572.600	TN
31266	9978340.383	781597.896	2573.144	TN
31267	9978333.956	781602.275	2574.855	TN
31268	9978330.193	781603.986	2571.595	TN
31269	9978334.528	781601.961	2570.923	TN
31270	9978337.484	781600.671	2570.537	TN
31271	9978340.735	781598.740	2570.071	TN
31272	9978343.590	781595.985	2569.554	TN
31273	9978345.266	781593.095	2569.275	TN
31274	9978347.660	781592.510	2565.103	TN
31275	9978345.502	781595.748	2565.936	TN
31276	9978342.600	781599.069	2566.425	TN
31277	9978339.626	781601.249	2566.425	TN
31278	9978336.446	781602.871	2566.606	TN
31279	9978332.909	781602.773	2563.481	TN
31280	9978338.544	781601.185	2563.471	TN
31281	9978343.409	781596.881	2563.447	TN
31282	9978347.140	781592.275	2563.393	TN
31283	9978346.567	781592.340	2561.687	TN
31284	9978344.236	781595.264	2561.253	TN
31285	9978340.809	781598.151	2561.340	TN
31286	9978336.502	781600.010	2561.707	TN
31287	9978361.398	781551.457	2570.109	TN
31288	9978358.903	781567.753	2568.361	TN
31289	9978305.108	781539.674	2571.133	TN
31290	9978353.295	781537.026	2570.990	TN
31291	9978351.731	781534.892	2568.742	TN
31292	9978362.163	781541.233	2576.518	TN
31293	9978363.193	781545.320	2575.748	TN
31294	9978364.295	781548.306	2574.289	TN
31295	9978362.337	781549.997	2571.754	TN
31296	9978360.659	781545.498	2572.325	TN
31297	9978363.853	781552.088	2576.767	TN
31298	9978366.175	781552.889	2579.411	TN
31299	9978361.873	781561.590	2577.211	TN
31300	9978355.869	781546.962	2561.167	PIE
31301	9978344.727	781533.250	2559.192	FQR
31302	9978346.773	781546.992	2558.644	FQR
31303	9978347.567	781547.289	2558.839	BO
31304	9978350.361	781522.509	2559.582	BO
31305	9978352.872	781543.113	2560.662	PIE
31306	9978347.565	781533.869	2558.191	FQR
31307	9978347.494	781540.722	2558.728	FQR
31308	9978348.321	781540.627	2559.031	BO
31309	9978348.597	781534.092	2559.280	BO
31310	9978348.183	781522.210	2559.068	FQR
31311	9978350.865	781525.680	2560.840	P-E

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31312	9978349.898	781539.191	2559.774	PIE
31314	9978830.095	781051.522	0.000	PI4
31315	9978358.749	781533.732	2578.280	AUX PC 11
31316	9978340.136	781569.315	2561.732	AUX PC-12
31317	9978354.775	781648.470	2746.183	AUX 4-A
31318	9978623.191	781623.675	2750.963	AUX 3 TANQUE
31319	9978700.136	781522.070	2756.130	AUX 2-A
31320	9978499.169	781737.739	2739.882	A1
31321	9978518.851	781669.535	2744.563	AUX 14-A
31322	9978502.167	781803.466	2736.142	AUX 15-A
31323	9978501.762	781692.281	2743.207	A2
31324	9978513.658	781818.056	2734.528	A3
31325	9978521.966	781871.271	2734.342	A4
31326	9978543.587	781870.264	2730.863	A5
31327	9978561.086	781865.819	2730.079	BO
31328	9978551.604	781849.026	2731.069	PIE
31329	9978554.595	781867.540	2730.334	BO
31330	9978546.880	781870.151	2730.394	BO
31331	9978538.134	781861.074	2730.953	PIE
31332	9978537.325	781875.021	2729.947	BO
31333	9978531.839	781867.184	2731.327	PIE
31334	9978526.056	781879.954	2727.392	BO
31335	9978540.460	781864.627	2730.281	TN
31336	9978534.300	781869.985	2729.221	PIE
31337	9978528.710	781872.826	2728.571	PIE
31338	9978521.538	781877.942	2727.018	PIE
31339	9978516.126	781883.270	2725.695	BO
31340	9978514.166	781878.426	2725.317	PIE
31341	9978508.626	781884.626	2724.276	BO
31342	9978506.299	781880.201	2723.545	PIE
31343	9978535.897	781873.212	2728.948	TN
31344	9978539.592	781870.790	2729.782	TN
31345	9978545.513	781866.167	2730.973	TN
31346	9978550.617	781859.677	2730.891	TN
31347	9978526.471	781870.068	2725.084	TN
31348	9978536.720	781866.609	2731.296	TN
31349	9978533.124	781856.102	2731.395	TN
31350	9978493.939	781885.061	2723.338	TN
31351	9978501.338	781889.453	2722.040	TN
31352	9978504.530	781885.882	2721.900	TN
31353	9978508.427	781892.451	2720.361	TN
31354	9978511.886	781889.767	2719.883	TN
31355	9978515.613	781894.566	2718.237	TN
31356	9978520.478	781881.294	2717.401	TN
31357	9978524.011	781896.163	2715.717	TN
31358	9978527.998	781893.880	2714.783	TN
31359	9978529.858	781897.932	2713.910	TN
31360	9978538.187	781900.189	2711.208	TN
31361	9978538.957	781895.983	2711.377	TN
31362	9978545.552	781901.260	2709.146	TN
31363	9978555.342	781900.164	2706.437	TN
31364	9978554.673	781905.318	2704.997	TN
31365	9978562.740	781901.904	2704.806	TN
31366	9978560.030	781911.879	2703.561	TN
31367	9978564.209	781908.229	2704.885	TN
31368	9978571.071	781911.231	2710.206	TN
31369	9978571.000	781910.994	2711.477	GABION S
31370	9978560.000	781906.782	2707.786	PIE
31371	9978564.846	781906.750	2711.385	GABION S
31372	9978565.882	781903.391	2711.567	GABION S
31373	9978569.330	781903.519	2712.171	GABION S
31374	9978570.057	781901.768	2712.412	GABION S
31375	9978565.511	781903.237	2706.711	PIE
31376	9978565.768	781900.805	2712.058	CANAL H
31377	9978564.959	781899.507	2712.096	CANAL H
31378	9978564.778	781901.442	2706.689	CANAL H
31379	9978565.621	781900.972	2710.642	TN
31380	9978564.742	781901.380	2706.713	P-E
31381	9978564.706	781899.637	2712.657	TN
31382	9978563.944	781899.713	2712.313	GABION S
31383	9978563.143	781898.144	2712.306	GABION S
31384	9978564.060	781899.959	2705.644	PIE
31385	9978564.064	781899.964	2706.714	PIE
31386	9978563.712	781897.026	2711.628	GABION S
31387	9978563.853	781898.814	2706.780	PIE
31388	9978560.431	781892.955	2711.429	GABION S
31389	9978562.790	781896.520	2707.893	PIE
31390	9978560.127	781892.857	2710.287	TN
31391	9978555.807	781892.139	2712.032	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31392	9978566.860	781881.180	2718.931	TN
31393	9978545.018	781888.918	2715.425	TN
31394	9978557.027	781875.898	2722.300	TN
31395	9978546.708	781878.764	2722.748	TN
31396	9978537.149	781878.672	2725.779	TN
31397	9978525.779	781885.684	2721.545	TN
31398	9978528.781	781881.324	2726.009	TN
31399	9978517.595	781884.644	2724.120	TN
31400	9978550.194	781871.070	2728.181	TN
31401	9978563.005	781857.464	2729.478	TN
31402	9978569.410	781862.730	2728.740	TN
31403	9978567.960	781866.099	2728.619	BD
31404	9978573.172	781873.036	2726.942	BD
31405	9978577.137	781868.852	2727.886	TN
31406	9978582.428	781873.942	2727.078	TN
31407	9978560.734	781872.191	2723.638	TN
31408	9978577.693	781877.961	2726.907	BD
31409	9978581.742	781884.400	2725.597	BD
31410	9978587.047	781882.536	2725.873	TN
31411	9978589.149	781892.964	2725.089	BD
31412	9978567.334	781877.044	2721.775	TN
31413	9978585.515	781892.489	2725.005	BD
31414	9978590.515	781900.044	2724.626	TN
31415	9978529.142	781714.571	2751.200	TN
31416	9978537.754	781733.091	2762.785	TN
31417	9978537.773	781727.611	2760.208	TN
31418	9978544.569	781728.588	2765.769	TN
31419	9978547.068	781730.450	2768.894	TN
31420	9978551.552	781728.238	2771.179	TN
31421	9978552.375	781723.211	2770.923	TN
31422	9978558.633	781742.216	2784.176	TN
31423	9978556.224	781742.739	2780.104	TN
31424	9978552.234	781746.889	2780.989	TN
31425	9978546.059	781741.296	2774.067	TN
31426	9978542.771	781748.869	2772.771	TN
31427	9978539.379	781751.489	2769.777	TN
31428	9978534.988	781748.388	2765.893	TN
31429	9978531.343	781747.105	2761.631	TN
31430	9978533.986	781736.373	2760.570	TN
31431	9978537.126	781726.435	2758.762	TN
31432	9978537.967	781747.940	2758.457	TN
31433	9978522.781	781744.817	2755.075	TN
31434	9978519.929	781743.195	2752.019	TN
31435	9978515.312	781743.084	2748.720	TN
31436	9978513.320	781742.754	2746.188	TN
31437	9978518.969	781739.261	2747.404	TN
31438	9978511.283	781748.566	2741.456	TN
31439	9978520.203	781724.007	2744.363	TN
31440	9978520.365	781718.508	2742.613	TN
31441	9978521.325	781735.837	2748.218	TN
31442	9978526.073	781709.686	2746.623	TN
31443	9978537.150	781702.110	2761.227	TN
31444	9978561.245	781707.862	2768.032	TN
31445	9978556.097	781720.616	2773.221	TN
31446	9978556.624	781724.623	2777.766	TN
31447	9978552.002	781747.104	2780.890	TN
31448	9978418.673	781723.858	2824.206	BD
31449	9978610.938	781726.701	2821.307	BD
31450	9978604.986	781728.423	2819.156	BD
31451	9978597.488	781731.537	2816.188	BD
31452	9978591.244	781733.529	2813.282	BD
31453	9978580.839	781735.940	2807.089	BD
31454	9978569.188	781736.743	2799.444	BD
31455	9978563.409	781742.052	2795.705	BD
31456	9978558.476	781746.017	2792.091	BD
31457	9978610.919	781732.613	2806.718	TN
31458	9978614.654	781723.170	2818.347	TN
31459	9978604.829	781726.884	2819.958	TN
31460	9978592.598	781729.579	2805.904	TN
31461	9978592.649	781727.552	2800.880	TN
31462	9978582.890	781725.961	2792.529	TN
31463	9978580.019	781731.320	2800.283	TN
31464	9978571.925	781731.213	2792.571	TN
31465	9978561.948	781740.995	2788.701	TN
31466	9978576.948	781712.506	2778.605	TN
31467	9978599.947	781724.973	2805.821	TN
31468	9978611.836	781718.847	2811.159	TN
31469	9978582.281	781725.926	2792.935	TN
31470	9978574.708	781729.126	2792.527	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31471	9978562.107	781708.518	2768.567	TN
31472	9978557.116	781702.354	2760.998	TN
31473	9978542.374	781691.418	2748.768	TN
31474	9978537.510	781698.164	2750.700	TN
31475	9978535.771	781705.111	2751.857	TN
31476	9978552.837	781722.472	2770.305	TN
31477	9978503.334	781713.603	2738.896	PIEM
31478	9978501.398	781722.185	2736.975	PIEM
31479	9978498.671	781732.723	2735.332	PIEM
31480	9978495.809	781745.740	2736.506	PIEM
31481	9978486.854	781745.388	2730.415	TN
31482	9978481.446	781742.072	2723.685	TN
31483	9978490.809	781739.150	2729.418	TN
31484	9978481.773	781731.286	2722.085	TN
31485	9978493.080	781731.110	2729.831	TN
31486	9978483.571	781720.947	2722.196	TN
31487	9978494.814	781722.729	2730.847	TN
31488	9978484.704	781713.020	2722.509	TN
31489	9978495.441	781713.628	2732.147	TN
31490	9978487.007	781703.999	2723.769	TN
31491	9978495.685	781705.910	2732.196	TN
31492	9978496.818	781697.733	2731.175	TN
31493	9978496.123	781693.235	2735.704	TN
31494	9978495.189	781693.305	2727.241	TN
31495	9978496.546	781688.550	2736.205	TN
31496	9978490.860	781683.881	2735.053	TN
31497	9978491.927	781686.577	2728.650	TN
31498	9978501.164	781679.707	2736.460	TN
31499	9978489.619	781675.069	2723.234	TN
31500	9978495.356	781675.814	2730.993	TN
31501	9978501.922	781678.343	2739.158	TN
31502	9978504.360	781677.093	2743.022	TN
31503	9978494.214	781678.741	2721.758	TN
31504	9978488.487	781676.985	2716.067	TN
31505	9978572.753	781886.572	2719.496	TN
31506	9978486.837	781687.914	2721.907	TN
31507	9978481.951	781695.281	2718.805	TN
31508	9978477.669	781684.863	2709.147	TN
31509	9978476.921	781705.680	2716.978	TN
31510	9978477.615	781700.129	2716.250	TN
31511	9978471.222	781694.023	2710.784	TN
31512	9978467.704	781704.034	2708.796	TN
31513	9978587.362	781899.004	2724.378	BD
31514	9978476.531	781710.029	2715.084	TN
31515	9978473.085	781719.974	2714.180	TN
31516	9978484.737	781713.298	2707.515	TN
31517	9978471.686	781728.878	2712.836	TN
31518	9978461.720	781725.252	2705.161	TN
31519	9978467.264	781738.749	2712.804	TN
31520	9978457.125	781736.880	2704.529	TN
31521	9978452.090	781745.914	2707.380	TN
31522	9978458.365	781754.320	2715.603	TN
31523	9978446.426	781755.137	2707.878	TN
31524	9978454.480	781763.957	2717.449	TN
31525	9978441.997	781762.919	2707.505	TN
31526	9978430.482	781767.216	2723.320	TN
31527	9978432.640	781777.023	2721.934	TN
31528	9978465.819	781762.148	2725.271	TN
31529	9978490.809	781907.489	2724.103	TN
31530	9978465.801	781777.664	2730.011	TN
31531	9978467.264	781768.218	2729.826	TN
31532	9978471.623	781760.929	2729.625	TN
31533	9978470.632	781770.518	2733.888	TN
31534	9978473.124	781754.090	2728.115	TN
31535	9978480.286	781762.451	2737.028	TN
31536	9978549.052	781906.888	2724.169	BD
31537	9978572.951	781896.662	2715.965	CANAL H
31538	9978572.954	781896.690	2714.962	CANAL H
31539	9978572.395	781895.356	2715.007	CANAL H
31540	9978591.160	781918.163	2723.418	TN
31541	9978589.734	781918.115	2723.132	BD
31542	9978576.942	781894.437	2717.982	CANAL H
31543	9978575.942	781893.332	2717.981	CANAL H
31544	9978590.864	781926.726	2722.632	TN
31545	9978589.505	781926.312	2723.500	BD
31546	9978581.872	781891.541	2721.948	CANAL H
31547	9978580.312	781891.498	2720.830	CANAL H
31548	9978584.107	781923.957	2718.089	TN
31549	9978583.211	781915.071	2718.143	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31550	9978581.823	781907.103	2717.600	TN
31551	9978585.476	781888.008	2723.868	CANAL H
31552	9978584.133	781889.143	2723.759	CANAL H
31553	9978578.794	781898.340	2718.701	TN
31554	9978575.267	781904.211	2714.619	TN
31555	9978571.808	781897.764	2715.294	TN
31556	9978577.366	781910.203	2713.903	TN
31557	9978577.361	781917.050	2713.395	TN
31558	9978576.383	781925.547	2712.675	TN
31559	9978572.576	781918.750	2709.681	TN
31560	9978571.933	781927.347	2708.824	TN
31561	9978564.246	781926.823	2703.151	TN
31562	9978562.835	781918.214	2703.651	TN
31563	9978558.961	781928.151	2698.663	TN
31564	9978555.381	781928.622	2698.324	TN
31565	9978491.347	781777.832	2787.548	CS1
31566	9978486.896	781777.948	2757.175	CS1
31567	9978486.293	781768.866	2737.345	CS1
31568	9978486.863	781768.503	2737.438	CS1
31569	9978486.718	781754.737	2737.407	CS1
31570	9978489.642	781754.775	2737.388	CS1
31571	9978490.463	781751.461	2737.155	CS1
31572	9978491.666	781764.152	2738.678	CS1
31573	9978494.193	781753.189	2738.724	CS1
31574	9978492.784	781758.715	2738.617	CS1
31575	9978474.046	781784.703	2737.113	CS2
31576	9978475.157	781789.794	2737.606	CS2
31577	9978492.659	781785.951	2737.636	CS2
31578	9978489.835	781787.243	2737.550	CS3
31579	9978481.927	781788.638	2737.395	CS3
31580	9978483.870	781793.297	2737.297	CS3
31581	9978487.746	781792.120	2737.324	CS3
31582	9978490.176	781799.058	2736.920	CS3
31583	9978493.972	781796.812	2736.912	CS3
31584	9978498.941	781801.502	2736.994	CS4
31585	9978492.096	781805.901	2736.923	CS4
31586	9978495.341	781811.068	2736.512	CS4
31587	9978502.161	781806.685	2736.463	CS4
31588	9978503.975	781814.969	2736.870	CS5
31589	9978499.544	781819.132	2736.831	CS5
31590	9978498.851	781818.462	2736.855	CS5
31591	9978497.134	781820.081	2736.846	CS5
31592	9978503.392	781826.639	2736.861	CS5
31593	9978509.421	781820.776	2736.937	CS5
31594	9978510.455	781824.971	2734.561	CS6
31595	9978507.568	781828.345	2734.609	CS6
31596	9978519.193	781833.172	2734.367	CS6
31597	9978516.262	781836.515	2735.314	CS6
31598	9978507.425	781828.429	2735.338	CS6
31599	9978522.752	781830.432	2734.489	CS7
31600	9978536.454	781841.894	2734.133	CS7
31601	9978532.818	781846.296	2735.174	CS7
31602	9978519.253	781833.886	2735.138	CS7
31603	9978539.596	781844.564	2734.051	CRM
31604	9978544.585	781849.173	2734.886	CRM
31605	9978539.502	781855.211	2734.442	CRM
31606	9978490.083	781750.913	2736.958	BD
31607	9978494.091	781745.477	2735.328	BD
31608	9978487.128	781750.872	2735.328	TN
31609	9978485.148	781756.713	2737.317	BD
31610	9978481.231	781761.480	2737.316	BD
31611	9978484.875	781756.576	2735.468	TN
31612	9978478.781	781781.370	2734.893	TN
31613	9978478.645	781764.574	2736.617	BD
31614	9978474.700	781772.222	2736.755	BD
31615	9978477.524	781764.197	2734.295	TN
31616	9978472.457	781779.402	2736.410	BD
31617	9978469.832	781771.585	2733.189	TN
31618	9978468.475	781790.854	2734.691	BD
31619	9978464.003	781787.984	2730.758	TN
31620	9978465.425	781779.649	2729.886	TN
31621	9978490.188	781802.160	2736.501	TN
31622	9978477.742	781797.377	2736.666	TN
31623	9978479.351	781805.061	2736.308	TN
31624	9978482.666	781810.855	2736.184	TN
31625	9978482.724	781818.504	2736.137	TN
31626	9978486.302	781828.642	2736.160	TN
31627	9978487.108	781829.592	2736.370	TN
31628	9978503.177	781841.408	2734.694	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31629	9978494.127	781851.028	2735.033	TN
31630	9978500.965	781865.296	2735.404	TN
31631	9978510.965	781850.805	2734.790	TN
31632	9978508.744	781849.709	2734.797	TN
31633	9978525.817	781858.301	2734.368	TN
31634	9978516.317	781861.428	2735.174	TN
31635	9978507.362	781867.016	2735.452	TN
31636	9978472.091	781794.772	2736.965	BD
31637	9978471.876	781804.829	2736.500	BD
31638	9978474.227	781812.911	2736.313	BD
31639	9978476.837	781823.185	2736.065	BD
31640	9978480.076	781830.382	2736.289	BD
31641	9978482.572	781839.205	2736.147	BD
31642	9978485.530	781852.923	2735.549	BD
31643	9978489.611	781860.705	2735.679	BD
31644	9978496.082	781869.207	2735.852	BD
31645	9978504.349	781872.988	2736.036	BD
31646	9978512.231	781872.620	2735.578	BD
31647	9978508.680	781872.710	2735.778	BD
31648	9978517.015	781872.048	2734.407	BD
31649	9978523.776	781870.667	2734.415	BD
31650	9978532.439	781884.071	2734.829	BD
31651	9978536.636	781898.607	2734.605	BD
31652	9978462.520	781794.043	2728.907	TN
31653	9978465.064	781807.186	2729.498	TN
31654	9978469.636	781814.860	2731.324	TN
31655	9978470.800	781823.645	2729.775	TN
31656	9978471.815	781835.858	2728.533	TN
31657	9978477.253	781839.819	2730.249	TN
31658	9978479.876	781848.312	2729.933	TN
31659	9978480.976	781856.568	2729.676	TN
31660	9978481.679	781859.785	2728.166	TN
31661	9978485.327	781869.286	2728.823	TN
31662	9978493.437	781873.950	2729.239	TN
31663	9978562.078	781917.713	2702.200	TN
31664	9978498.630	781876.888	2729.377	TN
31665	9978570.526	781896.072	2714.842	TN
31666	9978568.529	781898.605	2712.660	TN
31667	9978566.766	781892.288	2713.924	TN
31668	9978563.999	781895.686	2712.141	TN
31669	9978568.658	781887.870	2716.738	TN
31670	9978560.519	781891.276	2711.937	TN
31671	9978573.025	781896.841	2719.527	TN
31672	9978577.041	781884.837	2723.089	TN
31673	9978558.138	781855.511	2730.080	TN
31674	9978559.517	781853.584	2729.975	TN
31675	9978555.850	781850.778	2730.364	TN
31676	9978555.720	781847.457	2730.720	TN
31677	9978550.815	781845.979	2730.844	TN
31678	9978550.181	781845.928	2732.462	BD
31679	9978678.812	782475.255	2684.816	TOP
31680	9978679.032	782474.966	2684.865	TOP
31681	9978544.782	781839.728	2731.495	AUX PC2-17
31682	9978652.927	782327.328	2693.180	PIE
31683	9978502.167	781803.466	2736.142	TOP
31684	9978654.750	782337.824	2692.435	PIE
31685	9978502.167	781803.466	2731.495	AUX 15-A
31686	9978603.778	782322.335	2699.271	BD
31687	9978603.870	781948.474	2721.302	PIE
31688	9978654.522	782331.289	2698.934	BD
31689	9978603.870	781954.008	2720.976	PIE
31690	9978652.433	782347.227	2699.305	BD
31691	9978652.741	781965.073	2720.541	PIE
31692	9978652.713	782361.858	2697.979	BD
31693	9978657.112	781969.347	2720.143	PIE
31694	9978664.137	782372.294	2698.539	BD
31695	9978582.091	781973.141	2719.228	AUX 19-A
31696	9978666.039	782378.964	2698.243	BD
31697	9978554.800	781750.861	2707.723	AUX 20-A
31698	9978511.966	781871.271	2734.342	AA
31699	9978543.587	781870.264	2730.863	AS
31700	9978591.844	781890.167	2725.199	PIE-H
31701	9978594.183	781898.426	2724.640	PIE-H
31702	9978597.367	781902.740	2732.746	BD-H
31703	9978594.389	781904.579	2725.853	PIE-H
31704	9978597.543	781909.037	2732.424	BD-H
31705	9978594.708	781911.555	2723.849	PIE-H
31706	9978597.556	781915.573	2732.100	BD-H
31707	9978594.826	781915.866	2723.730	PIE-H





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO [PUNTOS TOPOGRAFICOS]

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31708	9978594.195	781979.791	2719.527	PIE
31709	9978590.694	781992.864	2718.379	PIE
31710	9978586.954	782006.855	2717.400	PIE
31711	9978583.038	782022.688	2716.262	PIE
31712	9978578.695	782038.147	2715.115	PIE
31713	9978575.947	782048.626	2714.349	PIE
31714	9978575.435	782057.976	2713.697	PIE
31715	9978570.497	782069.140	2712.973	PIE
31716	9978568.780	782075.437	2712.371	PIE
31717	9978565.741	782090.859	2711.109	PIE
31718	9978563.742	782103.682	2709.982	PIE
31719	9978562.804	782111.963	2709.291	PIE
31720	9978562.946	782121.606	2708.448	PIE
31721	9978563.726	782131.320	2707.749	PIE
31722	9978566.197	782140.612	2707.204	PIE
31723	9978569.025	782147.816	2706.717	PIE
31724	9978574.120	782157.404	2705.923	PIE
31725	9978580.023	782167.586	2705.155	PIE
31726	9978585.364	782175.868	2704.533	PIE
31727	9978591.280	782184.817	2703.740	PIE
31728	9978584.871	782048.299	2704.815	TN
31729	9978585.220	782056.549	2705.784	TN
31730	9978581.399	782058.419	2707.450	BO
31731	9978581.012	782112.520	2706.865	BO
31732	9978593.296	782091.288	2740.620	BO
31733	9978578.390	782106.934	2727.263	BO
31734	9978580.373	782073.858	2722.739	TN
31735	9978602.538	782072.933	2745.852	BO
31736	9978579.548	782078.078	2724.083	TN
31737	9978599.291	782081.987	2745.260	BO
31738	9978580.718	782084.424	2721.751	TN
31739	9978597.788	782088.670	2744.174	BO
31740	9978587.843	782077.199	2732.399	TN
31741	9978605.066	782090.196	2746.328	TN
31742	9978604.537	782085.438	2747.340	TN
31743	9978588.832	782082.994	2732.341	TN
31744	9978577.954	782090.904	2720.557	TN
31745	9978567.014	782100.657	2742.014	TN
31746	9978587.541	782093.548	2732.968	TN
31747	9978602.408	782101.216	2743.472	TN
31748	9978587.298	782103.629	2733.623	BO
31749	9978576.597	782099.133	2720.821	TN
31750	9978588.505	782112.623	2732.227	TN
31751	9978576.277	782103.412	2721.151	TN
31752	9978600.025	782115.181	2739.170	TN
31753	9978590.545	782122.659	2729.780	TN
31754	9978577.424	782108.757	2721.254	TN
31755	9978605.178	782114.178	2741.929	TN
31756	9978601.146	782125.594	2737.439	TN
31757	9978593.244	782130.893	2728.834	TN
31758	9978577.771	782116.824	2721.139	TN
31759	9978609.708	782127.338	2739.291	TN
31760	9978571.886	782126.544	2719.586	BO
31761	9978603.049	782140.888	2735.031	TN
31762	9978578.330	782124.246	2720.775	TN
31763	9978594.568	782147.069	2729.147	TN
31764	9978578.445	782131.244	2719.994	TN
31765	9978612.195	782145.779	2735.541	TN
31766	9978578.698	782139.772	2721.011	BO
31767	9978618.052	782151.051	2737.647	TN
31768	9978581.562	782147.048	2721.204	BO
31769	9978570.034	782112.959	2715.155	TN
31770	9978568.014	782125.403	2715.140	TN
31771	9978577.188	782150.897	2714.225	TN
31772	9978585.697	782167.549	2716.090	TN
31773	9978567.332	782130.370	2714.052	TN
31774	9978605.929	782197.413	2711.047	BO
31775	9978601.721	782187.418	2714.598	BO
31776	9978593.384	782176.050	2717.446	BO
31777	9978585.602	782167.823	2717.889	BO
31778	9978585.458	782162.015	2718.511	BO
31779	9978587.370	782171.066	2711.046	TN
31780	9978591.136	782178.755	2709.664	TN
31781	9978602.155	782192.029	2708.642	TN
31782	9978578.496	782157.266	2712.265	TN
31783	9978608.973	782458.335	2681.712	AUX 21A
31784	9978650.415	782317.688	2693.740	AUX 20A-1
31785	9978641.626	782256.032	2708.939	BO
31786	9978589.514	782160.030	2724.425	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31787	9978618.261	782151.437	2757.899	TN
31788	9978596.313	781817.280	2732.742	TN
31789	9978597.132	781812.415	2734.377	TN
31790	9978544.683	781815.689	2734.979	TN
31791	9978543.506	781823.325	2732.140	TN
31792	9978551.818	781829.264	2731.489	TN
31793	9978560.364	781835.923	2730.811	TN
31794	9978554.922	781815.882	2737.588	TN
31795	9978566.363	781841.032	2730.256	TN
31796	9978562.107	781819.049	2737.744	TN
31797	9978571.829	781845.890	2729.912	TN
31798	9978578.723	781850.069	2729.186	TN
31799	9978569.143	781821.388	2739.059	TN
31800	9978629.666	781879.495	2743.748	TN
31801	9978578.486	781852.084	2728.958	CASA
31802	9978573.147	781858.203	2728.675	CASA
31803	9978631.088	781873.930	2745.948	TN
31804	9978573.154	781858.172	2728.063	CASA
31805	9978582.211	781866.197	2728.569	CASA
31806	9978578.332	781829.014	2739.714	TN
31807	9978626.399	781869.454	2743.266	TN
31808	9978588.061	781860.464	2728.312	CASA
31809	9978626.141	781863.770	2743.378	TN
31810	9978591.512	781834.926	2741.253	TN
31811	9978586.223	781857.052	2729.849	TN
31812	9978618.193	781860.753	2742.364	TN
31813	9978601.071	781840.779	2741.943	TN
31814	9978588.590	781861.791	2728.278	TN
31815	9978611.587	781858.477	2741.992	TN
31816	9978604.935	781845.235	2742.117	TN
31817	9978608.061	781852.571	2741.956	TN
31818	9978592.280	781868.224	2729.273	PIE-H
31819	9978593.038	781875.884	2726.579	PIE
31820	9978592.126	781875.832	2726.632	CJ
31821	9978581.080	781865.830	2728.694	CJ
31822	9978578.739	781864.366	2728.693	CJ
31823	9978593.503	781882.003	2725.803	PIE-H
31824	9978595.744	781866.894	2734.010	BO-H
31825	9978597.198	781896.610	2732.170	BO-H
31826	9978596.376	781874.475	2734.267	BO-H
31827	9978597.101	781893.503	2733.240	BO-H
31828	9978596.919	781887.571	2733.723	BO-H
31829	9978596.656	781881.041	2733.836	BO-H
31830	9978596.718	781882.819	2733.871	BO-H
31831	9978597.103	781865.269	2733.103	TN
31832	9978596.308	781858.974	2734.559	TN
31833	9978589.903	781861.044	2730.245	TN
31834	9978587.761	781856.771	2730.121	TN
31835	9978590.804	781850.411	2735.965	TN
31836	9978581.967	781850.193	2730.618	TN
31837	9978574.513	781846.658	2731.010	TN
31838	9978583.671	781841.862	2738.086	TN
31839	9978575.627	781838.964	2736.598	TN
31840	9978568.822	781835.890	2735.553	TN
31841	9978563.090	781832.975	2734.978	TN
31842	9978557.378	781831.350	2734.169	TN
31843	9978564.624	781834.171	2735.888	TN
31844	9978566.414	781833.749	2736.074	TN
31845	9978565.011	781873.212	2727.258	AUX 16-A
31846	9978563.451	782007.468	2751.609	TN
31847	9978569.117	782053.249	2702.297	CASA
31848	9978567.801	782020.978	2701.024	CASA
31849	9978569.180	781995.091	2721.807	CMN
31850	9978567.501	781993.275	2721.732	BO
31851	9978583.251	781923.083	2717.774	TN
31852	9978573.900	781923.372	2710.566	BO
31853	9978573.904	781923.453	2710.584	TN
31854	9978580.748	781933.368	2715.772	TN
31855	9978587.002	781944.125	2722.202	CMN
31856	9978585.946	781944.006	2720.978	BO
31857	9978569.934	781933.134	2706.284	TN
31858	9978577.535	781939.977	2710.489	TN
31859	9978587.238	781951.328	2720.534	CMN
31860	9978584.635	781951.540	2720.187	BO
31861	9978577.275	781949.796	2711.275	TN
31862	9978586.407	781949.442	2720.930	MR
31863	9978577.203	781949.744	2711.264	TN
31864	9978583.471	781959.259	2720.035	MR
31865	9978562.992	781956.540	2701.520	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31866	9978580.435	781970.318	2719.412	MR
31867	9978561.077	781967.745	2700.697	TN
31868	9978578.434	781977.799	2718.916	MR
31869	9978570.867	781971.608	2708.961	TN
31870	9978557.215	781979.591	2700.263	TN
31871	9978575.231	781990.223	2718.017	MR
31872	9978572.080	782001.277	2717.200	MR
31873	9978567.283	781980.538	2707.733	TN
31874	9978552.442	781985.614	2697.249	TN
31875	9978570.766	782009.147	2716.591	BO
31876	9978568.130	782012.084	2716.673	MR
31877	9978561.719	781990.707	2705.326	TN
31878	9978566.520	782018.990	2716.068	MR
31879	9978547.089	781995.168	2695.820	TN
31880	9978565.119	782024.706	2716.178	MR
31881	9978564.927	782025.026	2716.216	CASA
31882	9978557.974	782000.400	2704.962	TN
31883	9978544.020	782002.334	2694.814	TN
31884	9978556.329	782009.956	2705.330	TN
31885	9978565.860	782011.476	2712.809	PIE-M
31886	9978540.750	782013.632	2694.778	TN
31887	9978558.375	782017.167	2706.692	TN
31888	9978556.884	782023.297	2706.552	CASA
31889	9978605.167	782153.585	2730.570	TN
31890	9978541.635	782019.066	2695.704	TN
31891	9978564.975	782017.705	2712.175	PIE-M
31892	9978538.890	782024.578	2693.847	TN
31893	9978561.977	782024.373	2710.782	PIE-M
31894	9978534.681	782035.765	2693.614	TN
31895	9978572.048	782001.214	2715.170	PIE-M
31896	9978527.748	782035.541	2687.974	TN
31897	9978574.138	781993.105	2715.493	PIE-M
31898	9978576.929	781982.852	2715.848	PIE-M
31899	9978579.326	781974.126	2715.470	PIE-M
31900	9978581.164	781967.728	2717.161	PIE-M
31901	9978590.859	782011.740	2686.542	TN
31902	9978582.990	781980.745	2717.969	PIE-M
31903	9978582.213	781980.170	2719.591	MR
31904	9978524.434	782023.825	2683.270	TN
31905	9978582.180	781960.072	2717.791	PIE-M
31906	9978531.774	782004.298	2684.881	TN
31907	9978514.654	782027.504	2676.010	TN
31908	9978586.162	781945.869	2720.576	MR
31909	9978585.811	781946.059	2719.062	PIE-M
31910	9978511.766	782019.515	2672.773	CJ
31911	9978508.100	782018.344	2671.985	CJ
31912	9978586.327	781949.476	2720.816	PIE-M
31913	9978513.542	782017.394	2673.975	TN
31914	9978532.838	781995.976	2685.105	TN
31915	9978518.091	782008.493	2676.521	TN
31916	9978523.765	781999.534	2679.042	TN
31917	9978542.675	781975.580	2687.862	TN
31918	9978529.012	781990.427	2681.371	TN
31919	9978556.293	782055.112	2713.777	CASA
31920	9978549.814	782053.962	2711.084	CASA
31921	9978540.051	782061.033	2710.916	TN
31922	9978549.026	781963.431	2692.126	TN
31923	9978533.088	781983.337	2685.868	TN
31924	9978541.041	781949.846	2687.290	TN
31925	9978555.746	781944.913	2695.374	TN
31926	9978541.252	781960.591	2687.012	TN
31927	9978556.837	782056.602	2713.449	BO
31928	9978558.765	781991.089	2699.191	TN
31929	9978540.534	781947.575	2688.611	TN
31930	9978553.954	782064.269	2713.402	BO
31931	9978561.668	781920.500	2702.616	TN
31932	9978543.722	781941.744	2691.060	TN
31933	9978552.998	782075.591	2712.276	BO
31934	9978564.428	781909.414	2704.913	TN
31935	9978551.152	782083.987	2711.614	BO
31936	9978550.267	782093.453	2711.021	BO
31937	9978549.967	781928.436	2695.516	TN
31938	9978546.463	781918.769	2696.785	TN
31939	9978511.315	782050.818	2680.797	TN
31940	9978523.593	782053.490	2689.156	TN
31941	9978527.086	782063.847	2692.238	TN
31942	9978530.022	781889.007	2718.442	TN
31943	9978540.438	781912.332	2701.668	TN
31944	9978527.807	782089.012	2692.669	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
31945	9978520.610	782100.588	2687.316	TN
31946	9978524.401	782101.277	2690.384	TN
31947	9978519.976	782088.955	2686.952	TN
31948	9978536.148	782102.873	2699.763	TN
31949	9978503.281	782091.389	2675.583	TN
31950	9978536.612	782044.667	2697.328	BO
31951	9978613.895	781881.232	2764.130	TN
31952	9978628.269	781887.649	2756.885	BO
31953	9978634.998	781877.785	2763.853	BO
31954	9978594.747	782071.356	2736.094	TN
31955	9978609.232	781934.412	2735.824	BO
31956	9978615.251	781926.200	2744.453	BO
31957	9978619.134	781912.436	2748.965	BO
31958	9978593.138	782061.783	2739.773	TN
31959	9978603.343	782074.915	2746.358	TN
31960	9978590.247	782055.991	2736.533	BO
31961	9978589.501	782048.846	2735.766	BO
31962	9978588.587	782042.004	2733.927	BO
31963	9978608.588	782056.753	2749.091	TN
31964	9978587.350	782035.095	2731.522	BO
31965	9978614.096	782078.120	2755.382	TN
31966	9978591.652	782090.204	2731.737	BO
31967	9978617.343	782069.783	2757.423	TN
31968	9978593.428	782026.026	2735.053	BO
31969	9978614.440	782042.814	2752.598	TN
31970	9978594.558	782020.232	2735.153	BO
31971	9978612.686	782035.303	2750.182	TN
31972	9978623.999	782061.922	2757.807	TN
31973	9978612.869	782025.429	2749.271	TN
31974	9978598.202	782012.033	2738.537	BO
31975	9978612.697	782015.206	2750.110	TN
31976	9978614.597	782007.148	2749.819	TN
31977	9978603.223	782000.706	2737.900	BO
31978	9978603.771	781990.268	2736.966	BO
31979	9978625.649	782048.784	2758.075	TN
31980	9978620.268	781998.686	2749.427	TN
31981	9978601.791	781983.475	2759.382	BO
31982	9978603.096	781977.562	2739.948	BO
31983	9978620.851	781985.986	2750.408	TN
31984	9978607.157	781971.649	2739.906	BO
31985	9978627.715	782041.166	2759.018	TN
31986	9978611.951	781963.404	2741.947	BO
31987	9978614.138	781967.478	2741.742	BO
31988	9978618.242	781974.775	2749.893	TN
31989	9978619.910	781973.119	2750.484	TN
31990	9978629.407	782036.468	2760.148	TN
31991	9978607.491	781952.675	2735.239	BO
31992	9978608.066	781933.993	2736.058	BO
31993	9978607.247	781944.074	2733.934	BO
31994	9978622.025	781962.598	2750.488	TN
31995	9978629.450	781906.428	2759.304	TN
31996	9978629.785	782029.818	2760.182	TN
31997	9978609.335	781936.706	2735.932	BO
31998	9978629.638	781947.822	2756.435	TN
31999	9978623.537	781916.049	2754.626	TN
32000	9978623.544	781926.067	2750.820	TN
32001	9978623.798	782023.862	2763.420	TN
32002	9978623.780	781951.109	2747.229	TN
32003	9978623.749	781913.892	2766.171	TN
32004	9978623.735	781922.919	2783.625	TN
32005	9978623.771	781906.811	2779.607	TN
32006	9978623.751	781894.123	2770.839	TN
32007	9978623.132	781945.810	2746.559	TN
32008	9978637.226	781897.574	2766.899	TN
32009	9978647.720	781920.183	2775.838	TN
32010	9978638.202	781907.918	2771.583	TN
32011	9978635.511	782014.103	2762.689	TN
32012	9978632.068	781928.812	2763.053	TN
32013	9978650.383	781930.124	2774.994	TN
32014	9978643.838	781920.202	2771.893	TN
32015	9978619.783	781938.461	2749.214	TN
32016	9978637.066	782003.138	2761.352	TN
32017	9978639.801	781991.695	2763.136	TN
32018	9978640.878	781981.199	2764.324	TN
32019	9978641.038	781966.947	2765.508	TN
32020	9978638.175	781955.106	2763.490	TN
32021	9978631.342	781940.777	2759.836	TN
32022	9978642.817	781964.272	2767.710	TN
32023	9978642.343	781946.138	2768.280	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32024	9978625.093	781973.028	2755.274	TN
32025	9978624.226	781983.500	2755.371	TN
32026	9978624.728	781993.406	2760.281	TN
32027	9978624.651	781958.606	2767.819	TN
32028	9978642.141	781946.233	2767.207	TN
32029	9978593.023	782043.107	2737.194	TN
32030	9978596.923	782046.268	2740.411	TN
32031	9978623.984	782012.062	2757.328	TN
32032	9978632.131	781975.135	2762.020	TN
32033	9978546.013	782084.887	2706.777	TN
32034	9978536.238	782077.150	2699.106	TN
32035	9978534.822	782114.623	2700.190	TN
32036	9978536.845	782099.951	2700.017	TN
32037	9978513.543	782053.518	2681.412	TN
32038	9978503.901	782092.193	2675.561	TN
32039	9978507.916	782073.071	2678.070	TN
32040	9978552.369	781987.909	2773.344	TN
32041	9978659.477	781982.038	2780.210	TN
32042	9978650.821	781990.166	2772.103	TN
32043	9978650.336	781948.167	2773.887	TN
32044	9978660.407	781945.229	2782.535	TN
32045	9978650.204	781957.007	2774.881	TN
32046	9978659.200	781953.628	2782.196	TN
32047	9978667.302	781945.047	2787.763	TN
32048	9978669.375	781953.240	2790.626	TN
32049	9978649.358	781964.082	2774.123	TN
32050	9978668.929	781959.225	2792.152	TN
32051	9978657.983	781967.717	2782.126	TN
32052	9978648.287	781970.043	2773.813	TN
32053	9978668.625	781965.064	2793.101	TN
32054	9978661.149	781970.453	2785.715	TN
32055	9978669.218	781973.951	2793.572	TN
32056	9978651.313	781973.973	2772.153	TN
32057	9978670.355	781981.309	2794.570	TN
32058	9978663.961	781982.196	2788.062	TN
32059	9978652.799	781990.683	2778.545	TN
32060	9978651.779	781979.986	2767.516	TN
32061	9978670.609	781988.709	2793.997	TN
32062	9978649.425	781988.991	2767.873	TN
32063	9978673.365	781985.295	2793.004	TN
32064	9978664.165	781995.724	2787.529	TN
32065	9978647.549	781997.794	2768.944	TN
32066	9978663.940	782001.781	2786.953	TN
32067	9978659.181	782001.132	2778.493	TN
32068	9978648.636	782006.092	2770.472	TN
32069	9978675.002	782012.985	2791.848	TN
32070	9978673.734	782018.576	2793.816	TN
32071	9978645.754	782013.278	2770.707	TN
32072	9978644.931	782019.752	2772.305	TN
32073	9978672.734	782027.899	2782.721	TN
32074	9978658.229	782008.338	2777.486	TN
32075	9978671.302	782033.696	2794.759	TN
32076	9978642.840	782019.080	2770.838	TN
32077	9978669.572	782043.720	2794.949	TN
32078	9978656.049	782024.612	2779.581	TN
32079	9978670.047	782048.980	2796.039	TN
32080	9978641.358	782027.949	2771.341	TN
32081	9978670.523	782053.205	2795.769	TN
32082	9978642.985	782012.900	2770.657	TN
32083	9978652.809	782036.416	2778.650	TN
32084	9978668.427	782060.778	2795.480	TN
32085	9978670.857	782067.865	2794.691	TN
32086	9978642.248	782040.004	2771.217	TN
32087	9978653.700	782046.168	2780.283	TN
32088	9978641.413	782061.054	2770.203	TN
32089	9978669.714	782076.608	2796.992	TN
32090	9978669.251	782081.181	2796.278	TN
32091	9978636.246	782070.512	2767.298	TN
32092	9978669.963	782085.660	2796.294	TN
32093	9978633.930	782073.746	2784.090	TN
32094	9978650.092	782069.682	2777.795	TN
32095	9978657.328	782087.083	2787.791	TN
32096	9978648.993	782073.137	2775.925	TN
32097	9978651.993	782082.891	2782.247	TN
32098	9978647.008	782089.483	2776.805	TN
32099	9978637.329	782089.927	2769.853	TN
32100	9978600.510	782166.327	2725.397	TN
32101	9978625.486	782159.872	2737.692	TN
32102	9978612.587	782160.064	2731.071	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32103	9978610.116	782173.579	2725.589	TN
32104	9978634.649	782168.511	2739.178	TN
32105	9978613.038	782180.202	2726.984	TN
32106	9978624.004	782175.788	2731.377	TN
32107	9978639.722	782175.689	2739.949	TN
32108	9978622.837	782186.082	2726.169	TN
32109	9978630.852	782182.942	2731.597	TN
32110	9978645.959	782180.667	2741.267	TN
32111	9978623.851	782216.962	2711.592	BD
32112	9978626.093	782205.233	2717.116	BD
32113	9978617.336	782194.649	2718.182	BD
32114	9978611.821	782191.284	2716.398	BD
32115	9978607.391	782198.638	2710.585	BD
32116	9978652.641	782187.860	2741.910	TN
32117	9978628.827	782194.288	2725.512	TN
32118	9978657.777	782195.515	2741.589	TN
32119	9978636.845	782189.115	2733.547	TN
32120	9978634.579	782200.717	2725.488	TN
32121	9978625.756	782221.709	2710.344	BD
32122	9978630.811	782235.188	2708.317	BD
32123	9978640.639	782247.187	2710.544	BD
32124	9978649.952	782278.921	2709.863	BD
32125	9978647.584	782285.123	2703.270	BD
32126	9978645.663	782195.904	2734.969	TN
32127	9978663.679	782205.031	2740.866	TN
32128	9978640.403	782207.177	2725.944	TN
32129	9978667.770	782209.470	2740.753	TN
32130	9978655.751	782205.830	2736.878	TN
32131	9978659.012	782216.090	2732.107	TN
32132	9978646.962	782216.427	2725.735	TN
32133	9978675.548	782219.856	2739.914	TN
32134	9978668.832	782223.240	2731.660	TN
32135	9978646.941	782223.038	2722.630	TN
32136	9978677.143	782222.722	2740.915	TN
32137	9978668.375	782231.918	2730.774	TN
32138	9978683.914	782233.036	2739.354	TN
32139	9978648.906	782227.944	2739.556	TN
32140	9978671.232	782241.915	2729.125	TN
32141	9978686.069	782241.359	2739.694	TN
32142	9978650.772	782235.929	2719.829	TN
32143	9978689.855	782248.379	2739.370	TN
32144	9978654.591	782241.343	2718.940	TN
32145	9978674.998	782254.711	2727.870	TN
32146	9978690.052	782257.400	2737.364	TN
32147	9978657.251	782250.157	2719.001	TN
32148	9978692.057	782263.986	2737.263	TN
32149	9978659.290	782259.617	2717.397	TN
32150	9978678.291	782266.420	2728.594	TN
32151	9978695.351	782273.231	2736.877	TN
32152	9978660.214	782268.183	2715.238	TN
32153	9978701.249	782284.504	2737.969	TN
32154	9978682.404	782276.672	2727.155	TN
32155	9978663.205	782277.210	2714.472	TN
32156	9978704.815	782297.342	2736.770	TN
32157	9978625.415	782282.509	2696.633	AUX ML
32158	9978695.183	782190.630	2703.190	PIE
32159	9978673.658	782201.542	2702.343	PIE
32160	9978675.423	782202.747	2704.036	PIE
32161	9978676.830	782203.079	2704.222	PIE
32162	9978679.801	782200.135	2705.545	PIE
32163	9978677.260	782197.190	2707.915	PIE
32164	9978679.395	782199.480	2709.282	PIE
32165	9978613.015	782192.021	2709.175	PIE
32166	9978616.859	782192.894	2709.073	PIE
32167	9978619.928	782192.529	2710.131	PIE
32168	9978623.474	782203.658	2708.549	PIE
32169	9978623.804	782212.344	2708.783	PIE
32170	9978620.041	782215.063	2705.104	PIE
32171	9978616.780	782215.254	2703.559	PIE
32172	9978613.978	782217.933	2701.217	PIE
32173	9978620.744	782227.733	2700.670	PIE
32174	9978624.602	782233.886	2700.338	PIE
32175	9978629.067	782241.681	2699.718	PIE
32176	9978633.980	782251.716	2699.081	PIE
32177	9978637.275	782259.051	2698.508	PIE
32178	9978640.409	782267.996	2697.904	PIE
32179	9978643.193	782277.045	2697.240	PIE
32180	9978646.085	782287.691	2696.290	PIE
32181	9978649.060	782302.567	2695.155	PIE





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32182	9978651.464	782318.008	2693.924	PIE
32183	9978653.859	782332.229	2692.912	PIE
32184	9978663.429	782278.568	2714.346	TN
32185	9978665.861	782286.123	2713.298	TN
32186	9978667.446	782294.990	2712.540	TN
32187	9978706.474	782305.254	2738.081	TN
32188	9978688.952	782302.852	2724.620	TN
32189	9978667.206	782299.775	2711.131	TN
32190	9978692.024	782312.222	2724.577	TN
32191	9978669.410	782311.630	2708.077	TN
32192	9978710.679	782313.771	2738.288	TN
32193	9978672.107	782320.338	2709.069	TN
32194	9978673.199	782330.569	2709.784	TN
32195	9978713.090	782322.399	2739.851	TN
32196	9978673.209	782337.661	2708.647	TN
32197	9978714.444	782333.383	2738.359	TN
32198	9978693.511	782325.382	2724.484	TN
32199	9978672.232	782348.326	2707.353	TN
32200	9978674.512	782356.999	2707.111	TN
32201	9978695.623	782335.337	2724.686	TN
32202	9978680.973	782379.050	2706.241	TOP
32203	9978714.598	782336.028	2737.484	TN
32204	9978678.772	782365.083	2709.469	TN
32205	9978716.942	782343.536	2738.611	TN
32206	9978699.195	782346.854	2726.244	TN
32207	9978718.181	782352.997	2746.152	TN
32208	9978680.973	782379.050	2706.240	TN
32209	9978683.524	782387.075	2706.187	TN
32210	9978685.845	782398.773	2706.541	TN
32211	9978724.842	782377.638	2739.054	TN
32212	9978710.383	782376.184	2727.067	TN
32213	9978691.107	782406.992	2707.920	TN
32214	9978729.493	782405.538	2739.534	TN
32215	9978696.638	782424.972	2706.768	TN
32216	9978696.635	782425.014	2709.777	TN
32217	9978731.888	782416.146	2740.646	TN
32218	9978701.689	782432.129	2731.813	TN
32219	9978718.066	782403.720	2729.994	TN
32220	9978733.294	782423.312	2739.469	TN
32221	9978705.638	782440.091	2711.873	TN
32222	9978711.382	782444.754	2732.768	TN
32223	9978720.620	782423.510	2727.955	TN
32224	9978740.954	782438.088	2738.093	TN
32225	9978667.143	782391.151	2697.801	BO
32226	9978680.998	782477.270	2685.271	TOP
32227	9978674.284	782432.095	2685.665	PIE
32228	9978678.105	782440.478	2685.111	PIE
32229	9978682.998	782449.656	2684.539	PIE
32230	9978688.736	782457.967	2684.041	PIE
32231	9978695.979	782466.484	2683.438	PIE
32232	9978700.690	782473.608	2682.987	PIE
32233	9978705.647	782479.743	2682.642	PIE
32234	9978712.890	782489.002	2682.029	PIE
32235	9978719.267	782497.172	2681.463	PIE
32236	9978725.842	782505.529	2681.080	PIE
32237	9978731.222	782513.025	2680.632	PIE
32238	9978736.792	782522.141	2680.213	PIE
32239	9978739.813	782527.858	2679.949	PIE
32240	9978745.238	782544.627	2679.050	PIE
32241	9978747.901	782557.542	2678.355	PIE
32242	9978748.791	782565.380	2677.847	PIE
32243	9978723.600	782433.567	2726.568	TN
32244	9978718.636	782451.755	2714.171	TN
32245	9978727.220	782441.736	2725.465	TN
32246	9978722.355	782455.853	2710.432	TN
32247	9978720.832	782452.988	2713.832	TN
32248	9978726.280	782446.998	2724.463	TN
32249	9978674.364	782419.454	2695.135	BO
32250	9978676.497	782426.599	2695.388	BO
32251	9978680.328	782432.919	2698.289	BO
32252	9978685.608	782438.495	2699.291	BO
32253	9978690.257	782442.997	2700.185	BO
32254	9978694.044	782449.588	2700.379	BO
32255	9978697.908	782453.031	2701.242	BO
32256	9978701.412	782457.119	2700.773	BO
32257	9978709.702	782455.939	2704.521	BO
32258	9978714.090	782456.040	2705.078	BO
32259	9978718.115	782459.442	2704.699	BO
32260	9978718.236	782464.474	2704.704	BO

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32261	9978717.432	782471.267	2705.170	BO
32262	9978732.493	782448.240	2721.670	TN
32263	9978711.705	782458.714	2697.486	PIE
32264	9978721.360	782484.475	2705.096	BO
32265	9978733.871	782452.530	2719.957	TN
32266	9978722.636	782490.889	2701.144	BO
32267	9978729.798	782498.971	2704.220	BO
32268	9978753.126	782519.463	2716.016	BO
32269	9978762.070	782527.363	2717.604	BO
32270	9978758.490	782531.936	2714.123	BO
32271	9978758.920	782537.524	2711.490	BO
32272	9978759.629	782542.635	2707.949	BO
32273	9978668.360	782400.838	2695.825	BO
32274	9978673.507	782410.731	2697.136	BO
32275	9978678.180	782420.269	2697.992	BO
32276	9978656.238	782348.227	2691.551	PIE
32277	9978658.137	782360.051	2690.819	PIE
32278	9978659.971	782371.516	2690.055	PIE
32279	9978661.854	782382.526	2689.341	PIE
32280	9978663.623	782394.336	2688.487	PIE
32281	9978666.211	782405.661	2687.698	PIE
32282	9978668.843	782416.415	2686.762	PIE
32283	9978672.872	782427.861	2686.086	PIE
32284	9978709.000	782654.732	2670.047	AUX 22A
32285	9978680.169	782435.157	2691.142	TN
32286	9978685.603	782438.060	2694.176	TN
32287	9978686.906	782444.212	2694.371	TN
32288	9978691.465	782448.335	2695.518	TN
32289	9978696.673	782457.411	2693.193	TN
32290	9978702.021	782458.765	2695.785	TN
32291	9978706.636	782460.160	2695.966	TN
32292	9978711.580	782457.238	2699.600	TN
32293	9978715.513	782459.605	2699.365	TN
32294	9978720.757	782463.481	2713.939	TN
32295	9978715.892	782470.399	2697.723	TN
32296	9978716.899	782477.742	2695.350	TN
32297	9978718.628	782485.391	2693.683	TN
32298	9978723.027	782492.756	2693.334	TN
32299	9978726.001	782499.726	2692.924	TN
32300	9978737.258	782510.020	2694.045	TN
32301	9978760.655	782520.494	2707.028	TN
32302	9978760.787	782526.072	2707.051	TN
32303	9978755.248	782532.700	2701.914	TN
32304	9978752.735	782540.949	2696.689	TN
32305	9978749.421	782551.251	2690.739	TN
32306	9978755.838	782561.919	2692.248	TN
32307	9978757.836	782573.858	2695.266	TN
32308	9978753.010	782568.189	2684.884	TN
32309	9978749.699	782556.673	2684.689	TN
32310	9978746.425	782542.999	2684.009	TN
32311	9978736.688	782513.171	2689.145	TN
32312	9978727.486	782501.882	2687.430	TN
32313	9978722.134	782495.610	2687.883	TN
32314	9978718.640	782487.695	2688.999	TN
32315	9978716.611	782479.718	2690.373	TN
32316	9978715.893	782472.033	2693.720	TN
32317	9978711.971	782479.268	2686.284	PIE
32318	9978713.871	782472.750	2690.980	PIE
32319	9978713.118	782468.237	2693.466	PIE
32320	9978709.635	782471.310	2687.255	PIE
32321	9978707.248	782467.224	2690.893	PIE
32322	9978711.859	782506.149	2708.419	BO
32323	9978704.902	782514.541	2719.206	BO
32324	9978756.160	782531.289	2701.042	TN
32325	9978760.408	782520.393	2706.733	TN
32326	9978761.983	782557.912	2708.753	BO
32327	9978758.516	782557.919	2702.724	TN
32328	9978755.664	782543.407	2700.083	TN
32329	9978750.889	782590.950	2684.415	TN
32330	9978756.377	782630.236	2688.607	TN
32331	9978741.806	782512.776	2699.911	TN
32332	9978758.748	782580.523	2696.482	TN
32333	9978757.539	782584.769	2696.811	TN
32334	9978749.770	782509.375	2707.948	BO
32335	9978753.711	782517.880	2701.747	TN
32336	9978747.793	782512.686	2699.753	TN
32337	9978741.988	782515.287	2694.289	TN
32338	9978746.724	782539.179	2696.358	TN
32339	9978740.545	782519.255	2685.336	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32340	9978743.735	782526.508	2693.242	TN
32341	9978732.490	782498.965	2706.572	TN
32342	9978724.276	782489.848	2706.040	TN
32343	9978728.457	782458.900	2719.939	TN
32344	9978747.928	782455.427	2735.429	TN
32345	9978725.885	782466.536	2717.544	TN
32346	9978736.366	782457.428	2726.540	TN
32347	9978751.064	782466.483	2735.803	TN
32348	9978758.627	782475.009	2737.688	TN
32349	9978798.281	782470.374	2724.822	TN
32350	9978775.631	782483.558	2736.671	TN
32351	9978762.358	782541.241	2713.975	TN
32352	9978768.902	782542.955	2720.880	TN
32353	9978775.062	782542.134	2726.366	TN
32354	9978760.639	782566.864	2699.179	TN
32355	9978779.149	782489.811	2735.497	TN
32356	9978729.124	782483.692	2712.707	TN
32357	9978741.841	782477.805	2725.185	TN
32358	9978744.400	782503.038	2716.720	TN
32359	9978745.673	782482.181	2725.761	TN
32360	9978748.984	782501.457	2719.448	TN
32361	9978763.947	782481.119	2735.803	TN
32362	9978721.194	782483.092	2707.023	TN
32363	9978738.179	782496.367	2715.506	TN
32364	9978752.164	782490.758	2726.115	TN
32365	9978768.790	782569.239	2724.231	TN
32366	9978745.855	782501.355	2718.667	TN
32367	9978755.620	782496.194	2723.186	TN
32368	9978759.252	782495.585	2721.018	TN
32369	9978751.008	782504.544	2713.669	TN
32370	9978754.168	782504.780	2711.603	TN
32371	9978764.372	782499.369	2722.607	TN
32372	9978755.788	782566.067	2710.915	TN
32373	9978766.552	782501.415	2720.691	TN
32374	9978760.866	782508.172	2712.187	TN
32375	9978762.807	782510.506	2711.609	TN
32376	9978767.984	782507.653	2722.830	TN
32377	9978764.004	782514.118	2712.249	TN
32378	9978712.028	782520.954	2679.773	TOP
32379	9978772.070	782508.300	2728.563	TN
32380	9978782.501	782498.143	2734.983	TN
32381	9978766.820	782514.628	2722.190	TN
32382	9978791.123	782498.402	2748.969	TN
32383	9978775.922	782513.889	2732.630	TN
32384	9978768.034	782520.529	2725.871	TN
32385	9978781.425	782502.105	2738.941	TN
32386	9978791.997	782510.826	2739.202	TN
32387	9978765.234	782527.857	2723.365	TN
32388	9978784.431	782517.349	2740.200	TN
32389	9978779.483	782522.687	2733.423	TN
32390	9978790.950	782528.994	2742.698	TN
32391	9978768.788	782541.452	2722.574	TN
32392	9978772.568	782546.045	2719.677	TN
32393	9978775.249	782552.121	2719.033	TN
32394	9978776.908	782553.715	2718.274	TN
32395	9978798.946	782537.148	2744.819	TN
32396	9978781.941	782535.450	2732.706	TN
32397	9978801.621	782541.566	2743.473	TN
32398	9978780.954	782542.016	2732.085	TN
32399	9978778.331	782554.836	2718.178	TN
32400	9978778.478	782555.535	2716.256	TN
32401	9978784.116	782547.794	2728.230	TN
32402	9978778.380	782557.111	2718.948	TN
32403	9978810.034	782549.262	2746.757	TN
32404	9978786.205	782552.341	2728.325	TN
32405	9978778.035	782560.731	2719.790	TN
32406	9978777.966	782566.063	2718.752	TN
32407	9978788.629	782561.521	2729.680	TN
32408	9978775.928	782570.397	2714.886	TN
32409	9978775.979	782570.885	2714.174	TN
32410	9978811.269	782552.348	2746.756	TN
32411	9978751.195	782645.993	2678.568	TN
32412	9978752.743	782633.888	2679.095	TN
32413	9978755.174	782622.369	2683.839	TN
32414	9978756.453	782610.976	2682.119	TN
32415	9978754.682	782602.039	2681.720	TN
32416	9978751.886	782594.009	2684.982	TN
32417	9978751.865	782575.866	2685.184	TN
32418	9978752.836	782563.825	2687.999	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32419	9978749.350	782549.441	2689.392	TN
32420	9978765.300	782585.232	2704.476	TN
32421	9978769.032	782595.388	2702.240	TN
32422	9978767.737	782620.956	2697.514	TN
32423	9978767.669	782631.866	2700.582	TN
32424	9978767.290	782636.909	2701.370	TN
32425	9978770.148	782642.591	2701.719	TN
32426	9978769.474	782646.964	2701.391	TN
32427	9978768.009	782651.257	2699.347	TN
32428	9978778.593	782641.165	2720.978	TN
32429	9978786.524	782634.986	2724.504	TN
32430	9978786.456	782623.514	2722.586	TN
32431	9978776.239	782613.400	2714.731	TN
32432	9978774.766	782599.952	2715.950	TN
32433	9978771.124	782588.231	2713.965	TN
32434	9978771.499	782587.881	2716.728	BD
32435	9978766.867	782582.194	2709.343	BD
32436	9978771.304	782567.138	2714.628	BD
32437	9978776.203	782599.626	2721.195	BD
32438	9978716.155	782622.892	2677.454	BD
32439	9978788.449	782623.092	2729.382	BD
32440	9978793.595	782633.471	2736.550	BD
32441	9978761.190	782664.902	2669.347	PIE
32442	9978756.088	782660.895	2669.385	PIE
32443	9978751.117	782655.810	2669.707	PIE
32444	9978747.585	782649.305	2670.524	PIE
32445	9978746.331	782645.578	2671.175	PST
32446	9978744.614	782638.399	2671.493	PIE
32447	9978743.725	782629.926	2672.453	PIE
32448	9978743.797	782623.391	2673.099	PIE
32449	9978744.077	782617.091	2673.777	PIE
32450	9978744.990	782609.824	2674.565	PIE
32451	9978746.066	782603.876	2674.971	PIE
32452	9978747.758	782602.180	2675.200	CJ
32453	9978746.732	782597.516	2675.629	PIE
32454	9978748.038	782589.577	2676.216	PIE
32455	9978748.790	782580.180	2676.891	PIE
32456	9978749.117	782573.266	2677.400	PIE
32457	9978748.946	782570.614	2674.307	ALC
32458	9978738.424	782525.388	2677.074	ALC
32459	9978732.200	782517.524	2680.268	CJ
32460	9978720.358	782545.696	2675.839	ALC
32461	9978726.730	782573.054	2672.848	ALC
32462	9978812.186	782566.900	2739.665	TN
32463	9978791.225	782577.186	2728.518	TN
32464	9978813.141	782573.261	2741.084	TN
32465	9978775.384	782577.122	2716.188	TN
32466	9978814.375	782578.607	2741.720	TN
32467	9978803.705	782574.166	2736.290	TN
32468	9978797.038	782575.170	2732.630	TN
32469	9978778.195	782585.085	2719.628	TN
32470	9978811.915	782586.186	2730.593	TN
32471	9978787.463	782582.981	2729.127	TN
32472	9978777.128	782594.754	2722.767	TN
32473	9978806.549	782595.545	2738.545	TN
32474	9978783.928	782591.543	2728.435	TN
32475	9978780.267	782604.001	2724.643	TN
32476	9978799.043	782610.517	2737.140	TN
32477	9978782.514	782612.288	2727.298	TN
32478	9978791.441	782615.440	2736.288	TN
32479	9978786.351	782625.432	2737.745	TN
32480	9978788.428	782607.547	2732.254	TN
32481	9978797.909	782614.309	2740.838	BD
32482	9978793.294	782613.085	2730.266	BD
32483	9978795.641	782833.461	2651.246	AUX-25A
32484	9978747.981	782735.507	2662.780	AUX 1 A23
32485	9978801.688	782634.608	2742.330	BD
32486	9978820.371	782626.722	2729.479	BD
32487	9978832.154	782624.027	2754.727	BD
32488	9978841.623	782623.887	2761.911	BD
32489	9978864.276	782614.841	2780.271	BD
32490	9978873.596	782617.739	2783.747	BD
32491	9978890.472	782615.209	2791.454	BD
32492	9978914.340	782610.281	2803.748	BD
32493	9978931.749	782607.939	2812.250	BD
32494	9978930.847	782619.619	2799.733	BD
32495	9978990.936	782628.246	2790.587	BD
32496	9978933.067	782626.090	2682.388	BD
32497	9978937.249	782647.032	2773.569	TN





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32498	9978930.821	782632.404	2761.695	TN
32499	9978919.126	782625.025	2777.809	TN
32500	9978896.702	782624.613	2772.280	TN
32501	9978880.301	782625.428	2763.204	TN
32502	9978860.488	782633.160	2751.494	TN
32503	9978847.892	782629.376	2748.436	TN
32504	9978830.358	782627.242	2743.884	TN
32505	9978809.777	782637.814	2732.998	TN
32506	9978789.188	782643.976	2724.401	TN
32507	9978779.026	782653.018	2710.790	TN
32508	9978796.689	782651.188	2714.603	TN
32509	9978807.591	782650.344	2716.668	TN
32510	9978851.994	782640.891	2728.508	TN
32511	9978854.595	782640.799	2734.018	TN
32512	9978884.864	782630.457	2747.453	TN
32513	9978910.981	782634.382	2755.587	TN
32514	9978920.758	782644.394	2755.823	TN
32515	9978936.106	782651.487	2753.248	TN
32516	9978927.136	782651.758	2738.574	TN
32517	9978900.019	782646.262	2726.933	TN
32518	9978876.902	782644.130	2720.426	TN
32519	9978856.823	782646.405	2717.462	TN
32520	9978819.547	782668.909	2698.316	TN
32521	9978796.620	782673.616	2689.201	TN
32522	9978787.726	782663.184	2690.847	TN
32523	9978778.811	782657.252	2691.470	TN
32524	9978767.930	782655.474	2690.830	TN
32525	9978759.757	782648.826	2690.926	TN
32526	9978757.154	782651.815	2680.887	TN
32527	9978764.410	782655.867	2680.323	TN
32528	9978773.145	782658.098	2680.945	TN
32529	9978781.940	782640.161	2681.961	TN
32530	9978788.114	782665.754	2682.265	TN
32531	9978791.221	782672.766	2681.436	TN
32532	9978800.262	782674.945	2682.718	TN
32533	9978810.283	782677.351	2683.932	TN
32534	9978823.004	782676.664	2686.720	TN
32535	9978862.028	782659.720	2694.042	TN
32536	9978883.695	782664.988	2695.502	TN
32537	9978882.628	782668.172	2691.014	TN
32538	9978871.700	782648.903	2710.088	TN
32539	9978774.007	782728.929	2661.560	PIE
32540	9978780.205	782723.832	2667.696	PIE
32541	9978752.086	782679.290	2667.415	CASA
32542	9978759.480	782708.480	2663.785	PIE
32543	9978783.679	782711.725	2669.665	PIE
32544	9978754.811	782700.873	2664.783	PIE
32545	9978788.302	782722.026	2669.938	TN
32546	9978751.317	782692.693	2665.464	PIE
32547	9978797.868	782716.526	2670.271	TN
32548	9978747.883	782682.891	2666.361	PIE
32549	9978757.031	782677.590	2667.009	CASA
32550	9978760.510	782687.642	2667.050	CASA
32551	9978744.913	782673.315	2667.346	PIE
32552	9978793.865	782700.836	2670.355	TN
32553	9978744.306	782663.865	2668.454	PIE
32554	9978778.962	782701.820	2670.017	CASA
32555	9978776.832	782695.524	2670.047	CASA
32556	9978770.554	782670.934	2670.211	PIE
32557	9978779.983	782675.206	2671.758	PIE
32558	9978746.545	782663.230	2668.803	CMN
32559	9978748.221	782658.879	2669.121	CMN
32560	9978787.407	782679.682	2671.906	PIE
32561	9978750.695	782655.791	2669.371	CMN
32562	9978756.812	782662.400	2668.705	CMN
32563	9978753.786	782668.080	2668.454	CMN
32564	9978751.445	782674.834	2667.707	CMN
32565	9978785.164	782692.515	2669.921	CASA
32566	9978763.115	782669.868	2669.338	CMN
32567	9978761.775	782665.324	2669.361	CMN
32568	9978772.995	782672.990	2670.531	CMN
32569	9978771.757	782675.531	2670.446	CMN
32570	9978803.011	782688.906	2672.113	PIE
32571	9978780.283	782682.036	2671.141	CMN
32572	9978783.379	782678.499	2671.368	CMN
32573	9978787.441	782681.323	2671.322	CMN
32574	9978815.353	782680.026	2676.841	PIE
32575	9978784.580	782685.631	2671.176	CMN
32576	9978825.984	782678.762	2676.116	PIE

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32577	9978791.013	782697.600	2670.431	CMN
32578	9978799.523	782690.444	2670.926	CMN
32579	9978880.561	782693.460	2674.687	TN
32580	9978821.587	782697.355	2675.329	TN
32581	9978821.580	782697.341	2674.329	TN
32582	9978770.440	782707.366	2668.626	TN
32583	9978765.498	782704.130	2667.985	TN
32584	9978760.408	782700.994	2667.281	TN
32585	9978748.908	782676.352	2668.637	TN
32586	9978756.257	782700.001	2667.017	TN
32587	9978776.994	782681.660	2671.486	TN
32589	9978731.763	781290.498	2761.992	AUX1-A
32590	9978731.768	781290.511	2761.965	AUX1-A
32591	9978899.046	781093.180	2828.920	ESQ-C2
32592	9978901.670	781087.193	2828.397	ESQ-C2
32593	9978893.135	781083.345	2826.787	ESQ-C2
32594	9978898.485	781071.145	2825.856	TOP
32595	9978898.432	781071.171	2826.269	ESQ-C2
32596	9978899.725	781071.605	2827.038	ESQ-C2
32597	9978903.914	781066.412	2827.607	ESQ-C2
32598	9978904.722	781066.688	2828.063	ESQ-C2
32599	9978909.152	781057.040	2828.470	ESQ-C2
32600	9978914.923	781043.775	2827.985	ESQ-C2
32601	9978910.768	781032.968	2827.613	ESQ-C2
32602	9978918.734	781032.501	2827.726	ESQ-C2
32603	9978919.878	781025.494	2828.369	ESQ-C2
32604	9978918.547	781025.373	2827.941	ESQ-C2
32605	9978923.937	781012.952	2827.994	ESQ-C2
32606	9978923.071	781343.052	2837.120	S-HH
32607	9978922.579	781342.188	2835.559	S-HH
32608	9978921.511	781338.379	2834.912	S-HH
32609	9978923.259	781333.781	2833.972	S-HH
32610	9978926.025	781324.921	2832.684	S-HH
32611	9978929.370	781308.658	2833.251	ESQ-5
32612	9978913.621	781309.186	2837.395	S-HH
32613	9978920.716	781310.510	2842.958	S-HH
32614	9978936.237	781312.002	2848.754	S-HH
32616	9978934.724	781028.280	2775.215	AUXA
32617	9978934.759	781028.287	2775.213	AUXA
32618	9978910.846	781097.298	2772.747	PIE
32619	9978908.075	781108.090	2770.644	PIE
32620	9978903.119	781105.230	2770.108	TN
32621	9978905.481	781096.992	2772.550	TN
32622	9978901.688	781094.091	2769.481	TN
32623	9978799.142	781101.696	2768.418	TN
32624	9978796.767	781094.906	2765.949	TN
32625	9978798.983	781090.555	2768.150	TN
32626	9978799.027	781090.569	2765.724	TN
32627	9978796.383	781095.269	2768.073	TN
32628	9978797.255	781087.850	2765.697	BSQ
32629	9978798.816	781085.311	2765.581	TN
32630	9978799.668	781087.167	2767.991	TN
32631	9978796.869	781087.957	2762.703	FQ
32632	9978794.383	781092.145	2764.936	BSQ
32633	9978796.088	781091.025	2765.717	BSQ
32634	9978796.211	781090.990	2763.717	FQ
32635	9978795.088	781082.055	2761.026	TN
32636	9978793.441	781091.705	2763.382	TN
32637	9978792.263	781080.039	2760.377	TN
32638	9978793.266	781087.106	2762.105	BSQ
32639	9978794.207	781081.848	2759.792	TN
32640	9978791.490	781083.269	2760.883	BSQ
32641	9978791.82	781083.361	2759.872	FQ
32642	9978792.331	781086.269	2760.283	FQ
32643	9978787.447	781080.296	2757.606	FQ
32644	9978787.609	781080.248	2759.626	BSQ
32645	9978788.146	781088.053	2761.973	TN
32646	9978788.527	781079.079	2757.670	TN
32647	9978788.252	781077.717	2757.959	TN
32648	9978788.807	781083.596	2759.732	BSQ
32649	9978794.234	781085.514	2762.644	BSQ
32650	9978788.980	781083.325	2759.177	FQ
32651	9978794.229	781085.558	2760.678	FQ
32652	9978786.902	781081.840	2759.589	BSQ
32653	9978787.117	781081.562	2757.895	FQ
32654	9978797.298	781090.752	2762.739	S-ALC
32655	9978783.441	781078.946	2758.322	FQ
32656	9978785.096	781078.660	2754.956	FQ
32657	9978783.515	781079.104	2757.367	BSQ





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFIA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32658	9978795.404	781097.617	2768.076	TN
32659	9978782.088	781081.674	2756.618	TN
32660	9978793.577	781133.216	2789.979	PIE
32661	9978799.948	781123.999	2771.662	PIE
32662	9978792.072	781132.313	2769.828	TN
32663	9978797.127	781122.799	2770.330	TN
32664	9978789.261	781131.181	2770.802	TN
32665	9978790.404	781116.163	2770.304	TN
32666	9978784.392	781127.681	2770.035	TN
32667	9978781.216	781125.292	2767.528	TN
32668	9978784.347	781111.241	2767.483	TN
32669	9978776.762	781122.067	2767.223	TN
32670	9978781.874	781110.119	2764.973	TN
32671	9978778.599	781106.452	2758.503	TN
32672	9978775.557	781105.990	2755.537	TN
32673	9978768.160	781118.594	2758.634	TN
32674	9978763.630	781118.089	2754.077	TN
32675	9978755.191	781124.848	2748.868	TN
32676	9978759.962	781126.939	2753.716	TN
32677	9978764.170	781129.610	2757.939	TN
32678	9978767.348	781131.882	2762.947	TN
32679	9978752.772	781134.056	2753.177	TN
32680	9978770.559	781133.504	2766.724	TN
32681	9978773.722	781135.111	2766.953	TN
32682	9978757.609	781127.456	2758.539	TN
32683	9978778.874	781138.663	2770.029	TN
32684	9978782.340	781141.346	2771.192	TN
32685	9978762.432	781141.882	2764.039	TN
32686	9978789.581	781145.900	2770.867	PIE
32687	9978764.679	781145.177	2768.000	TN
32688	9978771.077	781145.849	2767.605	TN
32689	9978775.901	781148.733	2771.108	TN
32690	9978778.162	781150.978	2772.730	TN
32691	9978781.958	781154.023	2771.961	TN
32692	9978784.326	781157.937	2772.411	PIE
32693	9978776.112	781175.978	2773.753	PIE
32694	9978780.550	781167.037	2773.424	PIE
32695	9978772.591	781174.914	2773.821	TN
32696	9978776.927	781185.361	2773.237	TN
32697	9978770.842	781175.558	2773.668	TN
32698	9978773.810	781163.019	2774.445	TN
32699	9978765.927	781169.729	2771.200	TN
32700	9978771.145	781159.373	2772.215	TN
32701	9978767.421	781157.486	2769.140	TN
32702	9978759.915	781167.231	2766.889	TN
32703	9978762.987	781156.092	2765.988	TN
32704	9978759.565	781153.818	2764.704	TN
32705	9978754.783	781163.233	2764.702	TN
32706	9978756.391	781151.314	2761.410	TN
32707	9978750.669	781149.097	2756.362	TN
32708	9978750.236	781159.958	2759.465	TN
32709	9978748.256	781146.999	2754.977	TN
32710	9978746.824	781145.955	2754.282	TN
32711	9978742.053	781154.239	2749.709	TN
32712	9978743.315	781144.128	2750.527	TN
32713	9978741.842	781143.175	2748.640	TN
32714	9978737.597	781140.787	2744.248	TN
32715	9978735.475	781150.151	2742.633	TN
32716	9978727.152	781157.683	2743.497	TN
32717	9978733.373	781168.272	2750.833	TN
32718	9978724.686	781162.923	2743.764	TN
32719	9978731.856	781174.431	2750.319	TN
32720	9978726.501	781171.537	2744.820	TN
32721	9978731.049	781179.468	2751.258	TN
32722	9978722.894	781177.325	2744.343	TN
32723	9978728.895	781185.887	2753.467	TN
32724	9978729.377	781195.080	2755.170	TN
32725	9978718.957	781183.255	2742.111	TN
32726	9978724.693	781194.294	2750.837	TN
32727	9978714.766	781194.596	2741.258	TN
32728	9978723.199	781199.845	2750.994	TN
32729	9978731.918	781203.138	2757.791	TN
32730	9978730.769	781206.964	2755.692	TN
32731	9978727.716	781212.073	2754.942	TN
32732	9978716.703	781204.715	2742.172	TN
32733	9978722.566	781208.541	2749.389	TN
32734	9978718.143	781213.377	2746.881	TN
32735	9978709.099	781205.991	2736.695	TN
32736	9978714.721	781217.732	2744.386	TN

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32737	9978714.720	781217.770	2746.372	TN
32738	9978707.267	781213.313	2734.976	TN
32739	9978710.094	781224.593	2743.503	TN
32740	9978703.829	781218.442	2734.890	TN
32741	9978717.650	781222.436	2750.657	TN
32742	9978713.559	781230.281	2750.355	TN
32743	9978771.830	781084.920	2742.358	TN
32744	9978769.736	781095.870	2740.174	TN
32745	9978766.389	781107.179	2744.245	TN
32746	9978759.520	781116.806	2746.534	TN
32747	9978748.350	781125.279	2740.127	TN
32748	9978739.797	781132.667	2737.972	TN
32749	9978769.960	781082.561	2731.011	TN
32750	9978769.434	781091.457	2727.279	TN
32751	9978766.683	781100.374	2730.196	TN
32752	9978758.723	781110.121	2730.917	TN
32753	9978754.204	781114.062	2731.590	TN
32754	9978744.230	781122.253	2731.225	TN
32755	9978739.537	781127.633	2728.794	TN
32756	9978732.054	781136.104	2730.644	TN
32757	9978805.490	781121.695	2739.719	BS
32758	9978806.078	781129.217	2784.674	BS
32759	9978803.251	781135.683	2786.416	BS
32760	9978799.145	781148.482	2788.899	BS
32761	9978793.271	781152.402	2784.005	BS
32762	9978785.459	781166.379	2780.583	BS
32763	9978780.045	781174.553	2779.146	BS
32764	9978776.312	781185.241	2780.276	BS
32765	9978772.402	781191.370	2778.832	BS
32766	9978769.454	781198.699	2778.363	BS
32767	9978769.741	781205.591	2781.240	BS
32768	9978765.144	781211.195	2779.521	BS
32769	9978760.483	781216.193	2775.644	BS
32770	9978808.618	781109.688	2766.730	E-ALC
32771	9978808.599	781109.678	2766.741	E-ALC
32772	9978748.931	781155.027	2775.915	TN
32773	9978757.471	781158.263	2784.513	TN
32774	9978759.040	781260.444	2789.959	BS
32775	9978766.597	781251.839	2790.625	TN
32776	9978766.597	781251.839	2790.625	TN
32777	9978767.673	781253.020	2794.622	BS
32778	9978764.187	781249.638	2787.119	TN
32779	9978759.837	781247.961	2783.705	TN
32780	9978769.885	781246.524	2794.555	BS
32781	9978755.863	781246.656	2779.681	TN
32782	9978766.518	781245.338	2789.429	TN
32783	9978752.810	781245.930	2776.913	TN
32784	9978762.523	781241.202	2785.873	TN
32785	9978750.816	781245.738	2775.179	BS
32786	9978758.318	781240.823	2780.875	TN
32787	9978758.356	781239.955	2781.151	TN
32788	9978756.614	781239.476	2778.290	TN
32789	9978755.177	781233.728	2774.904	TN
32790	9978755.464	781227.863	2775.724	BS
32791	9978763.475	781262.467	2783.574	TN
32792	9978766.187	781255.365	2784.627	TN
32793	9978769.088	781255.426	2796.840	TN
32794	9978756.547	781233.294	2779.542	BS
32795	9978774.648	781246.458	2798.264	TN
32796	9978763.137	781233.333	2784.267	TN
32797	9978776.914	781234.949	2797.584	TN
32798	9978766.258	781233.523	2789.747	TN
32799	9978767.004	781235.492	2792.227	BS
32800	9978781.279	781228.204	2795.991	TN
32801	9978769.995	781227.590	2788.063	TN
32802	9978783.489	781224.124	2795.054	TN
32803	9978784.318	781220.782	2797.074	TN
32804	9978786.807	781215.478	2796.382	TN
32805	9978773.260	781220.032	2787.382	TN
32806	9978774.249	781209.157	2786.717	TN
32807	9978788.738	781212.748	2796.532	TN
32808	9978780.245	781199.769	2787.017	TN
32809	9978795.394	781199.012	2797.151	TN
32810	9978786.461	781187.561	2787.550	TN
32811	9978800.556	781190.045	2798.120	TN
32812	9978790.504	781179.836	2789.196	TN
32813	9978795.231	781170.729	2790.343	TN
32814	9978731.763	781290.498	2761.992	ALUX-A1
32815	9978700.136	781522.070	2756.130	ALUX-A2





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DATOS DE LA TOPOGRAFÍA PRELIMINAR
PARA EL ACCESO CENTRO NORTE A QUITO (PUNTOS TOPOGRAFICOS)

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		
32816	9978907.472	780838.003	2789.469	BS
32817	9978912.819	780835.495	2789.709	BS
32818	9978940.158	780833.167	2793.137	TN
32819	9978917.018	780830.349	2788.554	BS
32820	9978933.898	780835.256	2791.882	TN
32821	9978921.703	780829.355	2789.187	BS
32822	9978925.996	780834.583	2793.081	TN
32824	9978870.088	780939.417	2772.257	ASF
32825	9978870.484	780947.842	2772.039	PIE
32826	9978870.285	780947.804	2772.101	ASF
32827	9978865.237	780948.037	2771.757	ASF
32828	9978856.197	780948.279	2771.837	TN
32829	9978851.670	780949.535	2766.873	TN
32830	9978847.230	780936.159	2760.480	TN
32831	9978855.886	780935.807	2768.886	PM
32832	9978854.984	780928.985	2765.914	PM
32833	9978842.570	780934.693	2750.039	TN
32834	9978839.360	780940.292	2749.910	TN
32835	9978850.955	780920.848	2764.553	TN
32836	9978854.411	780921.681	2769.038	TN
32837	9978860.074	780912.896	2772.463	ASF
32838	9978867.005	780911.554	2772.588	ASF
32839	9978867.816	780911.450	2772.825	PIE
32840	9978869.010	780921.324	2772.425	PIE
32841	9978868.341	780921.366	2772.526	ASF
32842	9978858.795	780922.451	2772.104	ASF
32843	9978850.407	780912.453	2767.510	TN
32844	9978855.244	780919.378	2772.223	TN
32845	9978855.583	780921.418	2773.143	TN
32846	9978856.523	780930.199	2772.662	TN
32847	9978859.764	780930.155	2771.866	ASF
32848	9978868.623	780928.968	2772.379	ASF
32849	9978869.622	780928.563	2772.374	PIE
32850	9978867.201	780902.560	2772.875	PIE
32851	9978866.068	780902.478	2772.599	ASF
32852	9978857.092	780903.501	2772.678	ASF
32853	9978852.589	780904.020	2772.906	TN
32854	9978849.231	780901.244	2767.578	TN
32855	9978853.928	780892.829	2774.128	TN
32856	9978852.014	780893.370	2774.237	TN
32857	9978852.623	780885.539	2774.280	TN
32858	9978855.702	780884.974	2773.281	ASF
32859	9978865.932	780884.882	2773.385	ASF
32860	9978840.105	780890.467	2767.178	TN
32861	9978866.818	780883.164	2772.531	PIE

PUNTOS	COORDENADAS		COTA	DESCRIPCION
	NORTE	ESTE		

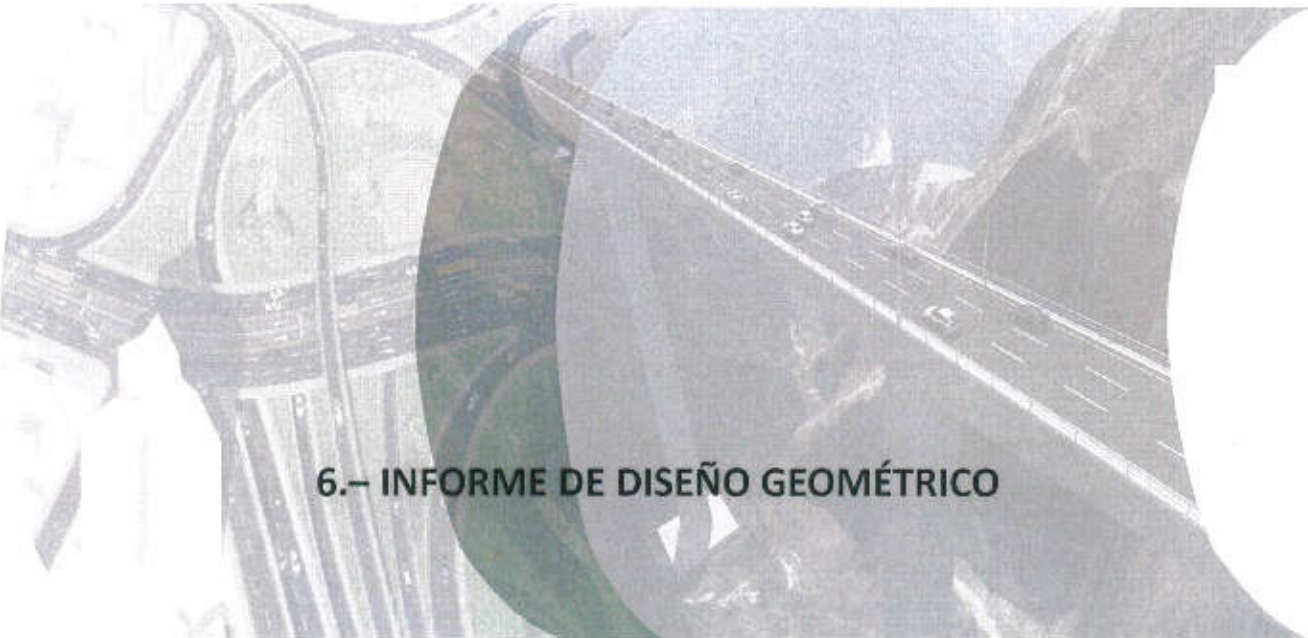




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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



6.- INFORME DE DISEÑO GEOMÉTRICO



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



INFORME DE DISEÑO GEOMÉTRICO

OBJETIVO DEL ESTUDIO

Ejecutar los estudios de factibilidad y los diseños definitivos de la solución vial Av. Eloy Alfaro y Shyris – Plaza Argentina - intercambiador de la Av. Simón Bolívar, que comprende los estudios de gabinete, de investigaciones de campo y laboratorio, de acuerdo con los mejores criterios técnicos actuales y las mejores prácticas de la ingeniería, de manera que sean técnicamente aceptables por EMOOP-Q y convenientes para la ciudad.

UBICACIÓN

La solución vial Av. Eloy Alfaro y Shyris – Plaza Argentina - intercambiador de la Av. Simón Bolívar se encuentra ubicado entre el sitio Av. Eloy Alfaro y Shyris pasando por la Plaza Argentina y finalizando en el Intercambiador con la Av. Simón Bolívar, localizado hacia el este del punto de inicio antes indicado.

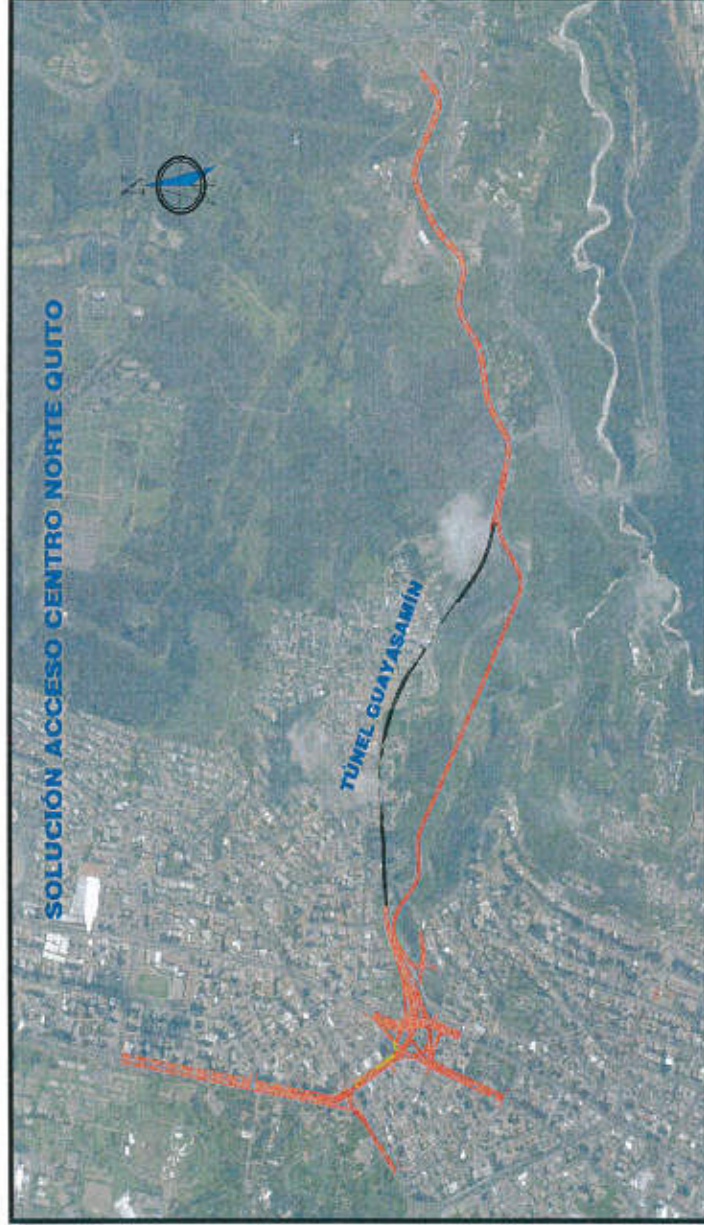
En el siguiente cuadro se indican las coordenadas (WGS84) de ubicación de la solución vial Av. Eloy Alfaro y Shyris – Plaza Argentina - intercambiador de la Av. Simón Bolívar y en el Grafico 1, se observa la ubicación del Trazado vial.

UBICACIÓN DEL PROYECTO

Sitio	Este	Norte	Elevación
Intercambiador Shyris-Eloy Alfaro	780188.377	9979118.379	2777
Intercambiador Plaza Argentina	780357.488	9978905.221	2777
Calle BOUSSINGAULT	780668.824	9978867.246	2790
Túnel Guayasamín	780724.069	9978951.530	2780
Salida Túnel Guayasamín	782018.712	9978577.419	2756
Intercambiador Simón Bolívar	783261.451	9978877.040	2637

ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN

GRAFICO DE UBICACIÓN DEL PROYECTO





ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DISEÑO definitivo de las obra en superficie

CLASE DE CARRETERA

En base a las Normas del Ministerio de Obras Publicas y en función del tráfico se ha adoptado una sección transversal que se adapta a las condiciones topográficas existentes. Tratándose de vías a cielo abierto esta sección corresponde a dos tipos de vías para una carretera clase I:

Vía inicial de 3 carriles desde la Plaza Argentina hasta la salida del Túnel Guayasamín, corresponde a una vía de salida de Quito, el ingreso a Quito se lo realiza por el Túnel Guayasamín.

Vía de 5 carriles desde la salida del Túnel Guayasamín hasta el intercambiador Simón Bolívar.

NORMAS DE DISEÑO

Se adopta como normas de diseño las establecidas por la AASHTO para una velocidad de 50 km/h para carreteras de 1 calzada de 2 carriles en un sentido y 1 calzada con 3 carriles en dos sentidos, considerando adicionalmente los parámetros urbanos y experiencias que se tiene en el país.

Para las secciones en puentes y viaductos y por la complejidad de los cambios de sección, se consultaron diversas normas internacionales.

La velocidad de diseño mínima adoptada es de 50 km por hora que corresponde a la existente, respetándose tanto los radios de curvatura como su pendiente longitudinal, parámetros validos para determinar la velocidad de diseño. En los puentes la velocidad de diseño es de 50 km por hora.

El peralte máximo se fijo en 10%, teniendo en cuenta que la capa de rodadura será la equivalente a una carpeta asfáltica.

NORMAS DE DISEÑO ADOPTADAS PARA VIA

Tipo de terreno	Velocidad mínima (km./h)	Pendiente máxima (%)	Radio mínimo (m)	Peralte máximo (%)
Llano	90	4	180	10
Ondulado	70	7	160	10
Montañoso	50	9	80	10

Fuente: MOP



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



SECCIONES TÍPICAS ADOPTADAS

Sección típica vía de 2 carriles

Se adopta una calzada de 7.00 metros, con 2 carriles de 3.50 metros cada uno. La pendiente transversal adoptada es de 2 por ciento, con pendiente única desde el eje de la calzada hacia la parte externa de los espaldones. El tercer carril implicará un incremento solo de 3,50 metros

El ancho de los espaldones internos y externos máximos de las calzadas se fijó en 0.50 y 1.50 metros, en vista de las condiciones topográficas existentes, de la posibilidad de utilizar al máximo el ancho construido y de la velocidad de diseño, la inclinación transversal también es del 2 por ciento.

Junto a los espaldones externos se construirán cunetas de hormigón de 1.00 metros, este ancho puede variar por exigencias de drenaje.

El punto de aplicación del proyecto vertical corresponde al eje normal de la vía, punto referencial para realizar el giro de los peraltes en las curvas horizontales.

Sección típica vía 5 carriles

La sección típica que corresponde a una **vía de 5 carriles** define los siguientes parámetros:

Se adopta el ancho del carril en 3.50 metros, de esta forma, el ancho de las calzadas será de 10,50 metros, lo que define que cada calzada tenga 3 carriles. La pendiente transversal adoptada es de 2 por ciento, con pendiente única hacia la parte externa de las calzadas.

El ancho de los espaldones externos de las calzadas se fijó en 1,50 metros, en vista de las condiciones topográficas y de la velocidad de diseño. La inclinación transversal también es del 2 por ciento. Este ancho de espaldón pueden variar de acuerdo a la ubicación de construcciones

Se ha previsto espaldones internos de las calzadas, se fijó en 0,50 metros, en vista de las condiciones topográficas y de la velocidad de diseño. La inclinación transversal también es del 2 por ciento. Este ancho de espaldón también puede variar de acuerdo a la ubicación de construcciones

Junto a los espaldones externos se construirán cunetas de hormigón de 1.00 metro de ancho



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



En el eje de las calzadas se construirá una faja divisoria central de 1,00 metros de ancho, delimitada con bordillos.

Sección típica Puente 3 carriles

La sección adoptada es de 14,50 m y contiene las siguientes características:

Ancho de calzada 10,50 m.

Ancho de los carriles 3,50 m.

Ancho del espaldón externo 1,00 m.

Ancho de las aceras 1.00 m (2).

La pendiente transversal adoptada es de 2 por ciento, con pendiente única hacia la parte derecha del túnel, teniendo como punto de giro para el peralte el eje de la calzada.

En los siguientes gráficos se indican estas secciones utilizadas tanto para el diseño como para el cálculo de cantidades de obra.

ALTERNATIVA

La alternativa seleccionada corresponde a una combinación de vías a cielo abierto, puente y viaducto. Para efectos del diseño en el estudio de este proyecto a las calzadas se les ha denominado Tramo occidental de 3 carriles y tramo oriental de 5 carriles.

Como dato importante debemos indicar que el Túnel Guayasamín se mantiene como una calzada de ingreso a Quito, rectificándose únicamente los accesos para poder empalmar con el nuevo diseño

El Tramo occidental que corresponde al eje de la calzada derecha, se inicia aproximadamente a 200 metros de la intersección de la Av. 6 de Diciembre con la vía Interoceánica, se desarrolla con dirección noreste por la vía existente hasta la salida del túnel Guayasamín, este tramo existente está constituido por vía de 2 carriles. A partir de este punto las calzadas tanto de salida como de ingreso al túnel existente se juntan, luego continúa a por la vía existente con dos calzadas de 2 carriles cada una, hasta empalmarse con el intercambiador de la Av. Simón Bolívar. En este tramo oriental se respeta la calzada existente, sin topar el talud de corte existente, se amplía la vía a 4 carriles, para lo cual el ensanchamiento va al lado del relleno el mismo que se sustenta sobre muros anclados.

Las características principales de esta alternativa son:



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Cuadro de longitudes

TRAMO	Desde-Hasta	Longitud (km)
Occidental	Plaza Argentina-Salida Túnel Guayasamín	1.45
Oriental	Salida Túnel Guayasamín-Intercambiador Simón Bolívar	1.70

Nota: No se considera las longitudes que representan los intercambiadores Eloy Alfaro y Plaza Argentina

RESUMEN DE LAS CARACTERÍSTICAS DE DISEÑO

En el tramo que corresponde a la vía existente, se ha procurado conservar en el proyecto horizontal las características que corresponden a las de una autovía y de una carretera clase I, con una estructura de pavimentada a nivel de carpeta asfálticas, aceras y cunetas revestidas, colector de hormigón de desagüe de las aguas lluvias.

En el alineamiento horizontal en las vías se han usado radios mínimos de curvatura de 80 metros con espirales de transición, que permiten tener una velocidad de diseño de 50 kph. Estos radios pueden variar dependiendo de lo que ya está construido y de las urbanizaciones existentes.

Para el alineamiento vertical se ha considerado las características del terreno por el que atraviesa el proyecto, diseñándose en general con gradientes longitudinales y curvas verticales que se hallan dentro de las normas.

En el alineamiento vertical el diseño se lo realizó a nivel de rasante, tratando de realizar en lo posible pequeños rellenos y no realizar excavación alguna en la vía existente, procurando mantener la capa de rodadura existente como rasante del proyecto.

DISEÑO GEOMETRICO DE INTERCAMBIADORES

NORMAS DE DISEÑO

Para diseñar los intercambiadores se ha seguido en general, los lineamientos señalados en los manuales de "A Policy on Design of Urban Higways and Arterial Streets" AASHTO-1973, "Manual de Ingeniería de Transito" (Reuben H. Donelley), "Manual de Diseño de Carreteras" MOP-001-E-1974, "Normas de Diseño Geométrico de Carreteras" MOP-2003, "Recomendaciones para el proyecto de Intersecciones MOP y otros manuales para diseño de vías urbanas. Estas normas facilitaron la utilización de los valores de diseño dándole características que se indican a continuación:

NORMAS DE DISEÑO GEOMETRICO PARA INTERCAMBIADORES

Velocidad de diseño de la avenida principal a nivel (km/h)		50	60	70	80
Velocidad de diseño de la rampa (km/h)	Mínimo	30	30	35	40
	Recomendable	50	55	65	70
Radio mínimo correspondiente (metros)	Mínimo	25	25	35	45
	Recomendable	75	95	135	160

Fuente: ASSHTO-1973

SECCIONES TRANSVERSALES

Las secciones transversales adoptadas varían de acuerdo al volumen de tráfico y los anchos de calzada según el número de carriles.

Ancho de Calzada en Rampas Nuevas para alineaciones en tangente

Rampas	Ancho Pavimento (m)	Observación
2 carril-1 sentido	7.00	Rampa 2 carriles
Av. Diego de Almagro	6.00	Calzadas laterales de servicio
Av. De los Shiris	6.00	Calzadas laterales de servicio
Rampa calle Boussingault	5.00	Rampa 1 carril

Nota: No se ha considerado espaldones en vista de que el intercambiador se desarrolla en una zona urbana, estos fueron reemplazados en unos casos por bordillos de seguridad de 0.50 metros y en otros por aceras peatonales de anchos variables de acuerdo a lo existente, cuya ubicación consta en los planos de diseño geométrico.

Para estas secciones la pendiente transversal adoptada es del 2%, con pendiente única hacia la parte externa de la calzada. El punto de aplicación del proyecto vertical y de giro del peralte será el eje de las rampas.

3.1.1 TIPOS DE INTERCAMBIADOR

3.1.2 INTERCAMBIADOR AV. ELOY ALFARO Y AV. SHYRIS

La intersección de las avenidas Eloy Alfaro y Shyrís convergen a un mismo punto, se forma una intersección tipo (+), que viene a constituir un punto crítico, en la actualidad este punto conflictivo está solucionado a medias por medio semáforos.

Para poder solucionar este problema de tráfico, es necesario el diseño de un intercambiador, complicado, debido a que se ubica en una zona urbana, muy poblada, con construcciones en su totalidad, con retiros frontales de 5 metros, otros obstáculos como el alcantarillado y la tubería de agua potable.

La ubicación no permite tener giros amplios de las rampas, ya que existen edificaciones, que por razones económicas y sociales no pueden ser expropiadas.

Para canalizar el tráfico sur-norte, el que sale del Túnel Guayasamín y se dirige hacia la Av. Eloy Alfaro o continúa por la Av. Shyris, se considera una rampa deprimida de 2 carriles, desarrollándose por la Av. Shyris, desde la salida del intercambiador Plaza Argentina hasta cruzar la Av. Eloy Alfaro, este paso deprimido va cubierto en su totalidad de tal manera que una vez construido la Av. Shyris queda como esta en la actualidad, dos calzadas con 4 carriles y parterre central. Para girar hacia la Av. Eloy Alfaro sentido este-oeste también se ha considerado un paso deprimido, los demás giros se realizarán a nivel, esto por cuanto hay impedimentos que se diseñen pasos elevados.

En el siguiente gráfico se indica el tipo de intercambiador diseñado

3.1.3 INTERCAMBIADOR PLAZA ARGENTINA

La intersección de las avenidas 6 de Diciembre, Diego de Almagro, Shyris y la vía Interoceánica convergen a un mismo punto, se forma una intersección, que viene a constituir un punto crítico, en la actualidad este punto conflictivo está solucionado a medias por medio de una rotonda y un paso deprimido. A esto se suma que por la Av. 6 de Diciembre existen 2 carriles exclusivos para la Ecovía, los mismos que disminuyen la capacidad vehicular de esta avenida.

Para poder solucionar este problema de tráfico existente en la intersección, es necesario el diseño de un intercambiador, que resulta complicado, debido a que se ubica en una zona urbana, muy poblado, con construcciones en su totalidad, con retiros frontales de 5 metros, otros obstáculos como el alcantarillado y la tubería de agua potable.

La ubicación no permite tener giros amplios de las rampas, ya que existen edificaciones, que por razones económicas y sociales no pueden ser expropiadas.

En este intercambiador por un lado la vía Interoceánica se inicia y finaliza frente a la avenida 6 de Diciembre en el sentido Este-Oeste-Este, formando una intersección a 90 grados. A la vía Interoceánica convergen las avenidas Diego de Almagro y Shyris, considerándose para el diseño 2 rampas deprimidas que canalizan en un solo sentido el tráfico que viene de los valles de Tumbaco en el sentido este-oeste hacia estas 2 avenidas.

Para canalizar el tráfico oeste-este, el que sale de la ciudad hacia el valle se considera la rampa deprimida de 2 carriles existente que viene de la Av. 6 de diciembre y una rampa deprimida de un carril que viene de la av. Shyris.

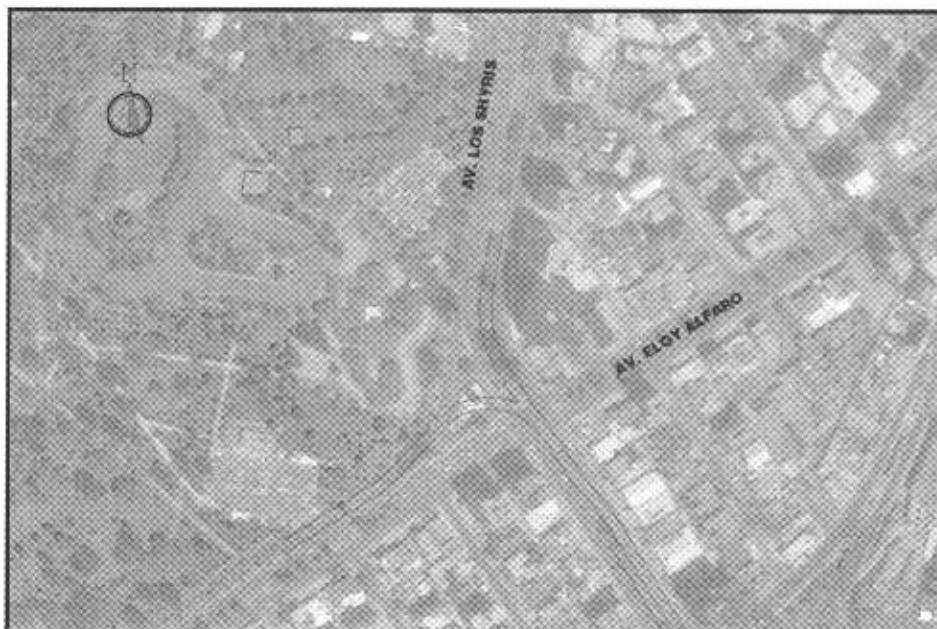
El tráfico por la Av. 6 de Diciembre sentido sur-norte tiene un giro derecho directo que se sigue manteniendo, el tráfico que viene del norte tiene que utilizar la rampa deprimida existente para canalizarse hacia la vía Interoceánica.

Junto al paso deprimido en la Av. de los Shyris se mantiene tanto al lado izquierdo como al lado derecho una calzada unidireccional de 7.00 metros con 2 carriles de 3.50 metros cada uno y aceras laterales.

Junto al paso deprimido en la Av. Diego de Almagro se mantiene tanto al lado izquierdo como al lado derecho una calzada unidireccional de 6.00 metros con 1 carril de 3.50 metros cada uno y aceras laterales.

Se ha diseñado una rampa directa que viene por la calle Boussingault y se conecte hacia via de salida de Quito hacia el Valle. En el siguiente gráfico se indica el tipo de intercambiador diseñado.

INTERCAMBIADOR AV. ELOY ALFARO-AV. SHYRIS



INTERCAMBIADOR PLAZA ARGENTINA



ENLACE CALLE BOUSSINGAULT






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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



7.- ANALISIS DE TRÁFICO

ESTUDIO PRELIMINAR DE TRÁFICO

1. INTRODUCCIÓN

1.1. *Antecedentes*

Para el proyecto Acceso Centro Norte a Quito, se llevó a cabo una estimación pre-preliminar del tráfico en la vía interoceánica, en el sector del peaje actual utilizando la información secundaria disponible.

1.2. *Alcance*

El objetivo del presente reporte consiste en la estimación pre-preliminar del tráfico de la vía Interoceánica en el sector del peaje actual; en la eventualidad del completamiento del proyecto de provisión de dos carriles adicionales de circulación:

a. Insumos

- i. Estudios de Factibilidad y Diseños Definitivos de la Solución Vial en el Km 1 de la carretera Interoceánica (EMOP-2002).
- ii. Análisis a las observaciones presentadas al estudio de selección de la vía de Acceso al Nuevo Aeropuerto Internacional de Quito y complementación (CORPAQ, 2004).
- iii. Estudios de Ingeniería Definitivos del Proyecto Ruta Sur-Vía Aeropuerto (EPMMOP-2010).

b. Productos

- i. Verificación de la tasa de crecimiento del tráfico que se dirige desde Quito al Valle de Tumbaco –Cumbayá.
- ii. Estimación de la repartición del tráfico por las vías principales hacia el valle.
- iii. Comportamiento del tráfico en el sector de la Plaza Argentina.

2. RECOPIACIÓN DE INFORMACIÓN

2.1. *Estudios de Factibilidad y Diseños Definitivos de la Solución Vial en el Km 1 de la carretera Interoceánica (EMOP,2002)*

La EPMMOP cuenta con los Estudios de Factibilidad y Diseños Definitivos de la Solución Vial en el Km 1 de la carretera Interoceánica, llevados a cabo en el año 2002. En estos estudios se presenta como resultado la estimación del tráfico para la Solución Vial de dos túneles de dos carriles por sentido en el Km 1 de la vía interoceánica y para los horizontes de tiempo 2005, 2010, 2015 y 2020. En la

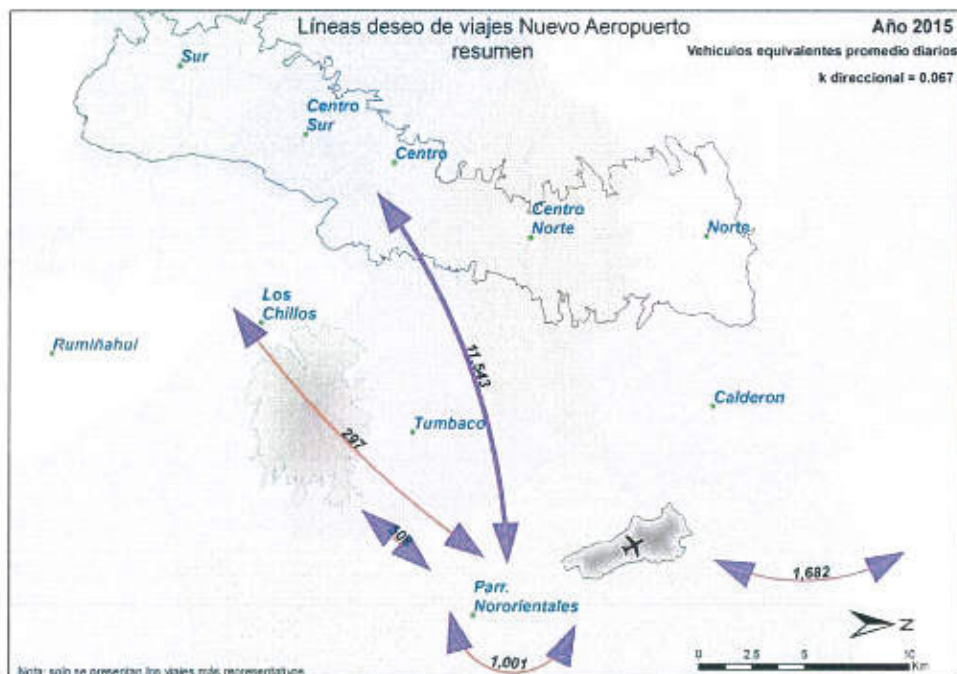
siguiente figura se presenta el esquema de resumen de tráfico que indica un TPDA de 25000 vehículos en los túneles.



Asimismo en el estudio se presenta una distribución del tráfico para el año 2015, entre las distintas rutas al valle de Tumbaco

AÑO	TPDASEGÚN ALTERNATIVA				Distribución	
	Ruta	Sentido	Túneles	Túneles c/peaje	Túneles	Túneles c/peaje
2015	Túnel	A Quito	12441	10097		
	Túnel	al Valle	12671	9212		
		Total	25112	19309	37%	31%
	S. Bolívar	al Valle	20054	18413		
	S. Bolívar	A Quito	17822	17185		
		Total	37876	35598	56%	58%
	Los Conquistadores	al Valle	3152	4771		
	Los Conquistadores	A Quito	1495	2132		
		Total	4647	6903	7%	11%
		TOTAL	67635	61810		

Es importante indicar que en el informe no se menciona el tráfico al Nuevo Aeropuerto de Quito.



El total de viajes de Quito consolidado al aeropuerto en vehículos se estima del orden de los 11500 vehículos para el año 2015 y estos viajes tendrán varias rutas Simón Bolívar, Túneles y Collas.

La tasa de crecimiento resultante del estudio para tres rutas al Valle y Aeropuerto (Interoceánica, Ruta Viva y Collas) es de 5.84%

3. ANÁLISIS DE INFORMACIÓN

Para la determinación del crecimiento del tráfico de Quito al Valle de Tumbaco se ha tomado los datos del año 2004 (40944 vehículos) y 2010 (56719 vehículos), obteniéndose un valor del crecimiento anual del 5.58%. Esta tasa de crecimiento está muy cercana a la planteada para el periodo 2010- 2015 en el Estudio de la Ruta Viva (5.84%).

Suponiendo una captación del 40% del tráfico al aeropuerto por la Ruta Collas, una vez concluida la Ruta Viva y la tasa de crecimiento planteada en el estudio de la Ruta Viva al total del tráfico observado entre Quito y el Valle de Tumbaco; es decir, incluyendo la Ruta San Juan Alto y la distribución del tráfico en los túneles planteada en el estudio del año 2002, el tráfico que podría captarse en el año 2015 en los túneles del Km. 1 de la vía interoceánica sería:

Via	A Cumbayá 2010	A Cumbayá 2015	Al Aeropuerto Collas (2015)	Total Quito- Cumbayá2015
Interoceánica	45278			
Conquistadores	11441			
San Juan	8384			
Total	65103	86467	6900	93367
		Simón Bolívar	58%	54153
		Túnel	31%	28944
		Otros	11%	10270

En este rápido análisis se puede obtener que el tráfico que podría captarse por la solución vial en el Km 1 de la vía Interoceánica suponiendo su implementación en el año 2015 es de cerca de 30000 vehículos, que está muy cercana a los 25000 estimados en el 2002, considerando que el tráfico al aeropuerto no estuvo considerado en ese estudio.

Con fecha 06 de enero de 2015, se publica en www.readmetro.com; indicando que entre mayo y noviembre de 2014 se ha registrado más de 7 millones de pasadas por Túnel Guayasamin; que tendría un equivalente promedio diario aproximado de 34000 vehículos valor que resulta mayor al estimado anterior y el mismo puede obedecer a un crecimiento mayor del tráfico, a una distribución distinta entre las rutas al Valle y al aeropuerto, al contraflujo que opera, o a una combinación de todo lo indicado. En todo caso, para el nivel de análisis que se está efectuando, este valor podría considerarse como punto de partida de la proyección futura del tráfico.

4. PROYECCIÓN FUTURA DEL TRÁFICO

4.1. Consideraciones Particulares

Para la determinación de la proyección del tráfico se ha establecido como unidad el número de vehículos por hora por dirección; en este caso para un día ordinario.

Desde el punto de vista de una posible concesión del tramo en análisis, es de mucha más importancia los aspectos de restricción de capacidad que la demanda futura.

Asumiendo una composición de tráfico de más del 90% de vehículos livianos, una distribución por sentido de circulación de 60/40 y un flujo de tráfico en hora pico del 10%, el valor de tráfico en la hora de mayor demanda en el año base (2015) sería del orden de los 1800 v/h (vehículos livianos equivalentes).

La capacidad de saturación del túnel de 2 carriles, que se constituiría el sentido más crítico, estaría en el orden de los 1800 vlt/hora/carril; sin embargo, el problema aún más crítico sería la capacidad de la red vial al final del túnel; es decir en la Plaza Argentina.

Con la configuración actual de circulación y de los tiempos y fases de los semáforos la capacidad del túnel estaría gobernada por la Plaza Argentina y sería de un total de 2000 vlt/hora; es decir mucho menos que los potenciales 3600 vlt/hora de los dos carriles del túnel.

4.2. Proyección futura

Haciendo una simple aplicación de tasas de crecimiento, partiendo con el 5.84% de estudios anteriores y explicado en apartados anteriores, la serie de tráfico en vlt/hora/dirección sería la siguiente para tasas del 7% y 8%.

Proyección del flujo horario (vlt/hora/dirección)			
Año	Tasa anual de crecimiento		
	5.84%	7.00%	8.00%
2014	2040	2040	2040
2015	2159	2183	2203
2016	2285	2336	2379
2017	2418	2500	2569
2018	2559	2675	2775
2019	2708	2862	2997
2020	2866	3062	3237
2021	3033	3276	3496
2022	3210	3505	3776
2023	3397	3750	4078
2024	3595	4013	4404
2025	3805	4294	4756

El tráfico diario en las dos direcciones sería el siguiente:

Proyección del volumendario

Año	(vle)		
	Tasa anual de crecimiento		
	5.84%	7.00%	8.00%
2014	34000	34000	34000
2015	35983	36383	36717
2016	38083	38933	39650
2017	40300	41667	42817
2018	42650	44583	46250
2019	45133	47700	49950
2020	47767	51033	53950
2021	50550	54600	58267
2022	53500	58417	62933
2023	56617	62500	67967
2024	59917	66883	73400
2025	63417	71567	79267

5. CONCLUSIÓN

El presente análisis tiene un carácter pre-preliminar y será necesario un estudio completo que considere la realización de encuestas origen destino, preferencias declaradas (disposición al pago), conteos de tráfico y la construcción de un modelo del tráfico de la Red Vial relevante que considere las rutas y proyectos que involucren los viajes de Quito al Valle de Tumbaco para determinar en forma confiable los valores del tráfico proyectado y considerando restricción de capacidad y en distintas horas del día.

Con las consideraciones y suposiciones indicadas en este reporte, la provisión de los dos carriles adicionales en el Km. 1 de la vía Interoceánica no tendría sentido en las condiciones existentes, ya que la capacidad estaría gobernada por la configuración de giros y los semáforos de la Plaza Argentina, la misma que se llega en el año 2015.

En caso que se logre dotar de capacidad suficiente a los giros de la Plaza Argentina (del orden de 3,200 vle/hora/dirección), se podría alcanzar la capacidad en los años 2020, 2021 o 2022 dependiendo de la tasa de crecimiento adoptada.

El escenario que no sea la Plaza Argentina la que gobierne la capacidad sino los carriles del túnel, esta se alcanzaría hasta el año 2024 con el menor de los crecimientos considerados; sin embargo este es un supuesto bastante optimista y poco probable, por lo que se recomienda utilizar la tasa del 7% hasta el año 2021 en el que se coparía la capacidad instalada con el proyecto.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Año	Proyección del volumen diario (vle)		
	Tasa anual de crecimiento		
	5.84%	7.00%	8.00%
2014	34000	34000	34000
2015	35983	36383	36717
2016	38083	38933	39650
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Debido al incremento del parque automotor, es necesario contar con una amplia estación de Peaje.



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



8.- INFORME DE PAVIMENTOS Y RECOMENDACIONES GEOTÉCNICAS



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**ACCESO A QUITO DESDE LOS VALLES
ORIENTALES Y CONSTRUCCIÓN DEL PUENTE
GUAYASAMIN**

8.1.- INFORME DE PAVIMENTOS

ESTUDIO PRELIMINAR DE PAVIMENTOS

1. Introducción

Se realizó la medición de deflexiones y espesores de la estructura del pavimento. Para los trabajos de campo se utilizó el HWD para la medición de deflexiones y el GPR para la medición de espesores de la estructura del pavimento.

En la siguiente figura se indica la ubicación georeferenciada del tramo medido capturada con un GPS marca Trimble de precisión submétrica.



Figura 1 Vista satelital del proyecto

2. Equipo utilizado

Para la medición de deflexiones se utilizó el HWD y la medición de espesores con el GPR. Se realizó también la medición del IRI con RSP. En las siguientes fotografías se observa el equipo antes descrito.



Figura 2 HWD para medición de deflexiones



Figura 3 GPR para medición de espesores



Figura 4 RSP para medición de IRI
Figura 5

3. Espesores de la estructura de pavimento como está construido

El espesor de la estructura de pavimento existente es conjuntamente con la medida de la curva de deflexión, los datos más importantes para poder determinar la capacidad estructural de un pavimento o retro calcular los módulos de las capas del pavimento y la subrasante. Hasta hace poco tiempo la determinación de espesores de la estructura de pavimento se realizaba a través calicatas en cada sección homogénea. Actualmente, PROMANVIAL adquirió un GEORADAR para medir espesores de pavimento en forma continua.

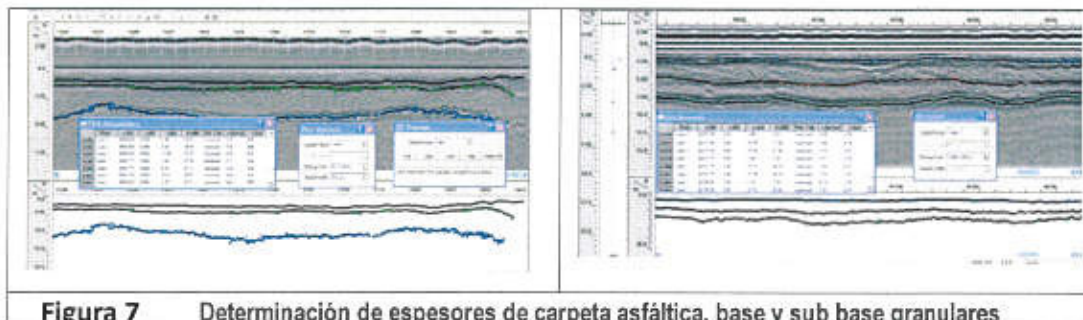
El principio de funcionamiento del equipo es generar ondas electromagnéticas que viajan a través de la estructura de pavimento y luego responden a un receptor. Cada tipo de material tiene su propiedad dieléctrica y cada que se observa un cambio se genera los cambios dieléctricos que permiten determinar los espesores de las diferentes capas del pavimento.

En la siguiente Figura se presenta el equipo que se ha utilizado en el proyecto.



Figura 6 Antenas de 1 Ghz y 2 Ghz generadoras de impulsos dieléctricos, instalados en vehículo

La información capturada con el GEORADAR es luego procesada a través de un software especializado, denominado RADAN, en donde se detectan los cambios dieléctricos en el cambio de cada capa. En la siguiente figura se observa las pantallas de proceso de determinación de espesores.



La información de espesores que capta el GRP puede hacerlo cada 20 cm a velocidades de circulación normal, lo cual genera archivos de información grandes en su tamaño. Estos archivos pueden ser exportados a bases de datos y tablas Excel para su posterior procesamiento. El espesor de la capa asfáltica es variable así como el de la capa granular existente.

4. Tramo Salida Tunel de Guayasamín - Inicio puente Intercambiador Simón Bolívar

La condición estructural es buena, puede soportar tráfico al menos para 25 años, si las cargas de tráfico son solamente vehículos livianos
La condición funcional es mala, el IRI es superior a 3 m/km y 4 m/km, y se presentan fisuramientos en bloque la capa de rodadura. La propuesta es retirar una capa de 2 pulgadas de espesor y reponerla. La capa de reposición debe ser ejecutada en tal forma de corregir algunas pequeñas deformaciones y terminar en una rasante controlada topográficamente de acuerdo al diseño de la sección transversal.

5. Tramo Fin puente Intercambiador Simón Bolívar - Cumbaya

5.1. Condición funcional de la vía

La condición funcional de la vía es aparentemente buena, dado que se ha procedido a reponer la capa de rodadura asfáltica en un espesor de 8 cm aproximadamente.

5.2. Condición Estructural

Para determinar la condición estructural del pavimento se emprendió en la medición de las curvas de deflexión. La deflexión máxima es la que informa de la condición de la estructura del pavimento, misma que responde y es coherente con la condición funcional.

En la figura 7 se muestra el comparativo de las deflexiones antes y después de la actividad de rehabilitación. La medición de deflexiones antes del proceso de rehabilitación la realizamos el mes de octubre del 2014, cuando se solicitó la evaluación de todo el tramo Túnel Guayasamín - Cumbaya.

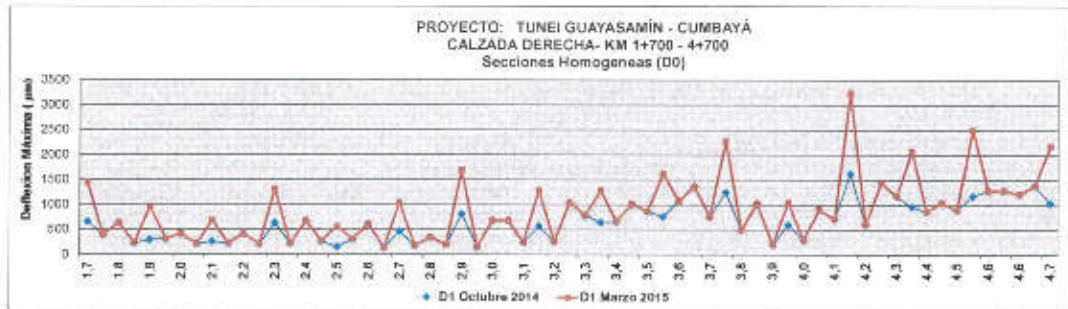


Figura 8 Deflexiones Máximas antes y después del proceso de rehabilitación

En la gráfica se observa dos tramos de comportamiento entre el km 1.7 al km 3.2 y desde este último al km. 4,7. En la siguiente tabla se indican los resultados de las dos mediciones.

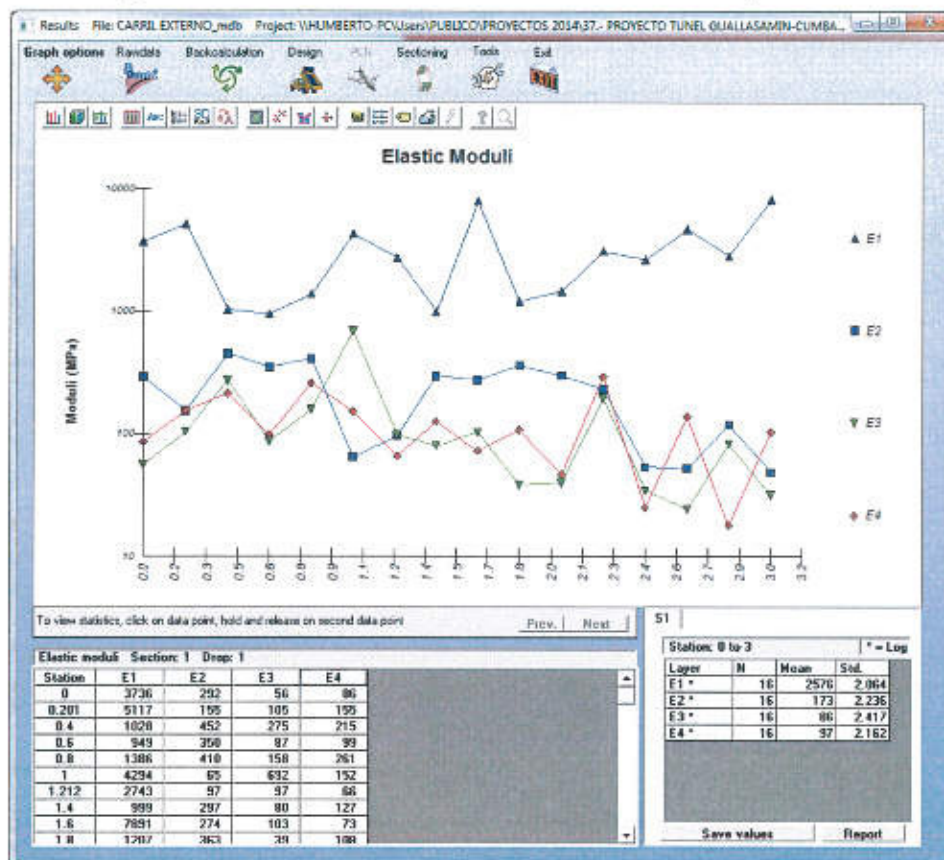
Tabla 1 Deflexiones Promedio Máximas, antes y después del proceso de rehabilitación

Tramo	D0 antes de la rehabilitación (µm)	D0 después de la rehabilitación (µm)
k 1.7 – k 3.2	400	643
k 3.2 – k4.7	945	1020

Los resultados indican que se ha debilitado la estructura de pavimento. La deficiencia estructural debe ser compensada colocando un espesor de concreto asfáltico adicional; aunque mejor hubiera sido emprender en el proceso de reconstrucción de la estructura.

Utilizando el programa de retro calculo ELMOD6 de DYNATEST se obtienen los resultados de los módulos de elasticidad de las capas del pavimento y la subrasante. En la siguiente figura se muestra la pantalla de resultados. El comportamiento es consistente con la deflexión máxima indicada en la figura 7, en el primer tramo (k 0- k 1.5) los módulos de las capas granulares son mayores que en el segundo tramo (k 1.5 –k 3.0), correspondiendo mejores módulos a menores deflexiones y viceversa.

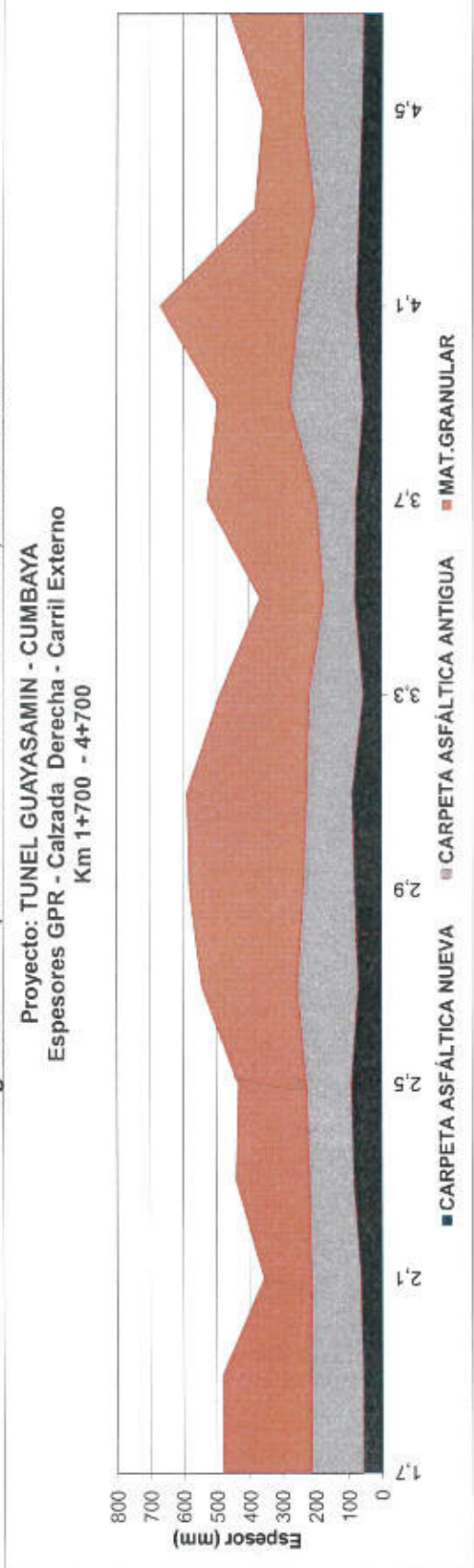
Figura 9 Módulos de elasticidad de la estructura de pavimento



El módulo promedio de la capa asfáltica nueva es de 2576 MPa con un espesor promedio de 74 mm (3 pulgadas), mientras que la subyacente asfáltica antigua tiene un módulo de 173 MPa, con un espesor promedio de 150 mm (6 pulgadas), es decir 15 veces menos que la capa nueva. Los resultados indican con claridad que la capa asfáltica antigua ha perdido totalmente su capacidad estructural.

Figura 10 Espesores determinados con el Georadar, Calzada Derecha

Proyecto: TUNEL GUAYASAMIN - CUMBAYA
 Espesores GPR - Calzada Derecha - Carril Externo
 Km 1+700 - 4+700



5.3. Información de tráfico

Para el alcance del presente informe tomamos en cuenta la recomendación del especialista de tráfico sobre la saturación de la vía en el año 2026; esto quiere decir que el crecimiento vehicular a partir de ese año será 0%.

Otra consideración que debe ser comprobada con un estudio de pesaje es disminuir el factor de carga de los buses de 3.37 a 1.04 en la consideración de que no todo el tiempo los buses viajan a carga completa.

Bajo los supuestos anteriores "que deben ser verificadas con un estudio actualizado de Tráfico y Pesaje", en las siguientes tablas se indica la información de la distribución y factores de carga por tipo de vehículo y el cálculo de los ejes de carga simple equivalente que se utilizará en el diseño del reforzamiento estructural.

Tabla 2 Información de tráfico

AÑO 2015	TOTAL	DISTRIBUCION
TPD TOTAL	48.580	
AUTOS	45.598	93,9%
BUSES	1.503	3,1%
CAMIONES	1.479	3,0%
2DA	826	1,7%
2DB	551	1,1%
3 - A	97	0,2%
4 - C	0	0,0%
3S2	5	0,0%
3S3	0	0,0%

Tabla 3 Factores de daño por tipo de vehículo

FACTORES DE DAÑO POR TIPO DE VEHÍCULO

TIPO	SIMPLE		SIMPLE DOBLE		TANDEM		TRIDEM		FACTOR DAÑO
	tons	$(P/6.6)^4$	tons	$(P/8.2)^4$	tons	$(P/15)^4$	tons	$(P/23)^4$	
LIVIANO	1	0.00							0.001054033
BUS	4	0.13	6	0.91					1.04
2DA	3	0.04							1.31
	7	1.27							
2DB	7	1.27	11	3.24					4.50
3A	7	1.27			20	3.16			4.43
4C	7	1.27					24	1.19	2.45
3S2	7	1.27			20	3.16			7.59
					20	3.16			
3S3	7	1.27			20	3.16	24	1.19	5.61

El 94% son vehículos livianos, el 3% son buses y el 3% son camiones. Se indica que la vía llegará a saturarse en el año 2026. En la siguiente tabla se indica el cálculo de Ejes de Carga simple equivalente que se utilizará en el cálculo del reforzamiento estructural sobre lo actualmente ejecutado por el DMQ.

Tabla 4 Cálculo del Número de ejes Simples Equivalentes ESAL
INTERCAMBIADOR CUMBAYA - CUMBAYA

AÑO	% Crecimiento				TRANSITO PROMEDIO DIARIO						CAMIONES					W ₁₈ Acumulado	W ₁₈ Carril Diseño
	AUTOS	BUSES	CAMION LIVIANO	CAMION PESADO	TPD TOTAL	AUTOS	BUSES	CAMION LIVIANO	CAMION PESADO	2DA	2DB	3 - A	4 - C	3S2	3S3		
2015	5.65%	2.88%	4.88%	4.88%	48.580	45.588	1.903	826	653	828	551	97	0	5	0	2.04E+08	8.16E+05
2016	5.65%	2.88%	4.88%	4.88%	51.272	48.174	1548	886	685	966	578	102	0	5	0	4.17E+08	1.87E+06
2017	5.65%	2.88%	4.88%	4.88%	54.114	50.808	3601	939	718	1008	608	107	0	5	0	8.36E+08	2.58E+08
2018	5.65%	2.88%	4.88%	4.88%	57.115	53.772	1637	953	753	953	636	112	0	8	0	8.71E+08	3.48E+06
2019	5.65%	2.88%	4.88%	4.88%	60.283	56.810	1684	969	780	1048	667	117	0	8	0	1.11E+07	4.45E+06
2020	5.65%	2.88%	4.88%	4.88%	63.629	60.020	1732	1048	829	1048	698	123	0	8	0	1.37E+07	5.48E+06
2021	5.27%	2.60%	3.88%	3.88%	66.610	63.183	1777	1089	861	1089	728	128	0	7	0	1.63E+07	6.51E+06
2022	5.27%	2.60%	3.88%	3.88%	70.361	66.612	1824	1131	884	1131	755	133	0	7	0	1.90E+07	7.59E+06
2023	5.27%	2.60%	3.88%	3.88%	73.892	70.018	1871	1175	929	1175	784	138	0	7	0	2.18E+07	8.71E+06
2024	5.27%	2.60%	3.88%	3.88%	77.813	73.708	1920	1221	965	1221	814	143	0	7	0	2.47E+07	9.87E+06
2025	5.27%	2.60%	3.88%	3.88%	81.832	77.582	1969	1268	1002	1268	848	149	0	8	0	2.77E+07	1.11E+07
2026	4.94%	2.37%	4.88%	4.88%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	3.08E+07	1.23E+07
2027	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	3.39E+07	1.38E+07
2028	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	3.71E+07	1.48E+07
2029	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	4.02E+07	1.61E+07
2030	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	4.33E+07	1.73E+07
2031	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	4.65E+07	1.88E+07
2032	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	4.96E+07	1.98E+07
2033	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	5.27E+07	2.11E+07
2034	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	5.58E+07	2.23E+07
2035	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	5.90E+07	2.36E+07
2036	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	6.21E+07	2.49E+07
2037	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	6.53E+07	2.61E+07
2038	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	6.84E+07	2.74E+07
2039	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	7.15E+07	2.88E+07
2040	0.00%	0.00%	0.00%	0.00%	85.822	81.425	2018	1300	1051	1300	887	156	0	8	0	7.47E+07	2.99E+07

Año de Saturación de la vía; en adelante el crecimiento vehicular es 0%

5.4. Diseño de la rehabilitación.

En el presente alcance del diseño se acopla a la actividad de rehabilitación ya emprendida por DMQ. Utilizando los módulos retro calculados con el programa ELMOD 6, revisamos el número de ejes equivalentes (ESAL) que la estructura de pavimento puede soportar, para las condiciones de tráfico ajustadas en el presente informe.

Los espesores de capas asfálticas se verifican a la fatiga, por medio de la relación de Miner, la cual se basa en la limitación del grado de deformación en la base inferior de las capas asfálticas acorde con las propiedades y características de todas las capas del pavimento determinadas como se indica antes, utilizando el programa ELMOD6

La razón de MINER relaciona el número de ejes de 8.2 ton que circularán en la vía (w_{18}) con el número de ejes equivalentes de 8.2 ton que la capa asfáltica puede sobrellevar hasta llegar a la falla por fatiga (W_{18}) en su vida útil o periodo de diseño:

$$MINER = \frac{w_{18}}{W_{18}}$$

Es así que la relación MINER menor de uno (1) implica la existencia de vida útil residual, en tanto que valores de MINER mayores de uno (1) significan imposibilidad de la vía a sobrellevar más tránsito con el consecuente deterioro de la carpeta de rodadura (fisuras principalmente de piel de cocodrilo). Cuando esta relación es igual a uno (1) quiere decir que el tránsito que la carpeta puede soportar es igual al tránsito que circulara en la vía

La expresión que relaciona el número de ejes equivalentes de 8.2 ton que las capas asfálticas pueden soportar hasta llegar a la falla (W_{18}) en su vida útil o periodo de diseño es la de Finn y Uzan¹ que se presenta a continuación:

$$\log W_{18} = -3.13 + \frac{H_{AC}}{380} - 3.291 * \log(\epsilon_t) - 0.854(\log(\epsilon_{AC}))$$

Los valores de la deformación unitaria por tensión bajo la carpeta asfáltica ϵ_t son determinados utilizando el software DEPAV de la Universidad del Cauca de Colombia.

En las siguientes tablas se indican los resultados del proceso y la vida remanente de la estructura para los diferentes espesores de reforzamiento propuesto en el periodo de 25 años.

Tabla 5 Comprobación ala Fatiga,Tramo Km 1+700 –Km 4+700 , Calzada Derecha, en condición actual (Fresado 12 cm, reposición de capa de asfáltica de 8 cm)

INFORMACIÓN Y RESULTADOS: CONDICION ACTUAL

Número de Capas	= 4
Radio de Carga	= 10,6 cm
Presión de Contacto	= 5,6 kg/cm ²
Distancia entre ejes de llanta	= 32,4 cm

Capa	Descripción	E (kg/cm ²)	μ	H (cm)	Ligada (S/N)
1a	C. Asfáltica Nueva	26268	0.35	7.62	S
2a	Remanente Asfáltico	1764	0.4	15	S
3a	Mat. Granular	877	0.4	26	S
4a	Subrasante	989	0.45		
Et		3.89E-04			Ev 4.14E-04
ESAL permitido Fatiga		2.40E+05	ESAL permitido surco de huella		1.98E+06
ESAL de diseño año 2040		2.99E+07	ESAL diseño		2.99E+07
Relacion de Minner		124.49	Relacion de Minner		15.08

VIDA REMANENTE A LA FATIGA	0.2	años	VIDA REMANENTE AL AHUELLAMEINETO	1.7
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Tabla 6 Comprobación a la Fatiga, Tramo Km 1+700 – Km 4+700 , Calzada Derecha,
(Fresado 12 cm y reposición de capa de rodadura de 12 cm)

Número de Capas	= 4				
Radio de Carga	= 10,6 cm				
Presión de Contacto	= 5,6 kg/cm ²				
Distancia entre ejes de llanta	= 32,4 cm				
Capa	Descripción	E (kg/cm ²)	μ	H (cm)	Ligada (S/N)
1a	C. Asfáltica Nueva	26268	0.35	12	S
2a	Remanente Asfáltico	1764	0.4	15	S
3a	Mat. Granular	877	0.4	26	S
4a	Subrasante	989	0.45		
		E_t			E_v
		2.79E-04			3.09E-04
		ESAL permitido Fatiga	9.34E+05	ESAL permitido surco de huella	7.35E+06
		ESAL de diseño año 2040	2.99E+07	ESAL diseño	2.99E+07
Relacion de Minner		31.98		Relacion de Minner	4.06

VIDA REMANENTE A LA FATIGA	0.8	años	VIDA REMANENTE AL AHUELLAMINETO	6.2
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Tabla 7 Comprobación a la Fatiga, Tramo Km 1+700 – Km 4+700 , Calzada Derecha,
(Fresado 12 cm y reposición de 15 cm)

Número de Capas	= 4				
Radio de Carga	= 10,6 cm				
Presión de Contacto	= 5,6 kg/cm ²				
Distancia entre ejes de llanta	= 32,4 cm				
Capa	Descripción	E (kg/cm ²)	μ	H (cm)	Ligada (S/N)
1a	C. Asfáltica Nueva	26268	0.35	15	S
2a	Remanente Asfáltico	1764	0.4	15	S
3a	Mat. Granular	877	0.4	26	S
4a	Subrasante	989	0.45		
		E_t			E_v
		2.23E-04			2.56E-04
		ESAL permitido Fatiga	2.34E+06	ESAL permitido surco de huella	1.71E+07
		ESAL de diseño año 2040	2.99E+07	ESAL diseño	2.99E+07
Relacion de Minner		12.76		Relacion de Minner	1.75

VIDA REMANENTE A LA FATIGA	2.0	años	VIDA REMANENTE AL AHUELLAMINETO	14.3
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Tabla 8 Comprobación a la Fatiga, Tramo Km 1+700 – Km 4+700 , Calzada Derecha
(Fresado 12 cm y reposición de 23 cm)

INFORMACIÓN Y RESULTADOS: RECAPEO 6PULGADAS

Número de Capas	= 4				
Radio de Carga	= 10,6 cm				
Presión de Contacto	= 5,6 kg/cm ²				
Distancia entre ejes de llanta	= 32,4 cm				
Capa	Descripcion	E (kg/cm ²)	μ	H (cm)	Ligada (S/N)
1a	C. Asfáltica Nueva	26268	0.35	23	S
2a	Remanente Asfáltico	1764	0.4	15	S
3a	Mat. Granular	877	0.4	26	S
4a	Subrasante	989	0.45		
Et		1.37E-04		Ev	1.63E-04
ESAL permitido Fatiga		1.89E+07	ESAL permitido surco de huella		1.29E+08
ESAL de diseño año 2040		2.99E+07	ESAL diseño		2.99E+07
Relacion de Minner		1.58	Relacion de Minner		0.23

VIDA REMANENTE A LA FATIGA	15.8	años	VIDA REMANENTE AL AHUELLAMEINETO	108.4
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Tabla 9 Comprobación a la Fatiga, Tramo Km 1+700 – Km 4+700 , Calzada Derecha
(Fresado 12 cm y reposición de 25 cm)

INFORMACIÓN Y RESULTADOS: RECAPEO 7 PULGADAS

Número de Capas	= 4				
Radio de Carga	= 10,6 cm				
Presión de Contacto	= 5,6 kg/cm ²				
Distancia entre ejes de llanta	= 32,4 cm				
Capa	Descripcion	E (kg/cm ²)	μ	H (cm)	Ligada (S/N)
1a	C. Asfáltica Nueva	26268	0.35	25	S
2a	Remanente Asfáltico	1764	0.4	15	S
3a	Mat. Granular	877	0.4	26	S
4a	Subrasante	989	0.45		
Et		1.23E-04		Ev	1.48E-04
ESAL permitido Fatiga		3.04E+07	ESAL permitido surco de huella		2.00E+08
ESAL de diseño año 2040		2.99E+07	ESAL diseño		2.99E+07
Relacion de Minner		0.98	Relacion de Minner		0.15

VIDA REMANENTE A LA FATIGA	25.5	años	VIDA REMANENTE AL AHUELLAMEINETO	167.1
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6. Conclusiones y recomendaciones

- ❖ Tramo Salida Túnel Guayasamín - Intercambiador Simón Bolívar
 - El tramo entre la salida del túnel y el puente del Intercambiador solamente requiere un mejoramiento funcional, para lo cual se propone retirar la capa superficial de 2 pulgadas y reponerlas en el mismo espesor. Se debe aprovechar de esta actividad para sanear algunos sectores de deformaciones que se presentan en el tramo.
- ❖ Tramo Fin puente Intercambiador Simón Bolívar - Cumbaya
 - La actividad de rehabilitación emprendida (fresado de 4.7 pulgadas (12 cm) y reposición de la capa de rodadura en el mismo espesor) mejorará la condición funcional y en algo la condición estructural para soportar las cargas de tráfico en los próximos 10 a 12 meses.
 - El ajuste realizado en la estimación de los ESAL es muy importante, se estaba diseñando para $5.54E+07$ y con los ajustes del factor de carga de Buses mas la condición de saturación de la vía a partir del año 2026, los ESAL para 25 años es de $2.99E+07$
 - Para el cálculo de los ESAL permitidos para las condiciones de reforzamiento se ha utilizado la expresión de UZAN&FINN, a criterio del consultor las más consistentes con otras metodologías de diseño como AASHTO 1993 utilizada como requisito en el MTOP.
 - Es de suponer que la actividad de rehabilitación emprendida por el DMQ al menos recuperará el mismo espesor fresado de 12 cm de la capa de rodadura. En las siguientes fotografías se indica el espesor de fresado medido.



- Sobre la base de los resultados obtenidos, se recomienda que la programación del Mantenimiento periódico ejecute de la siguiente forma.

Tabla 10 Recomendaciones para el mantenimiento periódico

AÑO	2015	2017	2030	2040
ACTIVIDAD	Recepción de la estructura: Fresado de 12 cm y reposición de capa asfáltica en el mismo espesor	Riego de Liga + Reforzamiento 3 pulgadas	Fresado 2 pulgada + Reforzamiento 2 pulgadas	Slurryseal

- **La evaluación del TPDA, tasas de crecimiento y pesaje de vehiculos que circulan actualmente en la vía luego de la apertura de la fase II de la Ruta Viva, puede dar ajustes a los espesores de diseño presentados en este informe; es recomendable por lo tanto emprender la revaluación indicada, junto con la determinación más precisa del año de saturación de la vía.**
- ❖ Entre las intersecciones Av. Eloy Alfaro y Av. Shyris e ingreso al Túnel Guayasamín se desarrollará en secciones deprimidas, lo que obligará a reconstruir el pavimento y para cualquier ampliación que se debe realizar en el proyecto, los espesores de la estructura de pavimento a considerar son los indicados en las siguientes tablas:

Tabla 11 Espesores para la alternativa de Reconstrucción. Alternativa 1 con Base Granular

DESCRIPCION DE LA CAPA	PARAMETROS	VALORES
Subrasante Existente	Módulo (psi)	8700
	Módulo (psi)	15000
Sub base Granular Nueva	Coef. Estrct.	0.11
	Coef. Drenaje	0.9
	Espesor (pulg)	12
	Módulo (psi)	280000
Base Granular Nueva	Coef. Estrct.	0.14
	Coef. Drenaje	1.00
	Espesor (pulg)	8
	Módulo (psi)	400000
Capa de Rodadura Asfáltica	Coef. Estrct.	0.40
	Coef. Drenaje	1
	Espesor (pulg)	9.5
	Equivalent Single Axle Load	ESAL
NUMERO ESTRUCTURAL (SN)	Diseño	5.96
	Componentes	6.11
ESPEJOR TOTAL	Pulgadas	29.5

Tabla 12 Espesores para la alternativa de Reconstrucción. Alternativa 2 con Base Asfáltica



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DESCRIPCION DE LA CAPA	PARAMETROS	VALORES
Subrasante Existente	Módulo (psi)	8700
	Módulo (psi)	15000
Sub base Granular Nueva	Coef. Estrct.	0.11
	Coef. Drenaje	0.9
	Espesor (pulg)	12
	Módulo (psi)	280000
Capa de Base Asfáltica	Coef. Estrct.	0.14
	Coef. Drenaje	1.00
	Espesor (pulg)	8
	Módulo (psi)	400000
Capa de Rodadura Asfáltica	Coef. Estrct.	0.40
	Coef. Drenaje	1
	Espesor (pulg)	4
	Equivalent Single Axle Load	ESAL
NUMERO ESTRUCTURAL (SN)	Diseño	5.96
	Componentes	3.91
ESPEJOR TOTAL	Pulgadas	24

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Quito, Marzo del 2015



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN

8.2.- RECOMENDACIONES GEOTÉCNICAS

RECOMENDACIONES GEOTÉCNICAS

ANTECEDENTES Y OBJETIVO DEL ANTEPROYECTO.

La ciudad de Quito se encuentra en conexión vial con el resto del país con cuatro carreteras principales que son: La **Carretera Noroccidental** hacia los Bancos Esmeraldas, la **Panamericana Norte** hacia Imbabura, Carchi y Colombia, la **Interoceánica** hacia el Oriente y la **Panamericana Sur** hacia Ambato, Santo Domingo y Guayaquil.

La vía Interoceánica inicia en el Valle de Quito y empieza a descender a lo largo del valle interandino, intersectando a la Via Simón Bolívar hasta llegar a Cumbayá – Tumbaco – Pifo y al Oriente Ecuatoriano a través de la bifurcación de las vías Troncal de la Sierra (E35) y la Transversal Norte (E20).

Existe un tramo de la antigua vía Interoceánica, justo a la salida de Quito que fue clausurado debido a constantes deslizamientos de los taludes inferiores, dichos deslizamientos se pronunciaron aún más en los taludes inferiores. La antigua vía fue clausurada debido a los continuos siniestros que ocurrían y fue reemplazada por el túnel actual Oswaldo Guayasamín, inaugurado en el 2005.

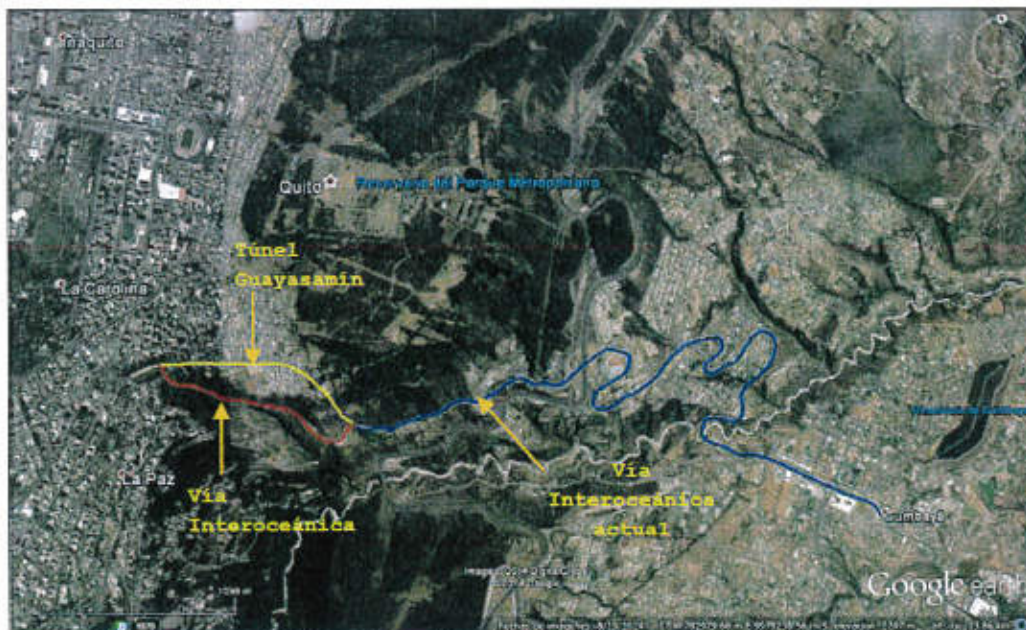


Figura 1. Ubicación de la vía Interoceánica (Google Earth).

El túnel Oswaldo Guayasamín tiene una longitud de 1340m y en su momento representó una solución parcial para el control de tráfico en este punto, consta tan solo de dos carriles (ida y vuelta) y en horas pico representa una vía poco eficiente, exigiendo una mayor fluidez en el tráfico vehicular diario.

Por este motivo, es necesario un nuevo proyecto vial que solucione a largo plazo el tráfico vehicular en la vía Interoceánica.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Con estos antecedentes, se ha elaborado una propuesta vial para la ampliación de la vía Interoceánica, que de solución a los problemas de tráfico vehicular, proporcionando una mayor fluidez en el tráfico vehicular diario.

Se proyecta la ampliación de la vía Interoceánica, a través de un nuevo trazado sobre la antigua vía, incluyendo:

- Solución a desnivel en la intersección Eloy Alfaro - Shyris
- Intercambiador de la Plaza Argentina.
- Tramo inicial en superficie de 730m de longitud.
- Viaducto de 500 m de longitud.
- Protección de laderas para la zona del viaducto.
- Tramo de corte entre primer y segundo viaducto "zona de nariz".
- Segundo viaducto de 120.0m de longitud.
- Taludes inferiores a partir del portal de salida del actual túnel Guayasamin.

Para estar en posibilidades de cumplir con los objetivos anteriores se llevaron a cabo las siguientes actividades:

- Recopilación de la información geotécnica previa.
- Estudio geológico preliminar de la Quebrada el Batán, sitio donde se proyecta el primer viaducto de 500 m.
- Ejecución de sondeos mecánicos en la zona de la Quebrada el Batán y en la Plaza Argentina.
- Ejecución de ensayos de laboratorio.
- Ejecución de los análisis de ingeniería geotécnica requeridos para procesar la información anterior.

1. TRABAJOS REALIZADOS

1.1 Intercambiador de la Plaza Argentina y Solución a desnivel Eloy Alfaro - Shyris

El distribuidor de la Plaza Argentina resulta de gran importancia para comunicar a la zona de Cumbayá, Tumbaco y demás ciudades con el centro de Quito, en la actualidad la capacidad de tránsito vehicular ha generado un "cuello de botella" en esta zona, y si adicionalmente se lleva a cabo la ampliación de la vía Interoceánica, el tráfico esperado rebasará el actual.

El distribuidor considera la Av. Interoceánica con las avenidas Av. Shyris, Av. Eloy Alfaro, Diego de Almagro y superficialmente con la Av. 6 de Diciembre (ver figura 2).

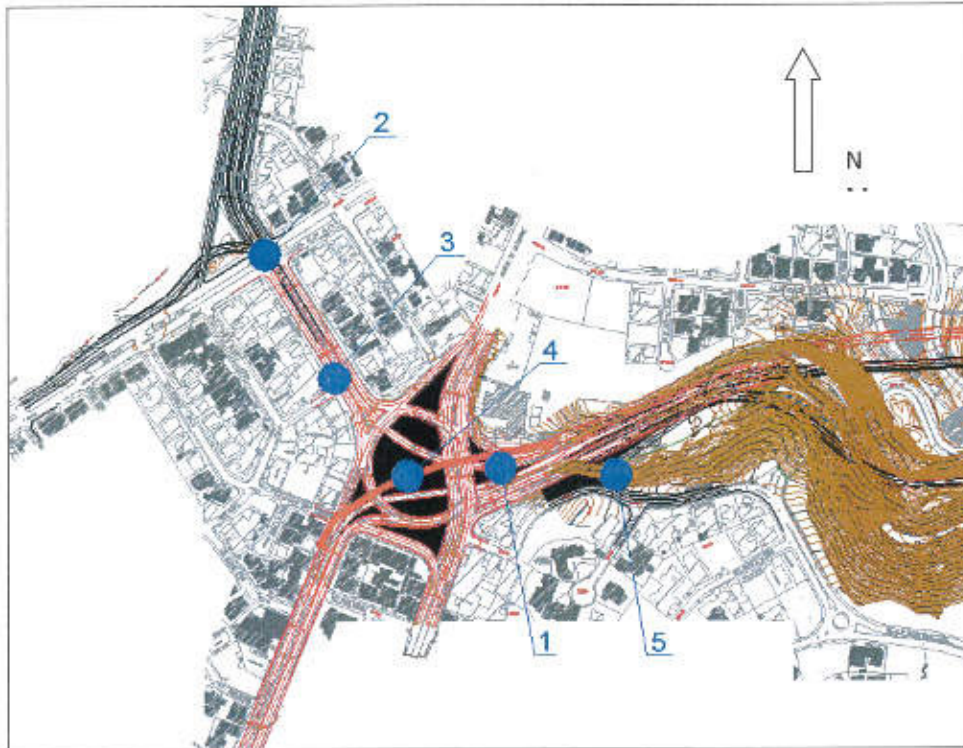


Figura 2. Proyecto de la Plaza Argentina.

Del proyecto vial destacan las siguientes obras a ejecutar:

- Salida de la nueva vía Interoceánica mediante un paso deprimido en la zona de la Plaza Argentina. Esta arteria corresponde a los usuarios que entran a Quito y se dirigen hacia las avenidas Shyris y Eloy Alfaro.
- "Y" del paso deprimido del punto anterior, que separa a los usuarios que se dirigen hacia las avenidas Shyris y Eloy Alfaro.
- Entrada sobre la Av. Shyris para los usuarios que se dirigen a la Av. Interoceánica mediante un paso deprimido adjunto al paso deprimido de los puntos anteriores.
- Puente sobre el redondel de la Plaza Argentina para los usuarios que salen de la Av. Interoceánica y se dirigen a la Av. Diego de Almagro.
- Retorno o acceso para los usuarios que salen de la Av. Interoceánica y se dirigen a la avenida Gonzáles Suárez.

Gracias a proyectos realizados previamente cerca del sector del Intercambiador, se conoce las principales características geotécnicas que el suelo del sitio presentará a efectos de tener estimaciones preliminares para el diseño de las estructuras.

Esta zona pertenece a una zona lacustre de Quito, con materiales arenosos y limosos con un nivel freático próximo a los 5m de profundidad. De forma general y simplificada se puede decir que el sector está compuesto por 2 estratos principales, uno superior de aproximadamente 6m de espesor formado principalmente por arenas y limos, el cual presenta compacidad relativa suelta y media y consistencia blanda a media. Este será el estrato a excavar y estabilizar para el caso de obras subterráneas.

El según estrato está compuesto principalmente por limos de consistencia firme y arenas de compacidad relativa media. Este será el estrato en el cual se cimienten tanto las estructuras subterráneas como las de pasos superiores.

Con este modelo geotécnico acompañado de una campaña de investigación geotécnica se ha procedido a realizar análisis geotécnicos de estabilidad, que principalmente reflejan los métodos constructivos a llevar a cabo para las obras de excavación y que permitan dar viabilidad a los diferentes elementos o estructuras del proyecto.

1.1. Investigación Geotécnica

Se realizaron siete (7) sondeos mecánicos a percusión, empleando la técnica de la penetración estándar a cada metro de perforación. La profundidad de los sondeos se vio limitada por la presencia de estructuras internas de la zona y/o instalaciones, colectores, etc. La campaña de investigación se vio limitada a 4 días en virtud de lo autorizado por las instancias municipales correspondientes.

El material encontrado en el Sondeo P-1:

0.0–7.0m:

- Limo arenoso color café y gris, de baja compresibilidad, muy húmedo, dilatancia nula, tenacidad ligera, resistencia seca ligera, del tipo **ML**.

7.0 –8.0m:

- Limo elástico color negro, muy húmedo, dilatancia nula, tenacidad media, resistencia seca alta, consistencia muy firme, del tipo **MH**.

8.0 –9.0m:

- Limo arenoso color café, baja compresibilidad, muy húmedo, dilatancia muy lenta, tenacidad ligera, resistencia seca nula, consistencia de firme a muy firme, del tipo **ML**.

9.0 –10.0m:

- Arena limosa pobremente graduada, color gris, muy húmeda, del tipo **SM**.

10.0 –12.45m:

- Arena limosa pobremente graduada, color gris verdoso, muy húmeda, dilatancia rápida, tenacidad nula, resistencia seca nula, compacidad relativa muy densa, del tipo **SM**.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Se detectó nivel freático a los 10.5m de profundidad.

El material encontrado en el Sondeo P-2:

0.0 – 2.0m:

- Relleno, a los 2.0m presencia de losa de hormigón.

2.0 –6.0m:

- Limo arenoso, color café y gris, de baja compresibilidad, muy húmedo, dilatancia lenta, tenacidad ligera, resistencia seca ligera, consistencia de media a dura, del tipo **ML**.

6.0 –9.0m:

- Limo arenoso, color negro, poco húmedo, dilatancia lenta, tenacidad ligera, resistencia seca media, consistencia media a muy firme, del tipo **ML**.

9.0 –10.0m:

- Arena limosa con grava, color café oscuro, muy húmeda, dilatancia rápida, tenacidad nula, resistencia seca nula, compacidad relativa media, del tipo **SM**.

10.0 –11.45m:

- Limo arenoso, poco húmedo, dilatancia lenta, tenacidad ligera, resistencia seca ligera, consistencia dura, del tipo **ML**.

No se detectó la presencia de nivel freático hasta la profundidad investigada.

El material encontrado en el Sondeo P-3:

0.0 – 2.6m:

- Relleno, a los 0.5m presencia de losa de hormigón.

2.6 –4.0m:

- Arena limosa, color café, poco húmeda, dilatancia rápida, tenacidad nula, resistencia seca nula, compacidad relativa media, del tipo **SM**.

4.0 –6.0m:

- Limo arenoso color café claro, poco húmedo, dilatancia lenta, tenacidad ligera, resistencia seca ligera, consistencia muy firme a dura, del tipo **ML**.

6.0 –7.0m:

- Limo arenoso color negro, poco húmedo, dilatancia lenta, tenacidad ligera, resistencia seca media, consistencia firme, del tipo **ML**.

7.0 –9.0m:

- Limo arenoso color verde, poco húmedo, dilatancia lenta, tenacidad ligera, resistencia seca ligera, consistencia dura, del tipo **ML**.

9.0 –12.5m:

- Arena limosa color verde, muy húmeda, dilatancia rápida, tenacidad nula resistencia seca nula, compacidad relativa densa, del tipo **SM**.

Se detectó la presencia de nivel freático a los 7.5m de profundidad.

El material encontrado en el Sondeo P-4:

0.0 – 3.4m:

- Relleno de material limoso arenoso, presencia de fragmentos de ladrillo.

3.4 –5.0m:

- Limo elástico, húmedo, color café – gris, dilatancia nula, tenacidad media, resistencia seca media, consistencia firme, del tipo **MH**.

5.0 –5.5m:

- Limo arenoso, café con betas blancas, húmedo, consistencia media, del tipo **ML**.

5.5 –6.0m:

- Arena limosa gris oscuro, húmeda, compacidad relativa suelta a media, del tipo **SM**.

6.0 –7.0m:

- Limo elástico, color negro, con presencia de materia orgánica, muy húmedo, dilatancia nula, tenacidad media, resistencia seca media, consistencia firme, del tipo **MH**.

7.0 –8.0m:

- Limo arenoso, gris oscuro, muy húmedo, dilatancia muy lenta, tenacidad ligera, resistencia seca ligera, consistencia muy firme, del tipo **ML**.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



8.0 –10.5m:

- Arena pobremente graduada, gris oscuro, muy húmeda, del tipo **SP**.

No se detectó la presencia de nivel freático hasta la profundidad investigada.

El material encontrado en el Sondeo P-5:

0.0 – 2.5m:

- Relleno de material limoso arenoso, presencia de fragmentos de ladrillo y rocas.

2.5 –6.0m:

- Limo arenoso de baja compresibilidad, poco húmedo, dilatancia nula, tenacidad ligera, resistencia seca ligera, del tipo **ML**.

6.0 –9.0m:

- Limo arenoso de alta compresibilidad, muy húmedo, dilatancia nula, tenacidad media, resistencia seca de media a alta, del tipo **ML**.

9.0 –10.0m:

- Arena fina limosa, muy húmeda, dilatancia lenta, tenacidad nula, resistencia seca nula, del tipo **SM**.

10.0 –10.5m:

- Grava limosa, muy húmeda, dilatancia rápida, tenacidad nula, resistencia seca nula, del tipo **GM**.

No se detectó la presencia de nivel freático hasta la profundidad investigada.

El material encontrado en el Sondeo P-6:

0.0 – 1.0m:

- Material orgánico.

1.0 –3.0m:

- Arena limosa, color café claro amarillenta, poco húmeda, dilatancia rápida, tenacidad nula, resistencia seca nula, compacidad relativa media, del tipo **SM**.

3.0 –6.0m:



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



- Limo arenoso café amarillento, muy húmedo, dilatancia lenta, tenacidad ligera, resistencia seca ligera, consistencia muy firme a dura, presencia de lapilli, del tipo **ML**.

No se detectó la presencia de nivel freático hasta la profundidad investigada.

El material encontrado en el Sondeo P-7:

0.0 – 2.5m:

- Material de relleno, limo arenoso con presencia de ladrillo y fragmentos de roca.

2.5 –4.0m:

- Arena limosa, poco húmeda, dilatancia lenta, tenacidad ligera, resistencia seca media, del tipo **SM**.

4.0 –11.5m:

- Intercalaciones de limos y arenas, poco húmedas, del tipo **SM**.

No se detectó la presencia de nivel freático hasta la profundidad investigada.

1.2. Parámetros de diseño geotécnico

En cuanto a la capacidad de carga admisible del suelo para el diseño de cimentaciones, se puede decir que para profundidad de cimentación mayor a 6.0m se puede utilizar un valor de diseño de $q_d = 250 \text{ kN/m}^2$. Se sabe que la mayoría de elementos subterráneos se cimentarán debajo de esta profundidad de 6.0m pero se debe cuidar también que los elementos de pasos superiores o estructuras elevadas se desplanten a aproximadamente esta profundidad, atravesando el estrato débil superficial.

Los parámetros geotécnicos de resistencia al corte y para cálculo de empuje de tierras asumidos en base a las investigaciones previas y utilizados en los modelos geotécnicos son los siguientes:

Tabla No. 1. Parámetros geotécnicos del modelo.

Estrato	Peso unitario (kN/m^3)	Ángulo de fricción interna ($^\circ$)	Cohesión (kN/m^2)
Superficial (espesor 6m)	18.0	20	10
Inferior	19	28	30

Para el caso de la cimentación de las estructuras elevadas, se recomienda analizar, debido a la profundidad de cimentación la posibilidad de construir elementos como pilotes prebarrenados, micropilotes o Caissons.

1.3. Métodos constructivos propuestos

Considerando la complejidad del tráfico que presenta la zona de la plaza Argentina, recomendamos que se utilice el sistema de pilotes secantes para la construcción de las obras subterráneas, sin embargo, también se abre la posibilidad del sistema de excavación a cielo abierto.

A continuación se hace una breve descripción de cada sistema:

Pilotes secantes:

Se construyen pilas "primarias", separadas entre 0.8 y 0.9 veces su diámetro, y son intersectadas por pilas "secundarias", para formar una estructura cerrada (figura 3).

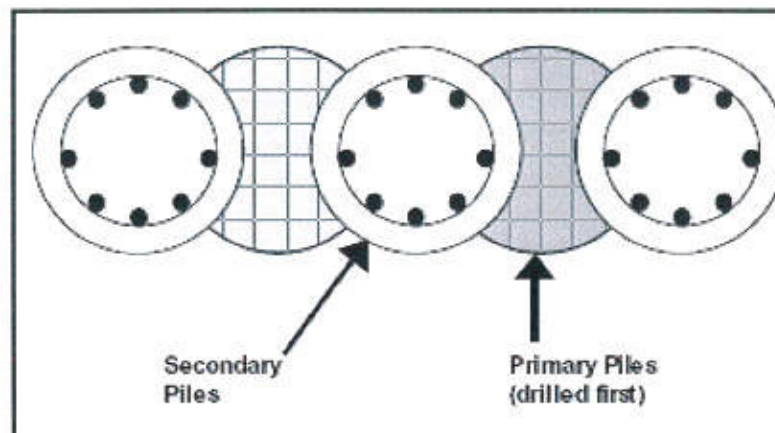


Figura 3. Pilotes secantes.

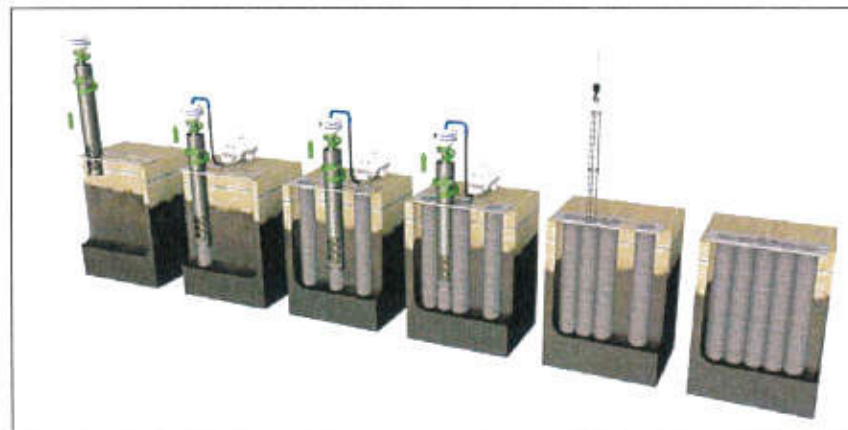


Figura 4. Pilotes secantes.

ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN

Los pilotes secantes se utilizan como elementos que actúen como una barrera para el flujo de agua y prevenir la migración de suelo entre los elementos.

Para su construcción se pueden emplear las siguientes dos técnicas:

- Técnica Duro / Duro: Dependiendo del equipo de perforación, las pilas primarias y secundarias se construyen con hormigón reforzado o mortero de alta resistencia de hasta $f'c=350\text{kg/cm}^2$.
- Técnica Suave / Duro: Las pilas primarias se construyen con una mezcla de cemento – bentonita, esta técnica es de menor costo debido a la menor resistencia de las pilas primarias y solo las secundarias son de hormigón reforzado.

Para la perforación se utiliza un brocal de concreto, que sirve de guía para ubicar las pilas primarias y secundarias.



Figuras 5 y 6. Guía de concreto.

El acero de refuerzo y el hormigón se colocan de diferente manera, dependiendo del tipo de perforadora utilizada:

- Perforadora rotatoria: El acero se coloca después de efectuar la perforación, antes de colocar el hormigón con tubería *tremie*.
- Perforadora de hélice continua: (figura 7)

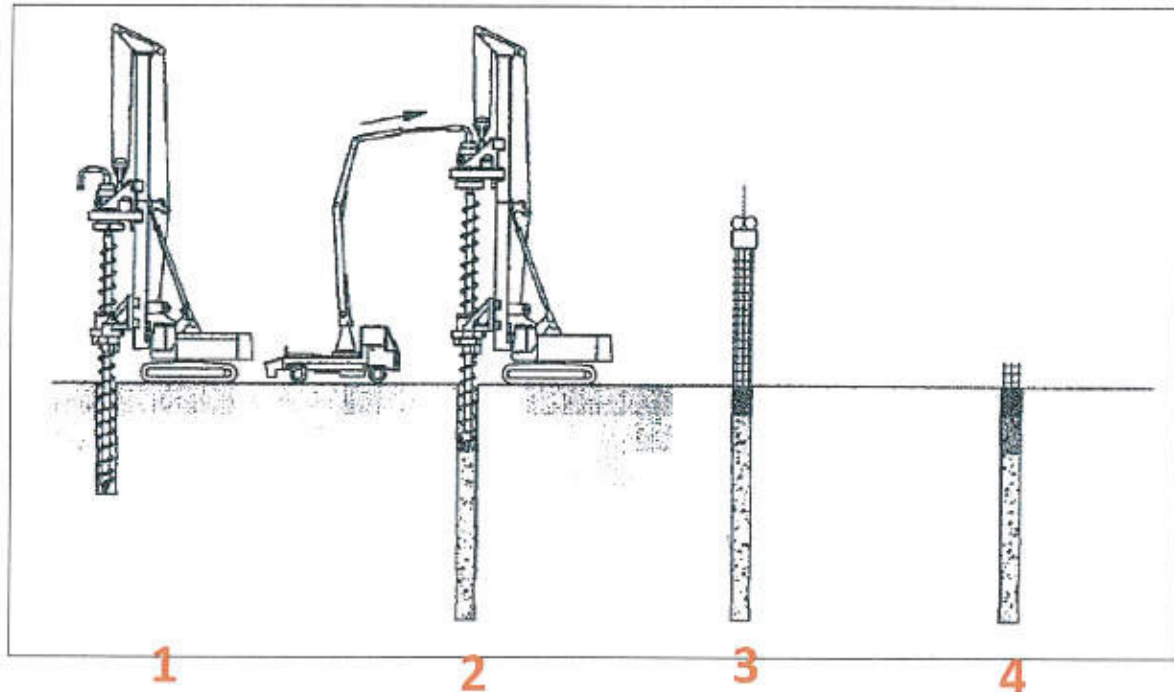


Figura 7. Método de la hélice continua.

Donde:

1. Perforar con la hélice continua hasta la profundidad requerida.
2. Bombear hormigón a través de la broca hueca, y al mismo tiempo extraer la hélice sin rotación.
3. Vibrar o empujar el acero de refuerzo con separadores dentro del hormigón fresco.
4. Pila terminada.

Algunos factores que influyen en la selección de la técnica son los siguientes:

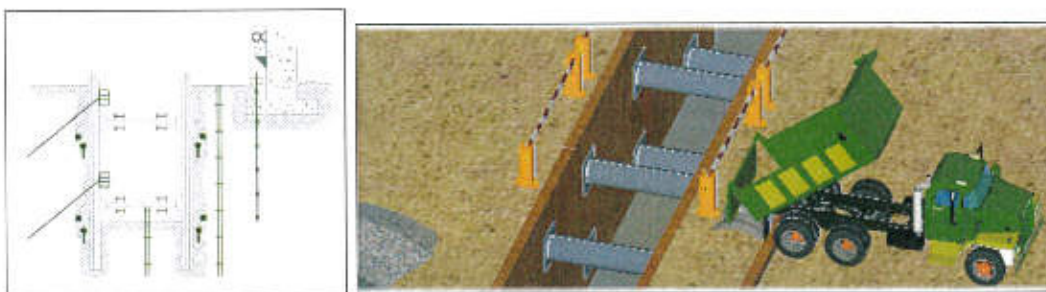
- Los métodos de hélice continua son los que generan menor vibración y ruido, en suelos sin obstrucciones.
- Para contenciones temporales, la técnica suave/duro puede satisfacer los requerimientos de la obra.
- Las pilas perforadas con revestimiento/ademe presentan mayor seguridad al perforar suelos granulares, cuando se tienen colindancias cercanas.
- En condiciones adecuadas, un muro de pilas duro/duro puede competir en impermeabilidad con un muro milán; sin embargo, con la profundidad, las pilas secantes tienen el riesgo de sufrir desviaciones, lo cual genera posibles vías de acceso de agua.

Excavación a cielo abierto:

Es posible también realizar la construcción con métodos tradicionales como la excavación a cielo abierto de la sección de la estructura y construirla de abajo hacia arriba. En este caso es indispensable estabilizar las paredes de la excavación, lo cual se debe hacer en base a anclajes temporales que se han estimado en 2 filas de anclajes de 9m de profundidad y 3m de espaciamiento entre si.

Dependiendo del ancho de l viaducto, se podría utilizar también puntales horizontales para efecto de la estabilización de dichas excavaciones.

Esta metodología presenta desventajas como que por la presencia de estructuras subterráneas actuales no se pueda construir en determinados sitios los anclajes de estabilización y que el cierre de vías de circulación actuales puede permanecer por tiempos prolongados.



Figuras 8, 9 y 10. Excavación a cielo abierto.

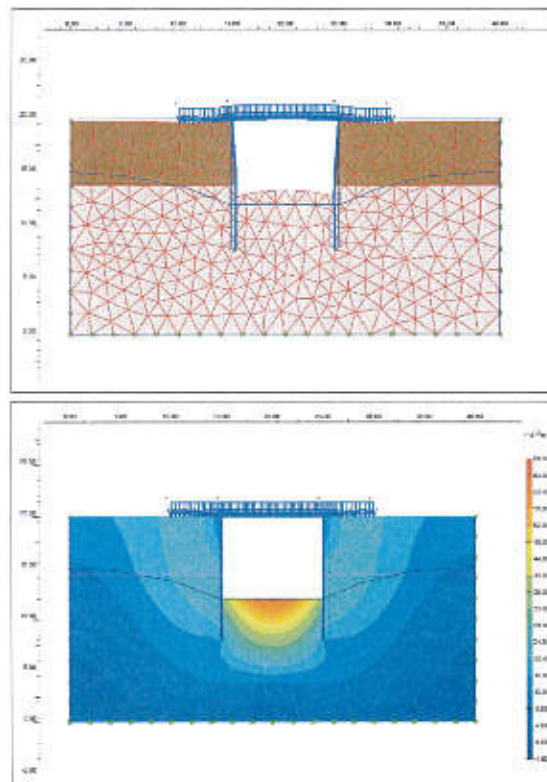
Manejo de agua subterránea:

En cualquiera de los casos o métodos constructivos que se elija, es muy importante tomar en cuenta que la probabilidad de tener agua freática dentro de la excavación es muy alta, motivo por el cual se debe prever el uso de equipos de bombeo y abatimiento del nivel freático en todo momento durante la construcción.

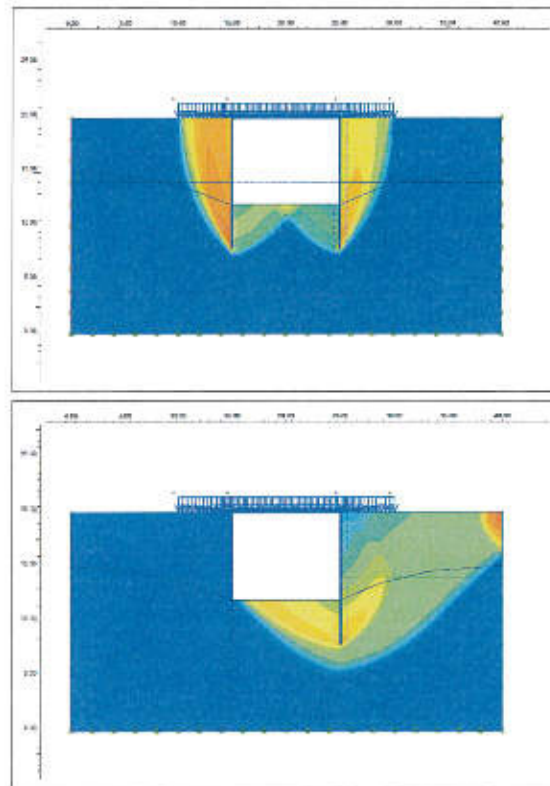
Se deberán construir pozos de achique y sistemas de bombeo y evacuación redundantes que de forma permanente brinden soporte a las actividades del proyecto.

1.2. Análisis de estabilidad preliminar

Como un ejercicio preliminar se ha procedido a modelar desde el punto de vista geotécnico un ejemplo preliminar de construcción del viaducto subterráneo con el método de muros milán o pantalla de pilotes tangentes, obteniéndose resultados satisfactorios como los que se ven a continuación:



Deformada al momento de la excavación del viaducto previo la construcción de pantallas verticales y losa superior. Condiciones estáticas



Factor de seguridad al deslizamiento

Condición estática = 2.7

Condición pseudoestática, sismo $a_H=0.25g = 2.1$

El esquema constructivo para el paso deprimido de la plaza Argentina se describe a continuación:

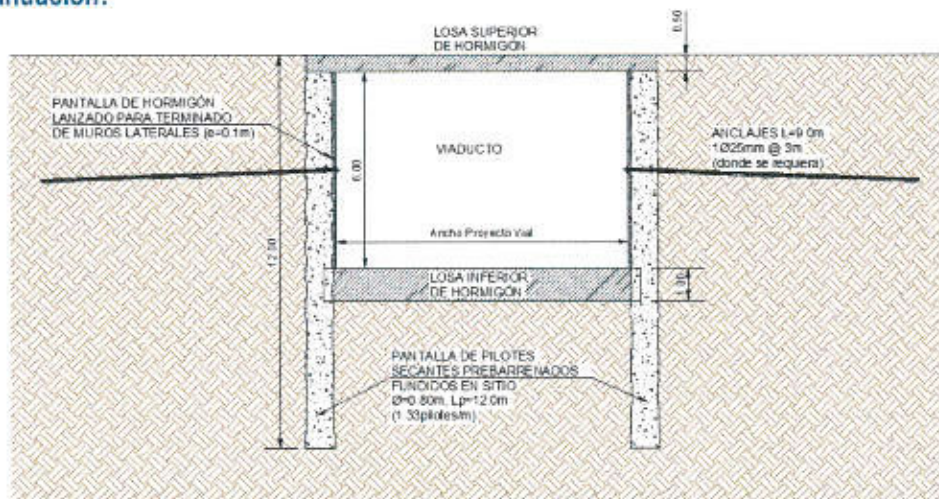


Figura 11. Esquema del paso deprimido.

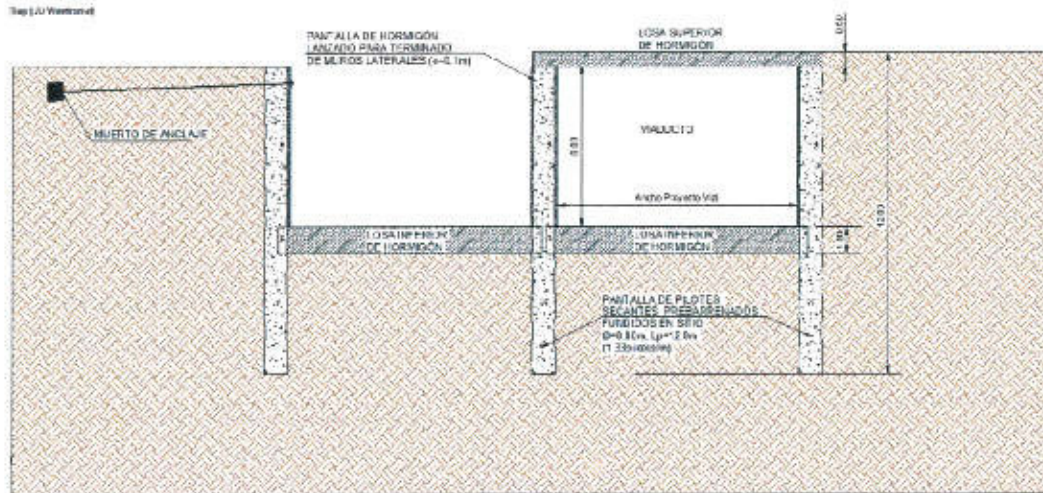


Figura 12. Esquema del doble paso deprimido.

1.3. Cantidades aproximadas.

Sistema de bombeo

Instalación de pozo de bombeo, tubería PVC con filtro y bomba eyectora, tapón de PVC, grava limpia en las paredes de $\frac{3}{4}$ ", sello de bentonita hasta nivel de excavación. Longitud de cada pozo de 10m.	48 u
Perforación destructiva para pozos de bombeo.	480 m
Operación y mantenimiento de sistema de bombeo, sistema integrado durante 24hrs al día.	288 día

(*) Cantidades mayoradas al 20%

Construcción de pilotes secantes

Pilotes de hormigón prebarrenados de 80cm de diámetro y 12m de longitud c/u, incluye excavación, estabilización de la perforación, 160kg/m^3 de acero de refuerzo y fundido con tubería tremie.	4000 u
Losa de hormigón de 50cm de espesor presfuerzo en la parte superior de la excavación $f_c=350\text{kg/cm}^2$, 200kg/m de cable de presfuerzo	8000 m^3

(*) Cantidades mayoradas al 20%

Excavación a cielo abierto

Excavación	153600 m ³
Anclajes estabilizadores de las paredes de la excavación	20000 U

(*) Cantidades mayoradas al 20%

Instrumentación

Revestimiento para instalación de inclinómetros	336 m
Instalación de tubería inclinométrica y sellado de tubería	336 m
Provisión de tubería para inclinómetro de 75mm	336 m
Losa y tapa de tubo	24 u
Revestimiento para instalación de piezómetros	336 m
Instalación de tubería piezométrica y sellado de tubería	336 m
Provisión de tubería para piezómetro de 75mm	336 m
Losa y tapa de tubo	24 u

(*) Cantidades mayoradas al 20%

1.1 Tramo inicial en superficie de 730m de longitud

La geometría vial de este primer tramo consiste en rellenos de hasta 30m de altura y cortes de taludes en las laderas naturales.

En este tramo, se deber considerar previo al relleno, una capa de reemplazo de suelo de aproximadamente 1m a partir de la cota de desplante del terraplén, así como obras de drenaje tanto en la parte inferior como en el cuerpo del relleno. Los estudios de este sector deberán estar encaminados a verificar la resistencia del suelo para la cimentación de los terraplenes y del estudio del material de compactación de cada capa. Con estos estudios se definirá la geometría de construcción.

Para el relleno que conformará el terraplén, se ha estimado una inclinación de taludes 1.5H:1V, con bermas o terrazas de 3m de ancho, cada 10m de altura y el uso de geomallas uniaxiales que ayudarán con el refuerzo interno.

El uso de geosintéticos en terraplenes tiene bastantes ventajas, son fáciles de construir, ya que necesitan un mínimo de mano de obra, se construyen principalmente con maquinaria pesada, a muy rápidas velocidades de construcción, son económicos y efectivos, permiten alcanzar ángulos de reposo que de ninguna manera se podrían alcanzar con los suelos naturales y permiten alcanzar grandes alturas, a bajos costos de estabilización.

El drenaje interno, superficial y de fondo del cuerpo del terraplén evitará la acumulación de la presión de poro dentro del cuerpo del relleno.

Las caras expuestas de los taludes de relleno deberán protegerse contra agentes de intemperismo, para esto se podrá emplear Mulch orgánico o vegetación.

En la siguiente figura se presente el esquema propuesto para los rellenos:

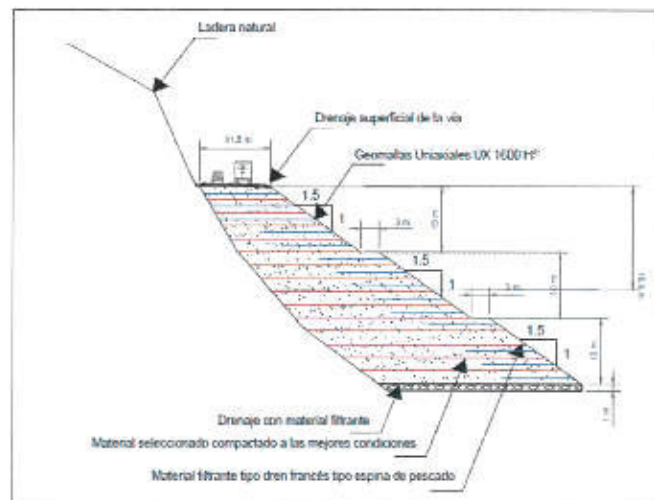


Figura 13. Esquema de terraplenes propuesto.

Preliminarmente, los cortes de los taludes en este tramo deberán ser proyectados de forma similar a los de la vía actual, es decir 1H:1.2V aproximadamente. Un estudio de estabilidad de taludes considerando los parámetros mecánicos del sitio, permitiría adoptar una mayor inclinación del talud y con ello, reducir los volúmenes de corte. Probablemente, el talud tendrá una geometría 1H:2V. Los taludes deberán tener bermas o terrazas de por lo menos 3m de ancho, cada 15m de altura.

Las caras expuestas de los taludes estarán conformadas por una estratigrafía irregular y compleja, compuesta por: lavas andesíticas y/o flujos piroclásticos, aglomerados, limos, arenosos duros o arenas limosas densas tipo Cangahua.

Para estos diferentes materiales se deben considerar diferentes sistemas de protección de erosión y/o estabilización: Hormigón lanzado con refuerzo de fibra o malla electrosoldada, Geomanto de control de erosión tipo North American Green P550 o equivalente + Malla eslabonada de acero tipo Geobrugg Tecco o equivalente + Geomanto de control de erosión tipo North American Green P550 o equivalente + Malla hexagonal de triple torsión de acero tipo Maccaferri o equivalente, Geomanto de control de erosión tipo North American Green P550 o equivalente + Anclajes de percusión.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Para este tramo se han estimado los siguientes volúmenes de obra preliminares:

1.1.1 Cantidades aproximadas

Tramo de terraplenes

Material clasificado para relleno compactado	50,000 m ³
Geomalla uniaxial tipo Tensar UX 1400 HS o equivalente	100,000 m ²
Suministro y colocación de mulch proyectado para control de erosión	10,000 m ²
Abastecimiento de agua (humedecimiento de mulch proyectado)	85.17 m ³
Transporte de agua para riego de mulch proyectado DMT = 20km	1703.43 m ³ /km
Material filtrante para subdrenes (material seleccionado D=50-150mm)-No incluye transporte	2000 m ³
Transporte de materiales pétreos (pedraplén, gaviones, escollera, material filtrante)	70000 m ³ /km
Agua para control de polvo	2500000 Its

(*) Cantidades mayoradas al 20%.

Tramo de cortes en laderas naturales

Estabilización de taludes (hormigón lanzado de 8cm de espesor)	6,500 m ²
Acero de refuerzo de malla de alambre fy=5200kg/cm ² – (6:10)	6,500 m ²
Anclaje con varilla corrugada de 14mmde diámetro	1746.77 kg
Tubería PVC perforada (d=50mm)	397.22 m
Geomanta para control de erosión (P550 o equivalente)	23800 m ²
Malla galvanizada de triple torsión	22600 m ²
Anclaje de percusión tipo DUCKBILL	333 U

(*) Cantidades mayoradas al 20%.

1.2 Viaducto de 500 m de longitud

1.2.1 Estudio geológico preliminar de la Quebrada el Batán



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



El estudio geológico preliminar contempla, el resultado del reconocimiento in situ de las diferentes unidades geológicas aflorantes en el área de influencia del proyecto.

El análisis estructural hace referencia a las principales direcciones preferenciales de estructuras aflorantes, los cuales indican las tendencias de los esfuerzos. Por último se presenta una columna geológica.

El levantamiento geológico se realizó con la ayuda de un GPS, en la proyección UTM WGS84 Z17S, también se revisó y filtro información de estudios pre-existentes de diferentes autores.

Ubicación del proyecto

La zona de estudio se encuentra hacia el sur oeste de Quito, en las laderas de la margen derecha de la Quebrada del Batán. Corresponde al tramo de la vía antigua hacia Cumbaya (figura 1).

Clima

El clima dominante es el ecuatorial mesotérmico semihúmedo, con temperaturas medias anuales de alrededor de 13 grados centígrados. La cantidad de lluvia medida varía entre 1.250 a 2.500 mm para años normales y muy lluviosos, respectivamente. Las lluvias se presentan entre octubre a junio, con dos máximos en los meses de octubre y abril y un periodo seco entre junio a septiembre.

Trabajos previos

Se han realizado varios estudios en la zona, cuyas referencias son presentadas a continuación:

- ASTEC-HIGGECO-LEÓN & GODOY (2002): Informe de Geología y Geotecnia "Descripción Geológica de la vía interoceánica"
- GEOSUELOS (2014): Anteproyecto Definitivo De La Ampliación De La Vía Interoceánica.- "Columnas Estratigráficas a lo largo de la antigua vía a Cumbaya, con una descripción geológica de las unidades litológicas presentes".

Relieve e Hidrografía

La zona del proyecto está ubicado al pie del cañón que forma la Quebrada El Batán, el cual presenta pendientes abruptas mayores a 80 metros de altura. La ladera original ha sido afectada por la erosión progresiva del agua, la misma que se infiltra por las fracturas presentes en la roca.

En el sitio se encuentran formaciones geológicas de origen volcánico con predominancia de rocas blandas y perfiles de meteorización relativamente importantes.

La quebrada del Batan es el principal cauce presente en la zona, mismo que aguas abajo confluye con el río Machángara.

Geomorfología

Geomorfológicamente el proyecto está compuesto por depósitos coluvio-aluviales de textura variable, cubiertos con cenizas volcánicas recientes, representan vertientes externas con huellas de paleo deslizamientos, taludes con escombros, con pendientes que varían entre 35° y 70°. Está rodeada de escarpes en las zonas altas los cuales en su mayoría representan vestigios de movimientos de masas (Figura 14; Modificada de Mapa Geomorfológico de Quito, SNR 2014)

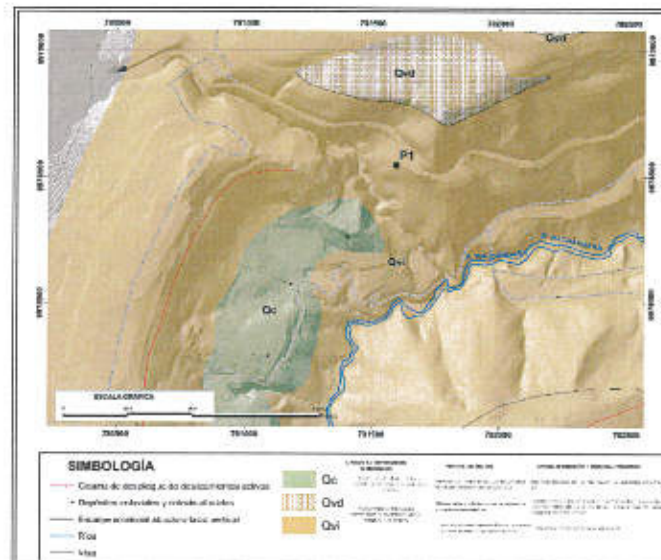


Figura 14. Gemorfología del sitio en estudio.

Geología Regional

La zona está comprendida principalmente por litologías de edad Pleistoceno- Holoceno, de la Fm. Machangara, Fm Cangahua y Depósitos Coluviales, que corresponden a depósitos volcánicos y volcano sedimentarios intercalados en capas estratificadas, con orientaciones preferenciales hacia el NE y NW, con buzamientos variables (ASTECC, HIGGECO, LEÓN & GODOY, 2002-A; Informe sobre Peligrosidad por Deslizamientos realizado en la Vía Interoceánica, Quito-Ecuador)

El basamento de la roca está constituido por lavas andesíticas de arco volcánico posiblemente de la formación Silante.

Geología local

PUNTO 1:

	N: 9978654		
Coordenadas	E: 781447	Proyección	UTM WGS 84 Z 17S
	2700 ±5 m.s.n.m.		



Figura 15. Características del punto 1.

En orden de edades, se tiene las siguientes unidades geológicas

Arenisca Volcánica.- Arenisca volcánica de grano grueso bien consolidada, con una potencia aproximando de 25.00 m, se observan intercalaciones de niveles conglomeráticos en los que existe clastos subredondeados de baja esfericidad de composición andesítica, el tamaño de los clastos es < 15 cm.

Esta unidad presenta fracturamiento, con permeabilidad secundaria, la dirección que presenta el estrato es de $280^{\circ}/15^{\circ}$. Y las fracturas preferencialmente ocurren en dirección $355^{\circ}/70^{\circ}$.

Al tope de la unidad aparecen clastos de mayor tamaño (de hasta 25 cm de diámetro) provenientes de la unidad superior.

Lavas Andesíticas Diaclasadas.- Suprayacen concordantemente a la arenisca volcánica, comprende de rocas andesíticas de color grisáceo, y textura porfírica, con cristales de plagioclasas levemente meteorizados, los fenocristales observados en muestras tomadas corresponden a Plagioclasas, Hornblenda.

Las direcciones estructurales del diaclasamiento ocurren entre los $270^{\circ} - 280^{\circ}$, con buzamientos entre 20 y 30° , además presenta fracturas las cuales tienen una orientación preferencial de $160^{\circ} - 170^{\circ}$ con buzamientos entre $70^{\circ} - 80^{\circ}$, se estima una potencia de 25.00 m para esta unidad.

Arenisca Volcánica.- Suprayace concordantemente a las lavas andesíticas diaclasadas, comprende de una arenisca de tonalidad rojiza, de grano fino, aparentemente los clastos presentan un buen sorteo con una matriz limosa, este estrato está depositado en forma decreciente, es decir que los clastos van aumentando al techo de esta unidad. Se estima una potencia de 5.00 m

Intercalaciones entre Cangahua y Aglomerado.- Constituyen la capa superficial de la zona de estudio, (no aflora en el lugar donde se realiza la perforación), constituido por un material arenoso ligeramente plástico subyacido por materiales bien consolidados de composición andesítica. Estas intercalaciones tienen una potencia estimada de 20.00 m

Depósitos Coluviales- Corresponde al material depositado al pie del talud, compuesto por clastos de roca de diversidad litológica, en una matriz limosa, los clastos no tienen una orientación preferencial y su tamaño es variable, evidenciándose un mal sorteo.

ANÁLISIS ESTRUCTURAL

Mediante el diagrama de concentraciones, se pudo identificar dos familias de discontinuidades que se las denominan D para las diaclasas de enfriamiento y F para las fracturas como se observa en el gráfico 16 y 17.

Figura 16. Diagrama de concentraciones.

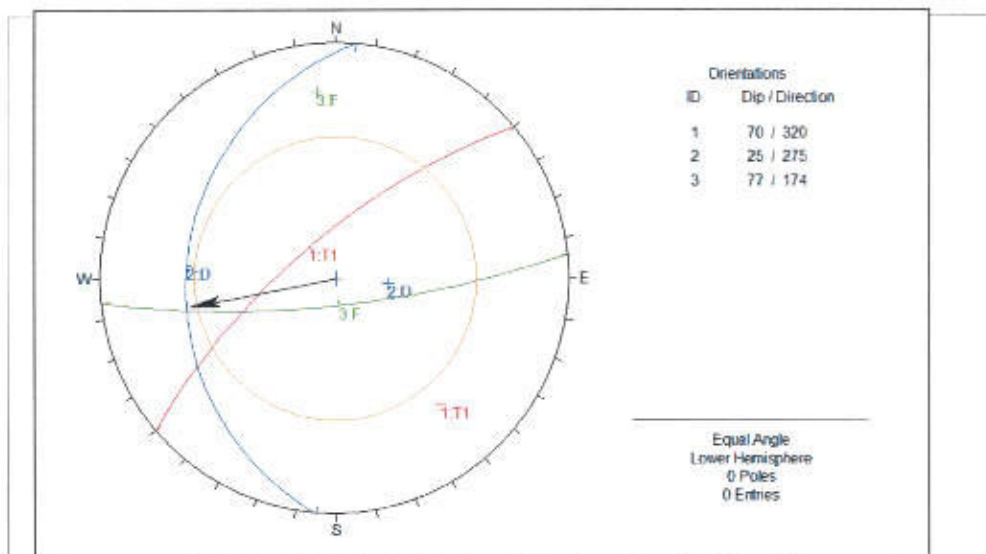


Figura 17. Diagrama de concentraciones.

El análisis estereográfico realizado mediante el software DIPS, puso en evidencia la presencia de un movimiento en cuña, producidos por las interacciones de las distintas familias de discontinuidades y el Talud 1

ORIENTACIÓN DE LAS DISCONTINUIDADES	
Familia	Azimet Buz./Buzamiento
T1	320/70
D	275/25
F	174/77

Los datos estructurales corresponden a los de las diaclasas de la unidad de "Lavas Andesíticas Diaclasadas"

PUNTO 2:

N: 9978597
Coordenadas E: 781633 Proyección UTM WGS 84 Z 17S
2787 ±5 m.s.n.m.

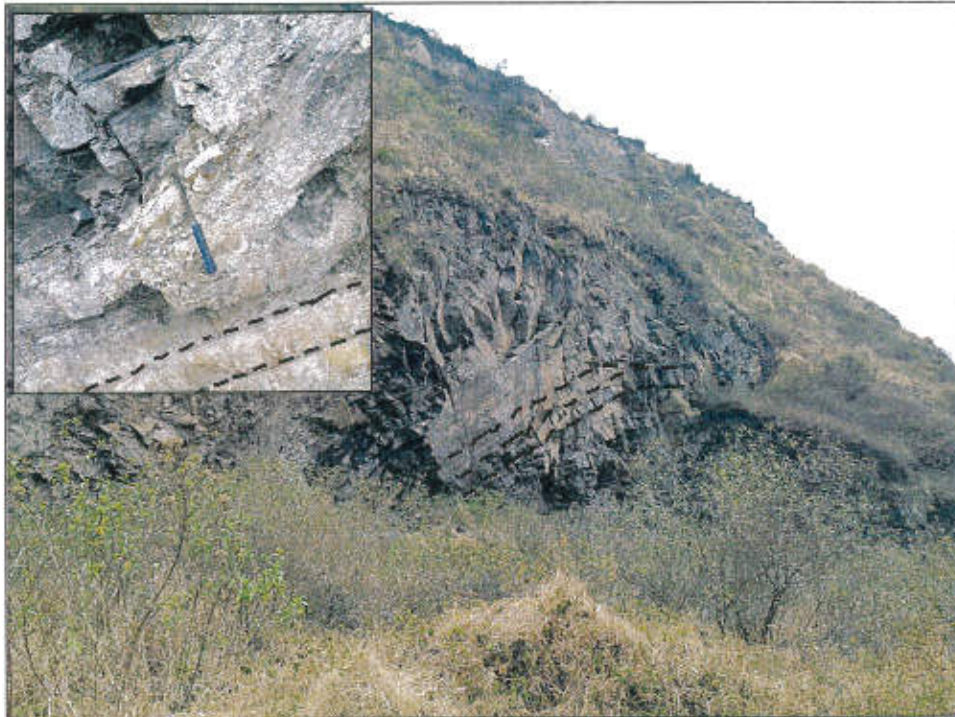
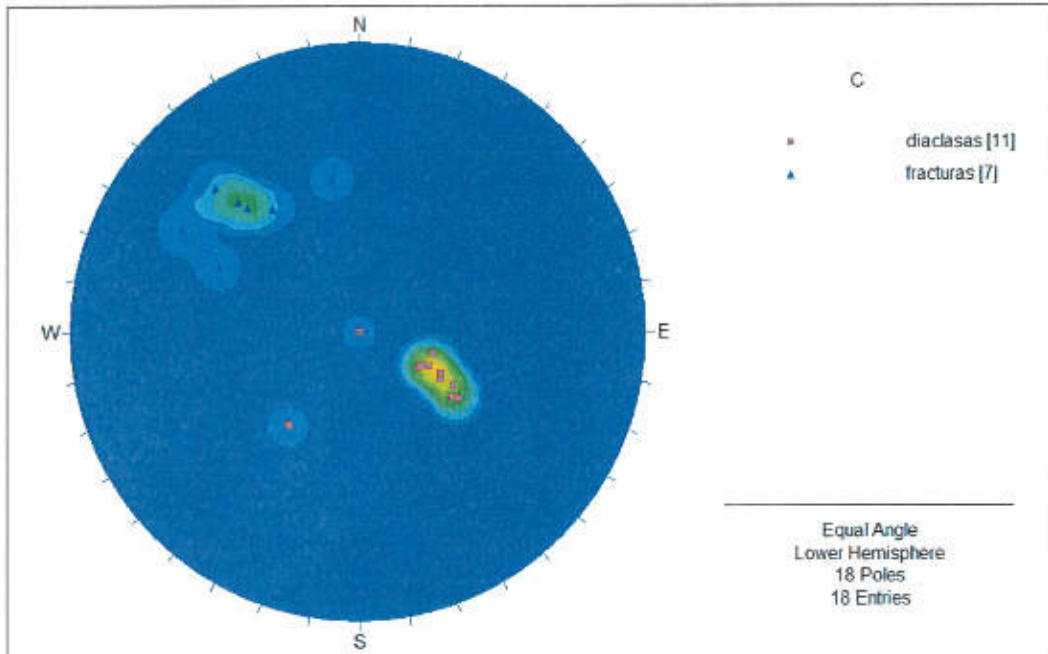


Figura 18. Características del punto 2.

Afloramiento constituido por rocas andesíticas de coloración gris claro, con presencia de diaclasas de enfriamiento, con una dirección preferencial de 300° - 310° y con buzamientos entre 30° y 40° , se observan fracturas perpendiculares a la dirección de las diaclasas.

La roca es de textura porfírica, con fenocristales de plagioclasas, se encuentran en un grado de meteorización baja, las juntas están soldadas, con un espaciamiento entre ellas de 30 cm.



Mediante el diagrama de concentraciones, se pudo identificar dos familias de discontinuidades que se las denominan D2 para las diaclasas y F2 para las fracturas como se observa.

Figura 19. Diagrama de concentraciones.

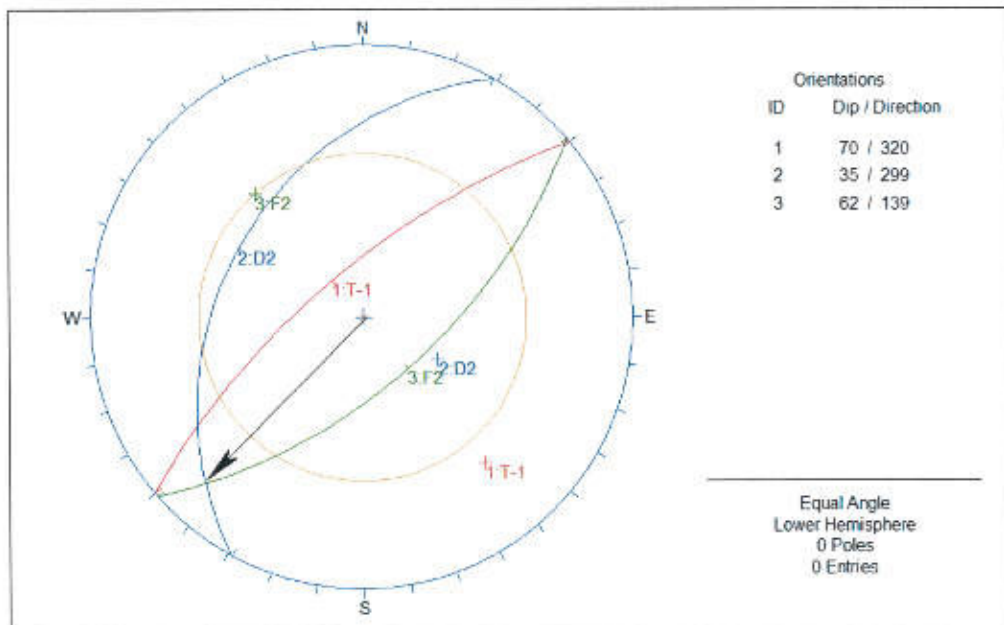


Figura 20. Diagrama de concentraciones.

El análisis estereográfico realizado mediante el software DIPS, puso en evidencia la presencia de un movimiento en cuña y un movimiento tipo toppling, producidos por las interacciones de las

distintas familias de discontinuidades y el Talud 1. El toppling observado en la interacción del talud con la familia F-2 tendrá una dirección de movimiento hacia el Norte.

ORIENTACIÓN DE LAS DISCONTINUIDADES	
	Azimut Buz./Buzamiento
T-1	320/70
D2	299/35
F2	139/62

1.2.2 Investigación Geotécnica

Se realizaron dos (2) sondeos mecánicos con recuperación continua de testigos, en los primeros metros de la perforación se empleó el método de penetración estándar. La profundidad final del sondeo 1 es de 64m y la segunda es de 36m. También se realizaron tres (3) líneas sísmicas de 110m c/u, con el objetivo de tener una mayor descripción de los suelos y rocas.

En la siguiente tabla se presentan las coordenadas de los trabajos realizados y en la figura 21 se presenta una implantación de la estructura.

Tabla No. 2 Ubicación de los trabajos realizados.

Trabajo	Coordenada		Elevación (msnm)
	Norte	Este	
Sondeo 1	9978618.65	781603.41	2749.747
Sondeo 2	9978310.00	781578.00	2622.00
L.S. 01 (inicio) (fin)	9978547.164 9978643.593	781577.616 781516.395	2713.94 2707.84
L.S. 02 (inicio) (fin)	9978562.945 9978649.317	781599.852 781558.881	2735.00 2732.71
L.S. 03 (inicio) (fin)	9978611.294 9978603.319	781602.746 781545.920	2749.42 2709.86



Figura 21. Ubicación del viaducto Guayasamin.

El material encontrado en el Sondeo P-1:

De 0.0 – 3.45m:

- Suelo de relleno, color oscuro de matriz limosa, presencia de fragmentos de ladrillo, plasticidad media, dilatación lenta, contenido de agua bajo, muy disgregable.

De 3.45 – 8.5m:

- Gravas finas a arenas gruesas en matriz limosa, color gris, presencia de clastos angulosos andesíticos - porfíricos, mal sorteo, clastos de toba medianamente meteorizada. Baja plasticidad, dilatación rápida, resistencia seca nula, fácilmente disgregable.

De 8.5 – 10.0m:

- Toba limo arenosa, color café marrón, poco plástica, compacta pero fácilmente disgregable, presencia de clastos de rocas andesíticas-porfíricas subangulosas de mala esfericidad, de bajo a medio grado de meteorización.

De 10.0 – 11.0m:

- Arena fina limosa, color gris oscuro, poco húmeda, plástica, resistencia seca media, fácilmente disgregable, presencia de clastos de andesita basáltica de color rosado y de bajo a medio grado de



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



meteorización.

De 11.0 – 14.5m:

- Fragmentos de roca color gris claro, meteorización de baja a media, dureza media, 10% de recuperación de agua.

De 14.5 – 16.5m:

- Andesita de textura porfírica, con minerales anisotrópicos, con ligeros rasgos de meteorización, presenta fracturas cada 5 a 7cm, paredes rugosas, con pátinas de óxidos de hierro, ligeramente magnética. Dura. Matriz en un 50%.

De 16.5 – 20.5m:

- Roca fracturada, espaciamiento en 5-10cm, fracturas con paredes lisas, con pátinas de óxidos de hierro y material limoso, posible relleno o harina de falla, poco meteorizada.

De 20.5 – 56.7m:

- Roca volcánica de color grisáceo (andesita con plagioclasas), de textura porfírica matriz compuesta por vidrio volcánico y minerales primarios de la roca de tamaño microscópico (50%), y los fenocristales corresponden a plagioclasas y anfíboles (50%) en su mayoría con bordes de los cristales en proceso de destrucción, lo cual indica un ligero grado de meteorización. Las paredes de las fracturas son de caras rugosas con concentraciones de óxidos color rojizo (ladrillo) y material limoso como relleno, la forma de las fracturas por lo general son aserradas, irregulares y discontinuas.

De 56.7 – 58.0:

- Contacto discordante con arenisca volcánica gruesa de coloración marrón, no consolidada, con clastos hasta de 3 cm de andesitas basáltica oxidada con grado de meteorización medio. Los clastos son subagulosos, de mala esfericidad y mal sorteo, y están envueltos en una matriz de arena gruesa con algo de limo. La muestra es fácilmente disgregable.

De 58.0 – 59.0:

- Intercalaciones de roca sana con roca meteorizada, fácilmente disgregable (Roca descompuesta)

De 59.0 – 60.5:



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



- Material triturado, con clastos de andesita en una matriz limosa.

De 60.5 – 60.7:

- Toba limosa arenosa con clastos de andesita, fácilmente disgregable, frágil, de color marrón, roca plástica, poco permeable.

De 60.7 – 61.2m:

- Arena gruesa no consolidada, de sorteo malo, clastos angulosos de rocas volcánicas, de baja esfericidad y forma angulosa.

De 61.2 – 64.0m:

- Aglomerado volcánico de coloración marrón, fácilmente disgregable, de matriz arenosa fina, con clastos andesíticos de color gris oscuro.

El material encontrado en el Sondeo P-2:

De 0.0 – 1.50m:

- Grava areno – limosa de color café oscura, con clastos angulosos – subangulosos de rocas volcánicas con bajo grado de meteorización, presenta mal sorteo.

De 1.5 – 5.00m:

- Depósito coluvial con matriz arenosa de color grisáceo, comprende un 60%, los clastos son andesíticos de tamaño variado de forma angulosa a subangulosa, ocupan un 40% y presentan pátinas de óxidos de hierro en los bordes.

De 5.0 –17.50m:

- Depósito de terraza aluvial, constituido por una matriz de arena fina, color gris oscuro, con clastos de rocas volcánicas (andesitas) de tamaño variable y forma subangulosa – subredondeada de esfericidad media, presentan ligeros rasgos de meteorización. La matriz comprende alrededor del 60%, y los clastos de roca ocupan un 40%. El depósito no es fuertemente consolidado (su recuperación es muy baja).

De 17.5 –36.00m:



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



- Arenisca volcánica de grano grueso, consolidada, con clastos angulosos de rocas volcánicas de tamaño variado (entre 1 y 5cm), de forma angulosa – subangulosa, de baja esfericidad. Las muestras son fácilmente disgregables, la matriz presenta un mal sorteo, ocupa alrededor del 70% y los clastos el restante 30%. En zonas fracturadas se observan pátinas de óxidos de hierro, además el depósito arenisco contiene bloques aislados (>20cm) de composición andesítica, porosos, de dureza alta y resistencia media.

Adicionalmente, se realizaron dos (2) ensayos in situ en el sondeo P-1, un ficómetro y un presiómetro.

El ensayo de ficómetro es una prueba de campo donde se mide la resistencia del suelo en corte directo, utilizando una sonda que se introduce dentro del sondeo a la profundidad deseada. Este ensayo proporciona parámetros de resistencia de acuerdo con el modelo Mohr – Coulomb, principalmente donde el muestreo inalterado difícil, tales como suelos arenosos, suelos duros y suelos con gravas.

El ensayo se ejecuta con una sonda que tiene una celda inflable que es introducida en un tubo ranurado especial, que tiene en la parte central dientes horizontales. La sonda es inflada con agua mediante la aplicación de presión para hincar los dientes del tubo ranurado en el suelo ensayado. A la vez que se infla la sonda, se aplica la tensión de corte desde la superficie.

El ensayo presiométrico consiste en una sonda cilíndrica con una manga de neopreno en su interior que, una vez colocada dentro de una perforación, se expande con agua a presión y la deformación radial así inducida en las paredes de la perforación se correlaciona con la deformabilidad y resistencia al corte del suelo.

Con los datos del volumen introducido en la sonda y la presión necesaria para inducir deformación radial en las paredes de la perforación se puede preparar el diagrama deformación – presión.

1.2.3 Investigación Geofísica

Se llevó a cabo un estudio de prospección geofísica mediante el método de sísmica de refracción en la zona del apoyo central del viaducto. El principal objetivo de esta investigación fue reconocer la geometría de los horizontes que conforman el perfil geofísico de la zona estudiada, la existencia de eventuales variaciones litológicas y la posible presencia de estructuras geológicas.

En la siguiente tabla se detallan las características principales de los perfiles geofísicos:

Tabla No. 3. Características principales de los perfiles geofísicos.

Nº	LINEA	COORDENADAS INICIALES		COORDENADAS FINALES		LONGITUD TOTAL (m)
		NORTE	ESTE	NORTE	ESTE	

1	LS-01	9978643.59 5	781516.453	9978547.274	781577.610	115
2	LS-02	9978649.30 3	781558.877	9978563.073	781599.948	100
3	LS-03	9978603.62 9	781545.848	9978611.315	781602.778	75

Donde LS-01 significa Línea Sísmica, número 01.

Resumiendo tenemos que se han ejecutado 300 metros de investigación mediante el método de sísmica de refracción distribuidos en tres (3) perfiles geofísicos, de acuerdo al detalle indicado en la tabla No. 3.

En la siguiente figura se presenta de manera gráfica la ubicación de las líneas sísmicas:

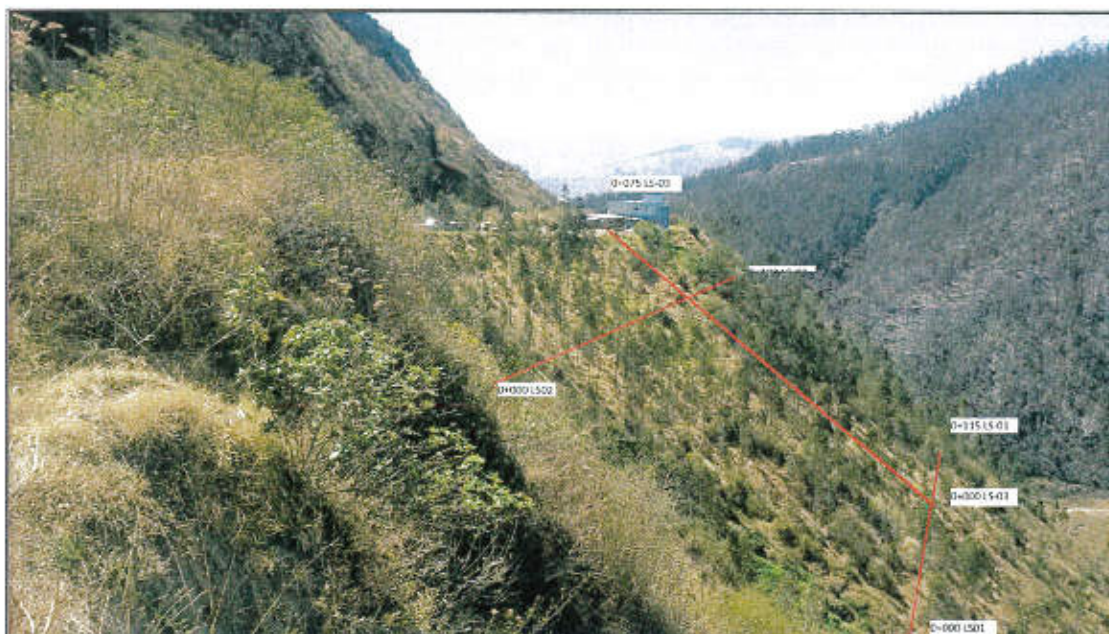


Figura 22. Distribución de las líneas sísmicas.

A continuación se da mayores detalles de cada una de las capas interpretadas:

CAPA SUPERFICIAL

Velocidad sísmica: 300 m/s

El espesor de esta capa varía entre 0.00 y 5.80 metros; está conformada por suelos de relleno conformados por una matriz de materiales finos que envuelve a fragmentos rocosos y desechos de materiales de construcción.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Este estrato no está presente en toda el área estudiada, así tenemos que:

En LS-01 no se la ha podido determinar desde 0+000 hasta 0+020, a partir de esta abscisa observamos que adquiere una forma parecida a un lente que se extiende hasta 0+080, el máximo espesor se encuentra en 0+030 con 2.20 metros, que con ligeras variaciones se extiende hasta llegar a 0+060 donde su espesor es mínimo, aumenta su potencia y en 0+070 adquiere un valor de 1.70 metros y desde este punto disminuye y en 0+080 desaparece hasta 0+105 en que reaparece con una potencia inferior a 1.00 metros que se mantiene hasta terminar la interpretación en 0+115. En 0+000 de LS-02 su potencia es de 3.20 metros que van disminuyendo hasta que en 0+010 es inferior a 1.00 metro, espesor que con ligeras variaciones se extiende hasta 0+035; a partir de esta abscisa se produce un incremento notable del espesor de este estrato que logra que en 0+055 su valor sea de 6.00 metros, hacia 0+100 se observa una disminución que le da un aspecto ondulado a esta capa, en 0+100 su valor es de 1.50 metros.

En LS-03 se observa que este estrato posee una forma bastante regular, con un espesor promedio de 2.80 metros; es importante notar que en 0+055 tiende a desaparecer.

Considerando la velocidad sísmica determinada para este estrato, se puede indicar que estos materiales son de muy baja capacidad portante y resistencia la corte y su permeabilidad y compresibilidad altas.

CAPA SEGUNDA

Velocidad sísmica: 600 m/s

Esta capa tiene un espesor que va de 0.70 a 8.20 metros. Podría tratarse de gravas finas entremezcladas con arenas gruesas y clastos de materiales de origen volcánico.

En LS-01 este estrato presenta los menores espesores en los extremos, en 0+000 alcanza un valor de 1.00 metro y en 0+115 es de 0.80 metros, en la parte central es donde se ha encontrado los mayores espesores y en 0+060 es de 8.50 metros.

En LS-02 esta capa tiene una forma un tanto ondulada, en 0+000 su potencia es de 2.50 metros que se incrementan hacia 0+020 donde es de 4.00 metros, en 0+080 disminuye a 2.10 metros y finalmente en 0+100 su espesor es de 2.50 metros.

En LS-03 se observa que este estrato tiene un desarrollo ondulado hacia la parte inferior, en 0+075 su potencia es de 3.00 metros, en 0+055 llega a 4.00 metros, en 0+020 llega a 3.00 metros y finalmente en 0+000 es de 7.00 metros.

La velocidad sísmica calculada para este estrato indica que las propiedades geotécnicas si bien mejoran en algo, se mantienen las características de baja capacidad portante y resistencia la corte y su permeabilidad y compresibilidad altas.

CAPA TERCERA

Velocidad sísmica: 1.500 m/s

Esta capa tiene un espesor que va de 2.20 a 6.30 metros. Podría tratarse de una toba limo arenosa, muy compacta, posiblemente con la presencia de clastos de rocas de origen volcánico.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



En LS-01 este estrato tiene una forma bastante regular desde 0+000 donde su espesor es 3.70 metros que con ligeras variaciones se mantiene hasta 0+030 donde alcanza un valor de 3.90 metro; a partir de esta abscisa experimenta un ligero crecimiento que hace que en 0+055 su potencia sea de 5.50 metros; desde este punto se produce una disminución y en 0+115 es de 2.00 metros.

En LS-02 tiene una forma ligeramente ondulada, con los mayores espesores al inicio de la investigación, en 0+000 su potencia es de 6.00 metros, en 0+030 es de 3.00 metros que con ligeras variaciones se mantiene hasta 0+100 donde su potencia es de 3.00 metros.

En LS-03 esta capa mantiene una forma bastante regular en 0+000 su potencia es de 5.50 metros que con ligeras variaciones llega a 0+075 donde adquiere un valor de 5.80 metros.

Por la velocidad sísmica determinada, podríamos decir que se trata de materiales que poseen capacidad portante y resistencia la corte de medias y de medias a bajas permeabilidad y compresibilidad.

CAPA CUARTA

Velocidad sísmica: 3.000 m/s

El espesor de esta capa no ha sido factible reconocerlo ya que constituye el último determinado por esta prospección geofísica, podría tratarse de rocas volcánicas fracturadas, poco alteras y ligeramente meteorizadas.

Por la velocidad sísmica determinada, podríamos decir que se trata de materiales que poseen capacidad portante y resistencia al corte medias y bajas permeabilidad y compresibilidad.

1.2.4 Trabajos de laboratorio

Con las muestras recuperadas se realizaron ensayos índice, consistentes en:

- Contenido de humedad ASTM D-2216
- Granulometría por lavado ASTM D-422
- Límites de Atterberg ASTM D-4318

Con las muestras inalteradas recuperadas del sondeo P-1 del Viaducto Guayasamin, se realizaron cuatro (4) ensayos de compresión simple de acuerdo a la norma ASTM D-2166.

Los resultados obtenidos se resumen en la tabla 4.

Tabla No 4. Resultados del ensayo de compresión simple

MUESTRA	PROFUNDIDAD (m)	q_u (kPa)
S-1	11.30 – 11.40	13425
S-1	19.00 – 19.20	14029
S-1	23.40 – 23.50	6654
S-1	27.10 – 27.20	11150

Los resultados obtenidos en estos ensayos, sirvieron para clasificar a los suelos de acuerdo al Sistema Unificado SUCS.

Los ensayos se llevaron a cabo de acuerdo con los procesos y normas vigentes especificados por el INEN y ASTM.

1.2.5 Análisis de cimentaciones para el apoyo central

Capacidad de carga para cimentaciones superficiales

Se propone la cimentación del apoyo central de la estructura en la roca volcánica de color grisáceo (andesita).

En base a lo observado en campo, a los resultados de los ensayos de compresión simple, en función de las características de los materiales de origen volcánico y a partir de la experiencia obtenida en el trabajo de éstos, se pueden determinar los valores de resistencia al corte:

Cohesión : 600kPa

Ángulo de fricción de la roca : 45°

Densidad de la roca : 25.0kN/m³

En base a estos resultados, y usando expresiones propuestas por Vesic, se ha procedido a evaluar la capacidad de carga admisible por corte que presente este material.

Capacidad de carga admisible para una zapata de dimensiones 12m de ancho por 30m de largo: 3800kPa.

Capacidad de carga para Caissons

A pesar de los valores de capacidad de carga altos, en el siguiente capítulo del presente informe se concluye que la cimentación superficial no es recomendable para la ladera del apoyo central. Debido a esto, se propone cimentar el apoyo central como una cimentación profunda, mediante Caissons.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Se proponen Caissons de 6m de diámetro y de 17m de longitud. En base a los resultados, y usando expresiones propuestas por Vesic, se ha procedido a evaluar la capacidad de carga admisible por corte para este material.

Capacidad de carga admisible p/Caisson de 6m de diámetro y 17m de longitud : **62000 kPa.**

1.2.6 Análisis de estabilidad de la ladera del apoyo central

Una vez defendida la ubicación del apoyo central, se propone revisar la estabilidad de la ladera del apoyo central con la inclusión de la cimentación superficial.

Se realizó un modelo para condiciones estáticas y pseudoestáticas, se modeló una descarga preliminar de 6600kN/m.

Resistencia al corte

Los parámetros de resistencia al corte para el modelo de análisis han sido obtenidos a partir de los resultados de los ensayos de ficómetro, de los resultados de los ensayos de compresión simple, corregidos para un macizo rocoso y a partir de las observaciones de campo realizadas.

Se han modelado diferentes estratos, cuyas propiedades y espesores aproximados se detallan en la siguiente tabla:

Tabla No 5. Parámetros geotécnicos empleados en el modelo.

ESTRATO	ESPESOR (m)	Cohesión (kN/m ²)	ϕ (°)	γ (kN/m ³)
Gravas y arenas	10.00	64.00	32.00	18.00
Lavas andesíticas	33.00	818.00	36.60	27.00
Arenisca volcánica	60.00	1000.00	45.20	27.00
Depósitos profundos	> 60.00	1500.00	48.00	27.00

Condiciones del agua subterránea

En los sondeos realizados y en los recorridos de campo no se detectó la presencia de agua subterránea, y los modelos no han incluido este elemento en el análisis.

Aceleración sísmica

Considerando que el proyecto se localiza en la provincia de Pichincha es decir en zona sísmica IV, por tanto se establece un valor de aceleración máxima efectiva en roca esperada para el sismo de diseño, expresada como fracción de la aceleración de la gravedad de 0.3g. Entonces se ha asumido un coeficiente de aceleración horizontal de 0.25g y el coeficiente de aceleración vertical de 0.10g, para los cuales un factor de seguridad mayor a 1.05 podría considerar estable el talud analizado.

Factores de seguridad

Tabla No 6. Factores de seguridad obtenidos.

DESCRIPCIÓN DE LA GEOMETRÍA ANALIZADA	MÉTODO DE ELEMENTOS FINITOS	
	FS ESTÁTICO	FS PSEUDOESTÁTICO (aH=0.25g)
Ladera en condiciones actuales.	1.7321	1.0741
Ladera con la inclusión de una descarga de la cimentación de 6600kN/m, construcción de taludes superiores con inclinación 1H:2V, con bermas o terrazas de 5m de ancho, cada 20m de altura.	1.2935	1.1805

1.2.7 Cantidades aproximadas

Cimentación del viaducto L=463m

Excavación y relleno para estructuras - puentes	64696 m ³
Hormigón estructural de cemento Portland, Clase C, f _c =180kg/cm ² para puentes	98 m ³
Hormigón estructural de cemento Portland, Clase B, f _c =280kg/cm ² para cimentación	6876 m ³
Hormigón estructural cemento Portland f _c =240kg/cm ²	3831 m ³
Hormigón estructural de cemento Portland, Clase A, f _c =350kg/cm ²	2096 m ³
Acero de refuerzo en barras f _y =4200kg/cm ²	1525000 kg
Perno de anclaje tipo autoperforante R32N	6800 m
Estabilización de taludes (hormigón lanzado de 8cm)	2262 m ²

Acero de refuerzo de malla de alambre de f _y =5200kg/cm ² – (6:10)	2262 m ²
Anclaje con varilla corrugada de 14mm	1367.45 kg
Encofrado para estribos	4083 m ²
Encofrado para caissons	1501 m ²
Encofrado para antena	1 GLB
Grúa torre	1 GLB
Andamio	1 GLB
Aparato de apoyo	4 u
Aparato de apoyo elastométrico LRB con núcleo plomo	2 u

(*) Cantidades mayoradas al 20%

Camino de acceso

Excavación en suelo (sin transporte)	19000 m ³
Excavación en marginal	2000 m ³
Excavación en roca	30000 m ³
Limpieza de derrumbes	500 m ³
Transporte de material de excavación (transporte libre =0m) – Distancia 5 a 10km	515000 m ³ -km
Relleno con material seleccionado	1000 m ³
Riego con polímero de base acrílica SOILTAC	2333.52 lt
Malla de acero de triple torsión	555.6 m ²
Anclaje con varilla corrugada de 25mm	5351.82 kg

(*) Cantidades mayoradas al 20%

1.3 Protección de laderas para la zona del viaducto

Este sector reviste importancia en todas las obras propuestas pues pese a que queda relativamente lejana al trazado propuesto, no se ha definido una solución al problema de estabilidad y erosivo en esta zona a lo largo del tiempo.

La constante erosión a lo largo el tiempo de la descarga hidráulica, proveniente del Batán, ha afectado las areniscas y ha generado una "olla" en la base de la ladera (figura 23), aportando en los deslizamientos de la antigua vía Interoceánica (figura 24).

La energía proveniente de la descarga hidráulica tanto cinética como potencial ha disminuido las propiedades mecánicas de los suelos, llevándolos a la falla y arrastrándolos hacia la descarga actual. Se debe colocar un sistema de amortiguamiento de la energía de caída de agua en la descarga mediante la construcción de un pedraplén de fondo en el sitio de la descarga que ha configurado la "olla" de socavación.

La principal función del pedraplén será de disipar y transmitir la energía de la descarga, además de proveer un elemento de contención a las paredes inestables de la "olla". Una función adicional del pedraplén será de servir como filtro, conduciendo el agua a otro elemento que se diseñará posteriormente.

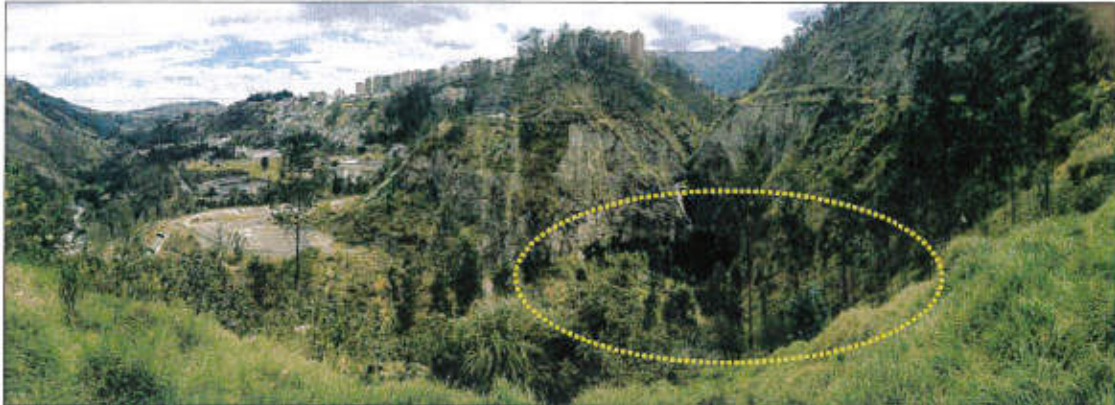


Figura 23. Olla generada por la erosión de la descarga hidráulica a lo largo del tiempo.

Como segunda alternativa para la descarga hidráulica será un vertedero, similar a los aledaños de la zona y con una función muy parecida a la del pedraplén, disipar la energía del agua mediante escalones en su interior. El vertedero deberá conducir el agua hacia el río Machángara. Como medio para contener las paredes inestables de la "olla", se propone la colocación de hormigón ciclópeo de al menos 5m de espesor.



Figura 24. Deslizamiento de la vía debido a la constante erosión en la ladera inferior.

En el talud norte de esta "olla", el cual se encuentra en contrapendiente se recomienda un "calce" o una estabilización y protección en toda su altura. Este calce se deberá diseñar en el estudio definitivo, sin embargo, se podría pensar en un relleno fluido de suelo cemento construido con un talud 1H:3V y sostenido en superficie con una malla de acero eslabonada (tipo Geobrugg Tecco o equivalente) y una capa de geotextil no tejido.

Esta malla deberá ser sujeta al talud, con el relleno fluido de por medio, mediante un sistema de anclajes autoperforantes (tipo R32N o equivalente) protegidos contra corrosión o con cables de postensado colocados y fundidos en perforaciones previas.

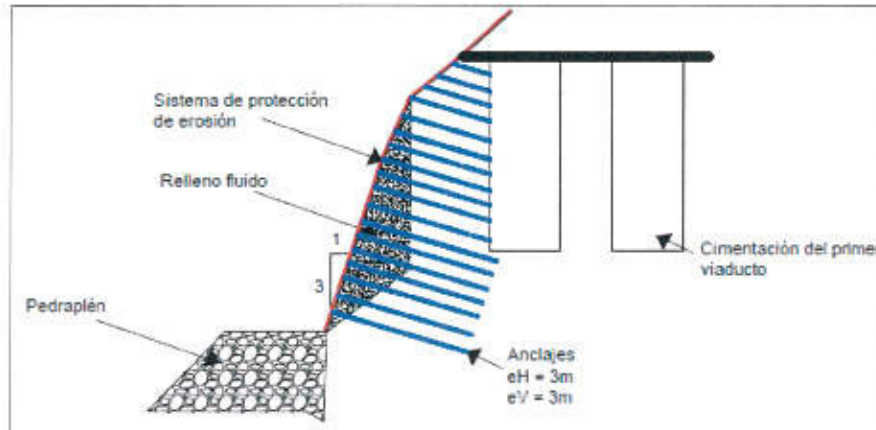


Figura 25. Esquema propuesto.

1.3.1 Cantidades aproximadas

Protección de zona de descarga hidráulica

Estabilización con material pétreo (pedraplén)	41800 m ³
Escollera de piedra suelta (No incluye transporte)	24000 m ³
Transporte de materiales pétreos (pedraplén, gaviones, escollera, material filtrante)	2303000 m ³ -km
Limpieza del cauce del río	16000 m ³
Excavación y relleno para estructuras - puentes	600 m ³
Hormigón estructural cemento portland $f_c=240\text{kg/cm}^2$	360 m ³
Acero de refuerzo en barras $f_y=4200\text{kg/cm}^2$	43200 kg

Perno de anclaje tipo autoperforante R32N	600 m
---	-------

(*) Cantidades mayoradas al 20%

Protección de laderas para la zona del viaducto

Estabilización de taludes, hormigón lanzado de 10cm	22710 m ²
Perno de anclaje tipo autoperforante R32N	56496 m
Tubería PVC perforada d=50mm	1388 m
Relleno fluido f'c=20kg/cm ² MBRC	5000 m ³
Malla romboidal triple torsión DELTAX	15210 m ²
Malla galvanizada de triple torsión	7500 m ²
Geotextil tipo NT-3000 o equivalente	7500 m ²

(*) Cantidades mayoradas al 20%

Protección de apoyos del viaducto

Estabilización de taludes, hormigón lanzado de 10cm	10000 m ²
Acero de refuerzo de malla de alambre fy=5200kg/cm ²	10000 m ²
Anclaje con varilla corrugada de 25mm	963255 kg
Tubería PVC perforada de 50mm	1250 m

(*) Cantidades mayoradas al 20%

1.4 Tramo de corte entre primer y segundo viaducto "zona de nariz"

En este tramo se han hecho esfuerzos por estabilizar los taludes superiores de la vía, donde se ha construido en tramos sistemas de claveteado con hormigón lanzado. Sin embargo, en un estudio de reconocimiento anterior se recomienda evaluar la necesidad de colocar sistemas de protección contra caídos con mallas de acero de módulo para seguridad vial (tipo Spider de Geobruigg o equivalente), sujeta con anclajes autoperforantes (tipo R32N o equivalente) protegidos contra corrosión o con cables de postensado protegidos contra corrosión, colocados y fundidos en perforaciones previas.

Lo importante en este tramo es definir la estabilidad de las laderas inferiores, por efecto de la cercanía de la vía al borde de la ladera.

Preliminarmente, los cortes de taludes en este tramo deberán ser proyectados de forma similar a los de la vía actual, es decir 1H:1.2V aproximadamente. Un estudio de estabilidad de taludes considerando los parámetros mecánicos del sitio, permitiría adoptar una mayor inclinación del talud, y con ello, reducir los volúmenes de corte. Probablemente, el talud deberá tener una



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



geometría 1H:2V. Los taludes deberán tener bermas o terrazas de 3m de ancho, cada 15m de altura.

Para estos diferentes materiales se deben considerar diferentes sistemas de protección de erosión y/o estabilización: Hormigón lanzado con refuerzo de fibra o malla electrosoldada, geomanto de control de erosión tipo North American Green P550 o equivalente + Malla eslabonada de acero tipo Geobrugg tecco o equivalente, geomanto de control de erosión tipo North American Green P550 o equivalente + Malla hexagonal de triple torsión de acero tipo Maccaferri o equivalente, geomanto de control de erosión tipo North American Green P550 o equivalente + Anclajes de percusión.

Como protección antierosiva para los taludes inferiores se recomienda un geomanto de control de erosión tipo North American Green P550 + Malla de acero de triple torsión hexagonal anclada con elementos de percusión.

1.4.1 Cantidades aproximadas

Tramos de corte de nariz (taludes superiores e inferiores) (L=245m)

Estabilización de taludes (hormigón lanzado e=8cm)	4000 m ²
Acero de refuerzo de malla de alambre (fy=5200kg/cm ²) (6:10)	4000 m ²
Anclaje con varilla corrugada de 14mm	1075.12 kg
Tubería PVC perforada (d=50mm)	244.44 m
Geomanto para control de erosión P550	16000 m ²
Malla galvanizada triple torsión	14000 m ²
Anclaje de percusión tipo DUCKBILL	320 U

(*) Cantidades mayoradas al 20%

1.5 Segundo viaducto de 120m de longitud

En este tramo, debido a las quebradas naturales con bastante verticalidad, se propone la construcción de un segundo viaducto de menores dimensiones al primero. La estructura del viaducto se recomienda sea de acero en su totalidad y con dos apoyos intermedios.

Las descargas en los dos apoyos intermedios se estima sean de aproximadamente 18500kN c/u, con una capacidad de carga del suelo estimada de 350kN/m², se recomienda preliminarmente una cimentación superficial con zapatas rectangulares de 8m de ancho, con un nivel de desplante de 5m con respecto al nivel de terreno actual. Otra alternativa será con cimentación profunda con 13 micropilotes del tipo T76N de 15m de longitud.

Las descargas en los dos estribos se estima sean de 11000kN c/u, con una capacidad de carga del suelo estimada de 350kN/m², se recomienda preliminarmente una cimentación superficial con zapatas rectangulares de 6m de ancho. Otra alternativa será con cimentación profunda con 8 micropilotes del tipo T76N de 15m de longitud, adicionalmente se recomiendan tensores del tipo



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



R32N.

Se recomienda llevar a cabo la protección de las laderas de la zona de los estribos y apoyos intermedios, con hormigón lanzado y malla eslabonada tipo Geobrugg Tecco o equivalente. Se requiere el uso de anclajes para el sostenimiento de este tipo de refuerzo en superficie.

1.5.1 Cantidades aproximadas

Cimentación del viaducto

Excavación y relleno para estructuras - puentes	3880.8 m ³
Hormigón estructural de cemento Portland, Clase C, f _c =180kg/cm ² para puentes	35 m ³
Hormigón estructural de cemento Portland, Clase B, f _c =280kg/cm ² para cimentación	3000 m ³
Hormigón estructural cemento Portland f _c =240kg/cm ²	85 m ³
Hormigón estructural de cemento Portland, Clase A, f _c =350kg/cm ²	115 m ³
Acero de refuerzo en barras f _y =4200kg/cm ²	510000 kg
Aparato de apoyo elastométrico LRB con núcleo de plomo	8 u
Micropilote con perno de anclaje tipo autoperforante T76N (L=15m)	500 m

(*) Cantidades mayoradas al 20%

Protección de laderas para la zona del viaducto

Estabilización de taludes con hormigón lanzado de 10cm	1500 m ²
Anclaje con varilla corrugada de 25mm	1815.62 kg
Tubería PVC perforada de 50mm	91.67 m

(*) Cantidades mayoradas al 20%

1.6 Taludes inferiores a partir del portal de salida del actual túnel Guayasamin

En determinados tramos, es recomendable construir pantallas ancladas fundidas in situ para configurar el ancho total de la vía y/o para estabilizar zonas puntuales del talud. Estas pantallas pueden ser fundidas in situ o prefabricadas con un sistema constructivo que evite interrumpir el tránsito vehicular en la vía actual.

En otros tramos parciales se deberá evaluar la necesidad de construir preferentemente tramos de

viaducto o puentes sucesivos que sirvan para completar el ancho de la vía. Para la cimentación de los apoyos centrales de estas estructuras se recomienda preliminarmente el uso de micropilotes por la cercanía a la cara externa de las laderas propia de altas pendientes de la geomorfología del sector.

Tanto para las pantallas ancladas o más viaductos, se recomienda prever el uso de sistemas de estabilización y defensa del talud inferior con mallas geosintéticas de protección de erosión (Geomanto tipo North American Green P550 o equivalente + Malla de acero de triple torsión hexagonal anclada con elementos de percusión).

Como medio para el relleno dentro de las pantallas ancladas fundidas en sitio, se puede considerar el uso del sistema de Poliestireno Expandido (EPS). El poliestireno expandido representa aproximadamente un 1% del peso volumétrico del suelo que se emplea para conformar un relleno, además de brindar una buena resistencia a la compresión.

En la siguiente figura se presenta el esquema de las pantallas ancladas:

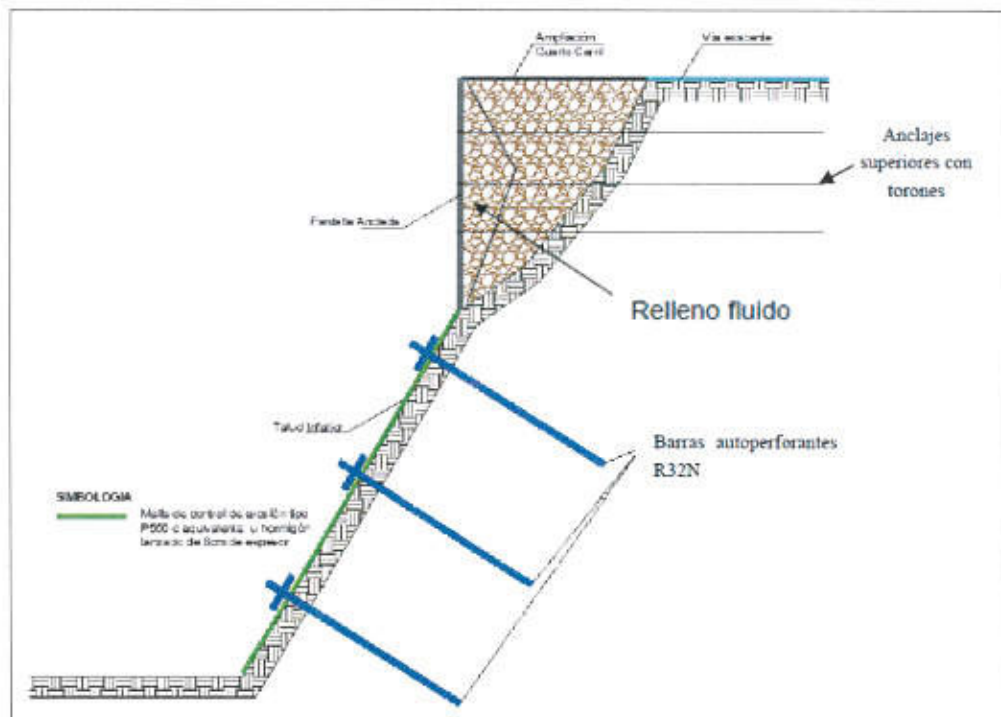


Figura 26. Esquema propuesto para las pantallas ancladas fundidas en sitio.

1.6.1 Cantidades aproximadas

Ampliación del cuatro carril (salida del viaducto corto – peaje actual)

Excavación y relleno para estructuras	5857.5 m ³
Hormigón estructural de cemento Portland, Clase B, f _c =280kg/cm ² para superestructura	1500 m ³

Acero de refuerzo en barras $f_y=4200\text{kg/cm}^2$	180000 kg
Perno de anclaje tipo autoperforante R32N	9600 m
Relleno fluido $f_c=20\text{kg/cm}^2$, (MBRC – Material de baja resistencia controlada)	12500 m ³
Material filtrante para subdrenes (material seleccionado D=50-150mm) – NO incluyen transporte	1800 m ³
Transporte de materiales pétreos (pedraplén, gaviones, escollera, material filtrante)	63000 m ³ -km
Geotextil para subdrenes tipo NT 2000	5500 m ²
Tubería PVC perforada (d=50mm)	440 m
Tubería para subdrenes de 200mm	800 m

(*) Cantidades mayoradas al 20%

2 CONCLUSIONES Y RECOMENDACIONES

1. El presente documento corresponde a un informe geotécnico preliminar.
2. Llevar a cabo los estudios geotécnicos completos correspondientes para cada tramo estudiado y mencionado en este informe preliminar, de manera que se puedan obtener modelos geotécnicos, diseños y cantidades reales.
3. Las cantidades aquí obtenidas están basadas en una investigación preliminar, solo cuando se tengan los diseños geotécnicos definitivos se podrán obtener cantidades de obra reales.
4. Investigar a fondo las instalaciones existentes en la Plaza Argentina, de modo que se evite el daño a la integridad de las mismas durante los trabajos de excavación para los pasos deprimidos.
5. Se deberá diseñar el sistema de bombeo, de modo que no se induzcan asentamientos a las estructuras vecinas durante la operación del mismo.
6. De las alternativas de excavación para la Plaza Argentina se podrá hacer una mezcla con las alternativas recomendadas: pilotes secantes y excavación a cielo abierto.
7. Dejar abierta la posibilidad de realizar las excavaciones del proyecto con tablaestacas, considerando que podrán tener problemas en la hincabilidad y daños en las obras y/o instalaciones subterráneas.



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9.- REUBICACIÓN DE SERVICIOS PÚBLICOS





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REPOSICIÓN DE SERVICIOS AFECTADOS

1. INTRODUCCIÓN

Los estudios, ejecución de obras para la reposición y/o mejoramiento de los servicios públicos municipales afectados por la construcción de los intercambiadores y vía correrán a cargo del proyecto; sin embargo será necesario que el Municipio y sus Empresas Públicas y las empresas que mantengan sus redes en el trayecto de la vía (cables de datos, telefonía, etc.), emitan los TDRs para la elaboración de los estudios y una vez estos se concluyan, los aprueben.

Los TDRs y los estudios deberán analizar las posibles afectaciones a redes y servicios, así como la definición de las situaciones provisionales y definitivas que resulten de la ejecución de las obras contenidas en el presente Proyecto.

Previo la realización de los estudios se deberá establecer contactos con todas las Administraciones, Organismos, Entidades, Empresas o Compañías de Servicios susceptibles de ser afectadas por la realización de las obras objeto del presente Proyecto, a efectos de disponer de la información necesaria sobre los bienes, derechos, servicios y servidumbres de que disfrutaban, socializar el proyecto y solicita la cooperación de las empresas públicas hacia la concesionaria.

Para la elaboración del inventario de los servicios existentes en las zonas afectadas por las obras definidas se deberán realizar las inspecciones de campo para verificar la información disponible. Estas acciones deberán realizarse con la debida anticipación y se sugiere inicien una vez suscrito el contrato de concesión.

2. COORDINACIÓN CON OTROS ORGANISMOS

Durante la concepción del Proyecto la Contratante y la Concesionaria mantendrán contacto con las empresas y organismos que pudieran resultar afectados por las obras previstas.

Las compañías que están previstas sean afectadas son:

- Empresa Pública Metropolitana de Agua Potable y Saneamiento (EPMAPS)
- Corporación Nacional de Telecomunicaciones (CNT)
- Empresa Eléctrica de Quito (EEQ)
- Empresa Pública Metropolitana de Movilidad y Obras Públicas (EPMOP)
- Grupo TV Cable
- Otras compañías de Internet y televisión por cable

3. CONDICIONES GENERALES DE REPOSICIÓN



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



La metodología general propuesta para la reposición de los servicios consiste en construir primero la reposición propuesta por los estudios realizados por la Ejecutora y aprobados por las empresas públicas, después se realiza la conexión entre el servicio antiguo y la nueva red. Tras esta operación se procede al desmantelamiento del servicio existente. De esta manera se asegura el mantenimiento del servicio.

En cuanto a las acometidas domiciliarias de todos los servicios para asegurar la correcta conexión en las reposiciones proyectadas, se mantendrán las cotas y pendientes existentes en las canalizaciones originales.

En cuanto a los colectores, en general, las reposiciones se deberán diseñar con cambios de dirección en pata de 45° para reducir las pérdidas. Existen casos en los que será imposible mantener este criterio y las conexiones entre colectores se realizarán a 90°

4. SERVICIOS AFECTADOS

De la información preliminar onbtenida se observa que los servicios existentes en la zona son los siguientes:

- Colectores
- Alcantarillado
- Agua potable
- Electricidad
- Telecomunicaciones
- TV Cable
- Semaforización

Se debe tomar en consideración que existen una serie de servicios que posiblemente no serán detectados durante la fase de toma de datos, o cuyos datos no correspondieran a el estado real actual. Sin embargo esta información deberá ser corroborada en la fase de supervisión de este proyecto constructivo.

Aunque no se disponga de planos con la ubicación exacta de los servicios, si deberá tener en cuenta en su presupuesto, además es necesario que defina los parámetros para su toma topográfica y reposición y deba estimar en planos su posición orientada. Se sugiere complementar la identificación y ubicación de los servicios con "Tecnología de detección no destructiva". Los ensayos no destructivos implican un daño imperceptible o nulo. Los diferentes métodos de ensayos no destructivos se basan en la aplicación de fenómenos físicos tales como ondas electromagnéticas, acústicas, elásticas, emisión de partículas subatómicas, capilaridad, absorción y cualquier tipo de prueba que no implique un daño considerable a la muestra examinada.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



DISEÑO definitivo de las obra en superficie

CLASE DE CARRETERA

En base a las Normas del Ministerio de Obras Publicas y en función del tráfico se ha adoptado una sección transversal que se adapta a las condiciones topográficas existentes. Tratándose de vías a cielo abierto esta sección corresponde a dos tipos de vías para una carretera clase I:

Vía inicial de 3 carriles desde la Plaza Argentina hasta la salida del Túnel Guayasamín, corresponde a una vía de salida de Quito, el ingreso a Quito se lo realiza por el Túnel Guayasamín.

Vía de 5 carriles desde la salida del Túnel Guayasamín hasta el intercambiador Simón Bolívar.

NORMAS DE DISEÑO

Se adopta como normas de diseño las establecidas por la AASHTO para una velocidad de 50 km/h para carreteras de 1 calzada de 2 carriles en un sentido y 1 calzada con 3 carriles en dos sentidos, considerando adicionalmente los parámetros urbanos y experiencias que se tiene en el país.

Para las secciones en puentes y viaductos y por la complejidad de los cambios de sección, se consultaron diversas normas internacionales.

La velocidad de diseño mínima adoptada es de 50 km por hora que corresponde a la existente, respetándose tanto los radios de curvatura como su pendiente longitudinal, parámetros validos para determinar la velocidad de diseño. En los puentes la velocidad de diseño es de 50 km por hora.

El peralte máximo se fijo en 10%, teniendo en cuenta que la capa de rodadura será la equivalente a una carpeta asfáltica.

NORMAS DE DISEÑO ADOPTADAS PARA VIA

Tipo de terreno	Velocidad mínima (km./h)	Pendiente máxima (%)	Radio mínimo (m)	Peralte máximo (%)
Llano	90	4	180	10
Ondulado	70	7	160	10
Montañoso	50	9	80	10

Fuente: MOP



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10.- ILUMINACIÓN



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ILUMINACIÓN

1. INTRODUCCIÓN

Los diseños, ejecución de las obras de redes y nueva iluminación estará a cargo del proyecto; sin embargo, la Empresa Eléctrica Quito debe emitir los TDRs respectivos y aprobar los estudios.

En el presente apartado se pretende de manera preliminar definir los elementos más comunes que constituyen el alumbrado de la vía motivo de análisis.

La iluminación de la vía debe ser tal que provea un adecuado nivel y factor de iluminación para el proyecto del Acceso Centro Norte a la ciudad de Quito, la misma que garantice al usuario de la vía una imagen clara y rápida de la dirección que va tomando la carretera y con ello graduar la velocidad permitida en los diferentes tramos. Se debe considerar en los estudios definitivos todos los parámetros necesarios que provean un adecuado diseño de iluminación según las características físicas de la vía proyectada, las intersecciones, enlaces y tramos especiales, y la intensidad y composición del tráfico.

2 DESCRIPCION GENERAL

La iluminación de calzadas de la vía, incluyendo de ser necesaria las obras civiles que discurren a lo largo del proyecto; tendrán la finalidad de cumplir los requerimientos, especificaciones técnicas y normativas vigentes en el país.

Se plantea que las redes eléctricas que transportan la energía eléctrica sean soterradas, brindando con ello mayor seguridad a los usuarios ante un siniestro.

La distribución a detalle de la iluminación lo definirá el estudio definitivo.

Una vez construido el sistema de mantenimiento pasará a cargo de la Empresa Eléctrica Quito.



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



11.- SEÑALIZACIÓN HORIZONTAL Y VERTICAL



DISEÑO DE SEÑALIZACIÓN

1.1 INTRODUCCIÓN

El proyecto de señalización corresponde al Acceso Centro Norte a Quito, tiene un nivel medio de complejidad. Se ha prediseñado una cantidad suficiente de elementos y recursos para proveer un adecuado nivel de seguridad a los conductores y peatones.

Los estudios contemplarán un plan integral de señalización dentro del tramo correspondiente entre la Salida del Túnel Guayasamín hasta el Intercambiador de la Universidad San Francisco, que deberá integrarse y ser complementado con la señalización de las vías que a ella confluyen. Como se señala más adelante se ha tratado de ajustar los diseños y especificaciones a las normas que se utilizan localmente para mantener la uniformidad dentro de la Red Vial Nacional.

1.1.1 Dispositivos para el Control de Tránsito

Los dispositivos de control de tráfico están constituidos por las señales verticales, señales horizontales y por los semáforos. Estos dispositivos tienen como funciones básicas:

- Informar al conductor de las condiciones que reúne aquello que le rodea.
- Informar al conductor para que sepa dónde está, cual es el mejor camino para alcanzar su destino o cuando ha llegado a él.
- Regular el uso de la vía en cada momento
- Avidar los posibles peligros que pueda encontrar el conductor.
- Aconsejar en que forma debe conducirse para sacar el mejor provecho posible del vehículo y de la vía, sin sobrepasar los límites de seguridad.
- Informar al conductor de los servicios adicionales que se encuentran a lo largo de la ruta

Dentro de las características de estos dispositivos está la uniformidad, lo que asegura la correcta interpretación de los mismos. Este criterio se aplica también al diseño y se apega a las normas que a continuación se indican:

- 1) Las inscripciones que llevan las señales deberán ser uniformes en cuanto se refiere a su texto, forma y color. Es importante mantener los estándares de las señales actualmente instaladas, ya que una variación en los diseños provocaría confusión a los usuarios.
- 2) Conviene emplear el menor número de señales y nunca deberá recargarse la atención del conductor.
- 3) En caso de duda, deberá instalarse la señal que imponga una menor restricción.
- 4) Es mejor que repetir la señal de peligro, el incluir una señal complementaria. De esta manera por el mismo costo se da una mayor información.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



5) En cada poste deberá colocarse una sola señal y nunca, bajo ningún

concepto, se colocarán más de dos. Sin embargo, bajo cada señal se puede colocar una placa complementaria indicando restricción, velocidad, distancia al peligro, o su significado escrito.

Para el diseño del sistema de señalización se ha tomado los estándares y recomendaciones de últimos Reglamentos Técnicos Ecuatorianos INEN y normas técnicas vigentes al año 2013 que son las siguientes:

(1)	RTE INEN	004:Parte 1 (1R):2011	2011	Señalización Vertical
(2)	RTE INEN	004:Parte 2 (1R):2011	2011	Señalización Horizontal
(3)	PRTE INEN	004:Parte 3:2013 2013		Señales de vías. Requisitos
(4)	RTE INEN	004:Parte 4:2009 2009		Alfabetos Normalizados
(5)	RTE INEN	004:Parte 5	2013	Semaforización
(5)	NTE INEN	1042:2009	2009	Pintura para señalamiento de tráfico
(6)	NTE INEN	2289 :2009	2009	Demarcadores retroreflectivos

La codificación de las señales horizontales y verticales es la utilizada en los documentos del INEN que son los últimos vigentes en el Ecuador cuyas letras de identificación son: R señales regulatorias, P señales preventivas, I señales informativas, D señales especiales delineadoras, T señales y dispositivos para trabajos viales, E señales escolares, SR señales riesgos.

1.2 SEÑALIZACIÓN VERTICAL

1.2.1 Señales Regulatorias

Este tipo de señales tiene como objetivo informar a los usuarios de las prohibiciones, obligaciones, restricciones y autorizaciones en el uso de la vía, cuyo incumplimiento constituye una infracción de la Ley y Reglamento de tránsito.

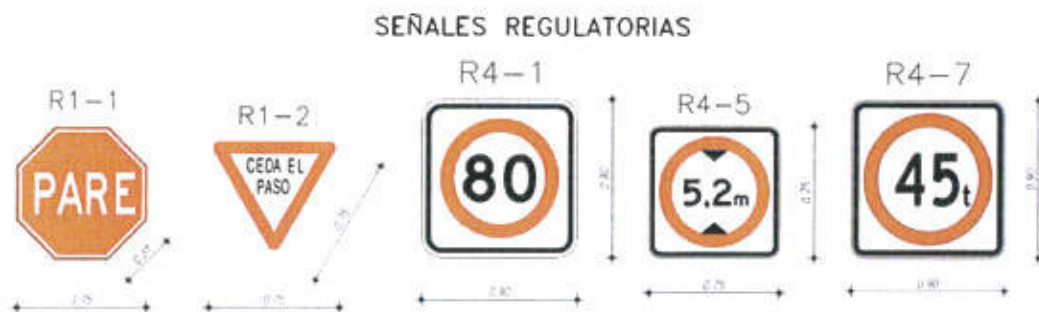
Dentro de las señales utilizadas para este proyecto podemos distinguir los siguientes tipos:

- Parada obligatoria
- Vía preferencial o Ceda el Paso
- Reglamentación de velocidad
- Reglamentación del sentido de circulación
- Reglamentación de peso máximo
- Reglamentación de altura máxima

En cada caso para su localización se ha tomado en cuenta los criterios y principios de utilización descritos en los manuales.

1.2.1.1 Colores y Dimensiones

A excepción de las señales R-1-1, R-1-2, R5-3, R4-4, R5-4, R5-5a, R5-5b, R5-6, las señales tendrán el fondo blanco retroreflectivo, leyenda, símbolo y orla negra mate y de existir el círculo interior deberá ser rojo retroreflectivo. Las dimensiones y características se incluirán en los planos de detalle.



1.2.2 Señales Preventivas

Las señales de advertencia o preventivas tienen como función llamar la atención de los conductores de vehículos sobre la existencia de un potencial peligro. Esta placa exige generalmente al conductor una reducción de la velocidad con el objetivo de aumentar su seguridad.

Las placas de prevención se han colocado:

- En situaciones peligrosas de alineación vertical u horizontal
- Curvas reversas o sinuosas separadas por pequeñas tangentes
- Existencia de un dispositivo de control de tráfico
- Aproximación a intersecciones
- Ocurrencia de condiciones peligrosas
- Otras condiciones conforme a la indicación de uso de cada una de las placas dentro de los manuales

La aplicación de la placa de advertencia física determina a partir de estudio de situaciones propias, siendo en algunos casos un criterio técnico (como por ejemplo radios de curvatura , aproximación a intersecciones , etc.) y en otros la decisión de su colocación depende del examen de las condiciones locales o del comportamiento de los usuarios de la vía .

A excepción de las señales preventivas de la Serie Complementaria , y otras especificadas en el Reglamento INEN, todas las señales tienen forma de rombo (cuadrado con diagonal vertical).

Cabe señalar que el uso excesivo o indiscriminado de señales de advertencia es extremadamente desaconsejado , ya que se genera un alto grado de desobediencia .

La localización de la señal de advertencia tiene como factor determinante la velocidad prevaleciente en la vía y la existencia de condiciones potencialmente peligrosas.

El INEN RTE 004 indica que en terminis generales las señales de prevencion deben colocarse a no menos de 75 metros nia mas de 225 metros delante del sitio de riesgo, sin embargo para cada vía se debe evaluar su velocidad de diseño y de operación, asi como la reducción der la velocidad requiere. Lavolocidad de diseño será de 50 Km/h y para lograr la reduccion de velocidad a rangos de 30 a 40 Km/h las señales se colocaran entre 110 y 120 metros del PC o PT y a 30 o 40 metros del ET o TE.

1.2.2. 1 Colores y Dimensiones

Los colores utilizados son el amarillo retroreflectivo tipo IV, de la ASTM D 4956 para el fondo, las leyendas y orlas en color negro. Como lo señala la NTE INEN 4:2011 .- Señalización Vertical, el tamaño mínimo de estas señales será el recomendado para vías rurales de 900x900mm .

Para reforzar la información de la señal preventiva P2-17 se ha colocado una placa complementaria P8-2 para señalar la distancia a la intersección.

PRTE INEN 004 - Parte 4

TABLA 5

**PRTE INEN 004 - Parte 4
TABLA 5**

Velocidad máxima	Tamaño (mm)
≤ 50 km/h	A 600x600
>50 km/h ≤ 70 km/h	B 750x750
> 70 km/h	C 900x900

1.2.3 Ubicación de las señales regulatorias y preventivas

La colocación lateral en zonas rurales de vías sin bordillos debe estar a una distancia de 0.60 metros del borde o filo exterior de la berma.

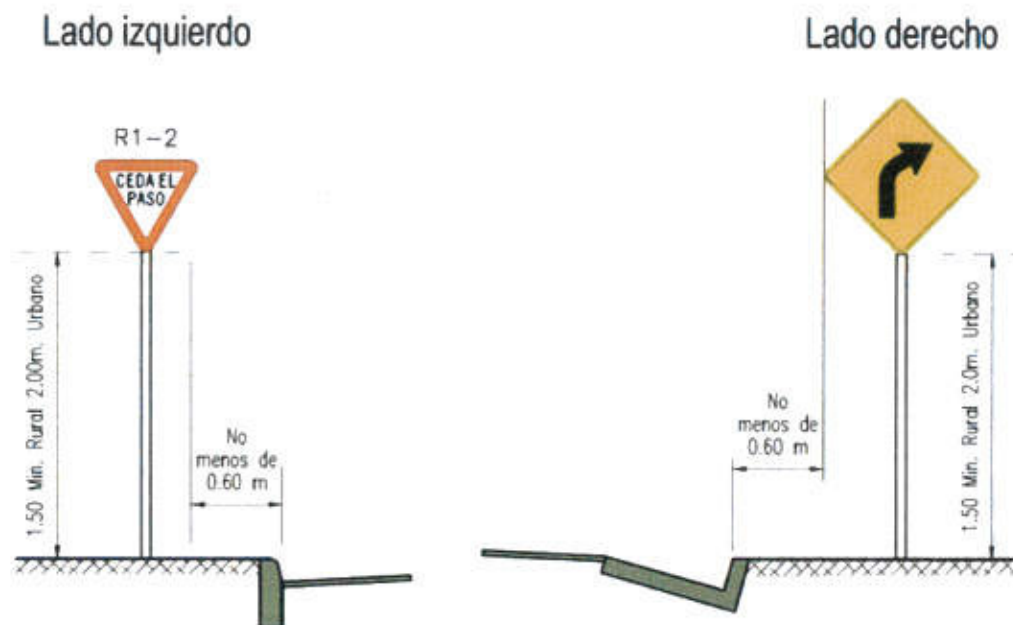
En el caso que la cuneta es accesible la dimensión debe tomarse desde el filo exterior de la cuneta. La altura las señales deben montarse alejadas de la vegetación y claramente visibles bajo la iluminación de los faros de los vehículos por la noche.

La altura libre de la señal no debe ser menor a 1.5 metros desde el filo de la calzada hasta el borde inferior de la señal. Si se encuentra en zonas pobladas las placas deben mantener una altura libre mínima de 2.00 m. Con el fin de permitir el paso de peatones y evitar que las placas estén al alcance de ellos, pudiendo llegar hasta 2.20 metros como máximo para reducir la interferencia que pueden ocasionar con vehículos estacionados. Normalmente las señales son colocadas al lado derecho en relación al sentido de circulación de los vehículos.

Las señales son usualmente montadas sobre un poste simple, sin embargo aquellas que tienen un ancho mayor a 1.22 m. o una área que exceda de

0.80 metros cuadrados, generalmente deben ser montadas sobre dos postes.

Altura y localización lateral de las señales



1.2.4 Señales de Información

Este tipo de señales sirven esencialmente para guiar al usuario del sistema vial nacional a través de la ruta y presentan información de cada intersección, localización, orientación, distancia a hitos o puntos de interés, también de la existencia de facilidades o servicios para el conductor. A las señales de información se las han dividido en los siguientes grupos:

1.2.4.1 Placas de información en la vía



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Para una autovía las placas se diseñan con características especiales ya que por el diseño geométrico, los conductores a menudo pueden ser incapaces de evaluar las maniobras necesarias en las rampas de salida de los intercambiadores y se utilizarán las serie 11-4 del reglamento INEN.

El sistema diseñado es un sistema secuencial. En el proyecto se han establecido tres fases distintas en el proceso de utilización de las placas indicativas de dirección a lo largo de las vías:

La primera fase se denomina "pre - señalización", la que consiste en preparar al conductor con señales anticipadas informativas para la ruta a ser seguida más adelante generalmente indica hacia la derecha.

En la placa está indicada una flecha direccional donde debe dirigirse el conductor, los destinos señalados por nombres de las ciudades principales o hitos de fácil identificación, etc. Esta serie de placas se denominan advertencia de destino.

La segunda fase, que se denomina "advertencia de salida", consiste en una señalización que indica de manera clara y unívoca, la dirección de la vía que debe ser tomada. Esta señalización debe ser colocada muy próxima al punto en el que el conductor debe efectivamente optar por la dirección a ser notada.

- En la tercera fase están las señales de "confirmación de destino" que se colocan a la altura sobre la rampa de salida del intercambiador y repiten la información de ruta dadas en las señales de advertencia de salida.

A estas tres fases puede incluirse una señal adicional que es la "confirmación de jurisdicción vial", que indica la distancia a los destinos señalados y se colocará lateralmente más allá de las rampas de salida. Esta señal permite al conductor confirmar que ha tomado la salida correcta y se dirige al destino señalado. Estas placas muestran las distancias en kilómetros y se debe tener cuidado en su presentación por lo que será responsabilidad del contratista colocar los valores correctos de distancia.

1.2.4.2 Colores y Dimensiones

Los colores utilizados para las placas de dirección, indicación de sentido y localización deberán tener fondo verde retroreflectivo y los símbolos y orlas de color blanco.

Para las dimensiones de las leyendas se ha tomado en consideración la categoría de la vía y se ha diseñado cada leyenda en base a Standard Highway Signs que es la base del RTE INEN 4 :2008 Parte 4 de alfabetos normalizados y cuyas dimensiones finales pueden verse en los planos de detalle.

1.2.4.3 Puentes para señales Informativas



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Las placas de información que no estén a un lado de la vía serán colocadas en pórticos, para lo cual, se tienen pórticos, de luces variables.

Los porticos deben estar protegidos por guardavías a fin de que no representen peligro a los conductores y peatones.

Las especificaciones utilizadas serán las que se encuentran en la sección 707 de manual de Especificaciones Generales para la Construcción de Caminos y Puentes MOP-001-F 2002.

Los diseños de cimentación y estructurales deberán ser revisados por el contratista de construcción conforme a las condiciones de cimentación específicas del punto de colocación

La distancia recomendada para la colocación desde el fin del espaldón es de 1.80m cuando no está protegido con un guardavía y cuando exista este elemento a 0.60m. El galbo obligatorio será de 6.20 metros.

1.2.5 Materiales para la señalización vertical

Los materiales para la señalización vertical serán los recomendados dentro del RTE INEN 004, Señalización Vertical. Los postes serán de tubo de hierro cuadrado galvanizado de 50,8 x 50,8 x 2mm de espesor y 3mm de espesor para delineadores de curva horizontal dobles (chevrones verticales) y fijados conforme a estos requerimientos. Los materiales reflectivos serán mínimo Tipo IV según la ASTM D 4956. Para señales informativas elevadas el material retrorreflectivo será del Tipo XI de la ASTM D4956.

Las placas a las que van adheridas estos materiales deberán ser de aluminio anodizado en tamaños medios y pequeños de 2.0mm de espesor y reforzadas con perfiles en tamaños grandes, ya que este tipo de materiales da una mayor vida útil a la señal. Las placas de las señales al lado de la carretera se sujetarán a los postes mediante remaches de aluminio tipo POP. En las placas de dimensiones mayores todos los marcos, tornillos y elementos de fijación deben ser galvanizados. Todo elemento estructural deberá garantizar que la señal no puede ser derribada por viento u otras condiciones que se presenten en el sitio.

1.3 SEÑALIZACIÓN HORIZONTAL

Su función principal es la de canalizar el tráfico a través de la vía proporcionando a su vez información al conductor sin necesidad de retirar la vista de la vía. "La demarcación horizontal en sí, se denominan líneas, mensajes, palabras, gráficos (flechas) y otras simbologías que se dibujan sobre la calzada u otros elementos como chevrones, bordillos e islas, para controlar, prevenir, guiar o informar a los usuarios de las vías. Pueden ser usadas ya sea conjuntamente con bordillos o con señales verticales o también pueden usarse por sí solas".

1.3.1 Tipos y Color



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



La demarcación se la realiza mediante pintura u objetos marcadores individuales (tachas o bordillos montables de distintas formas y colores).

Se ha diseñado un sistema de marcas de pavimento constituido básicamente por marcas de color blanco y en casos donde existe división física de los carriles de color amarillo. Este color se utiliza para prevenir al conductor la existencia de flujo opuesto en el carril adyacente o de algún riesgo importante en el límite del carril izquierdo de la vía.

Los tipos de señales horizontales se encuentran en los siguientes grupos:

1.3.2 Líneas Transversales

En las que se encuentra las líneas "pare" donde se tenga entrada o salida de vehículos y ferrocarril, líneas de detección, líneas de ceda el paso, cruces de semáforos.

1.3.3 Líneas Longitudinales

- LG-1 Líneas de separación de carril o de circulación, esta línea está diseñada en color blanco y van entrecortadas. El ancho de 0.15m., con una longitud del segmento de 3m y 9m de espaciamiento libre; su función es la de canalizar el tráfico en forma debida, cuando este va en el mismo sentido y especificar los carriles de alta y baja velocidad.
- LG-2 Líneas de continuidad o guía, de 1m. de segmento y 3 m. de espaciamiento libre con un grosor de 0.15m, son colocadas en sitios donde la vía no está bien definida o en sitios de transición donde se reducen o aumentan de carriles y ayudan al conductor a mantener la conducción sobre los carriles.
- LG-3 Líneas de aproximación de pare, semáforo o ceda el paso, es una línea continua antes de la línea de pare, el ancho es igual a la línea de división de carril. Esta línea crea un efecto de barrera para que el conductor evite realizar maniobras y en la aproximación al controlador.
- LG-4 Líneas de barrera centrales, franjas continuas dobles de 0.15 metros de ancho, de color amarillo donde hay flujo opuesto de vehículos y no existe la posibilidad de rebasamiento.
- LG-5a Líneas de barrera en un solo sentido. Franjas continuas dobles de 0.15 metros de ancho de color blanco, colocadas donde no existe la posibilidad de rebasamiento en flujo en el mismo sentido.
- LG-5b Líneas de borde de calzada. Franjas continuas de 0.15 m de ancho, delimitan los carriles exteriores de la vía antes del espaldón o bordillo.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



- LG-5c Líneas de borde de calzada con flujo opuesto. Franjas continuas de 0.15 m de ancho, delimitan los carriles exteriores de la vía antes del espaldón o bordillo en las que existe un flujo vehicular opuesto y cuyo color es amarillo.
- LG-5d Líneas de contorno de chevrón. Franja continua de 0.15 m de ancho que enmarca a los delineadores o chevrones

Delineadores sobre el pavimento (Chevrones)

- CV-3 Se han utilizado en espacios indefinidos o neutros de gran magnitud especialmente en los intercambiadores, su grosor es de 0.90 metros y un espaciamiento de 1.80 a un ángulo de 45 grados.
- Flecha Sirven para ayudar a los conductores a advertir del sentido o la dirección y seleccionar el carril adecuado para realizar maniobras de giro.

Los detalles de las flechas que se han codificado como F-1 hasta la F-8 se encuentran especificados en el plano de detalle. Estas flechas deberán

respetar las dimensiones conforme a la velocidad de operación que están señalados en el manual INEN.

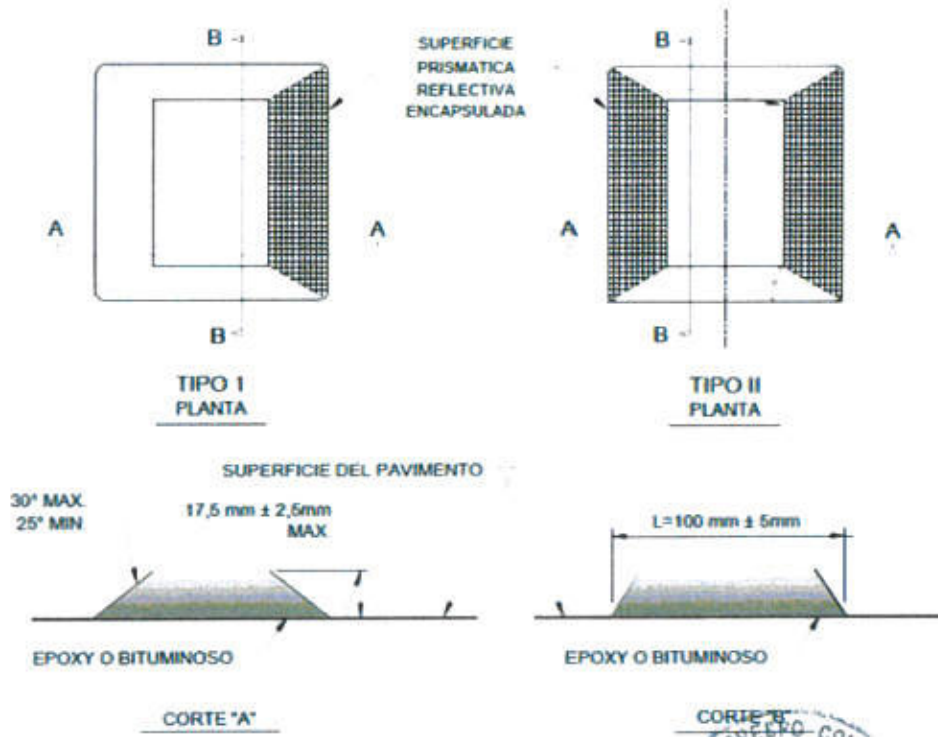
1.3.4. Materiales para la señalización horizontal

Las especificaciones de la pintura serán conforme a la Norma Técnica Ecuatoriana NTE INEN 1 042 2009 Pintura para señalamiento de tráfico y serán complementadas para construcción las especificaciones indicadas en la sección 826 Pinturas del manual MOP-F-001 2002. Se recomienda la utilización de pinturas termoplásticas con un espesor de 2.3mm, debido a su mayor duración y efectividad, debido a la calidad del pavimento permitiría su correcta aplicación.

1.4 MARCAS DE PAVIMENTO SOBRESALIENTES (MPS)

Las tachas son elementos rectangulares que sobresalen del pavimento cuyo lado mayor o diámetro como mínimo debe tener 100mm con una tolerancia de ± 5 mm, con una altura de 17.5 mm con una tolerancia de ± 2.5 mm. Son adheridos sobre el pavimento con pegamento epóxico para delimitar y direccionar los carriles de circulación.

MARCAS DE PAVIMENTO SOBRESALIDAS - MPS (TACHAS)



NOTA:

LOS DEMARCADORES DEB ERÁN CUMPLIR CON LA INEN NTE 2 289:2009

Las especificaciones técnicas serán las de la Norma Técnica Ecuatoriana NTE INEN 2289:2009 Demarcadores retroreflectivos. Para el presente caso se utilizarán tachas conforme al color indicado en las franjas horizontales es decir blanco y amarillo en caso de restricción también se pueden utilizar de color rojo cuando el espaldón sea menor a 1 metro. La separación entre ellas es de 12 metros en la mayoría de casos y 6 metros en las líneas de borde de chevrone u otras condiciones peligrosas.

1.5 POSTES DELINEADORES DE VÍA

Los postes delineadores están descritos en la sección 8.15 del RTE INEN 004:2011 de señalización vertical y son elementos que indican los límites laterales del uso seguro de la calzada, constituidos por un soporte simple y en el que se ha colocado una bandas de color rojo de material reflectivo en la parte superior. Este tipo de delineadores generalmente son de sección circular o rectangular con una altura de 1.0 m para evitar que sean cubiertos por la vegetación y 0.075m de ancho. La sección 8.15.2 señala el color rojo y blanco como estándar. La reflectividad debe ser mínimo tipo IV según la norma ASTM D 4956 sección 7.1 y 7.2. Se deben utilizar cuando se presentan condiciones climáticas adversas como lluvia constante o neblina. Las especificaciones de colocación así como la distancia en el RTE INEN 004: Parte 1, Señalización Vertical y para el MTOP son obligatorios a lo largo de toda la ruta.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



1.6 DELINEADORES DE PELIGRO

Un segundo tipo de delineadores de peligro están incluidos las señales verticales a un lado de la carretera que se codifican como D(x). Son señales verticales de fondo amarillo reflectivo y una flecha de color negro y necesitan de postes para su colocación los que serán de hierro galvanizado cuadrados de 50.8 x 2 mm de espesor para una señal simple. Estas guían y señalan obstrucciones adyacentes próximas a la vía como entrada a puentes, división física de carriles, redondeles y reducción de carriles.

Los delineadores de la serie alineamientos horizontales son los O, indican el cambio de rasante en el sentido de circulación del conductor. Se utilizan en radios de curvatura cerradas pudiendo ser izquierda o derecha según el alineamiento de la curva. Su ubicación es lateral en los dos lados de la vía y su altura será de 1.50 metros y 2.00 metros tal como una señal vertical. El cálculo de distancia conforme al radio de curvatura se puede ver en el manual INEN (1) siempre y cuando no se produzca exceso de estas señales o contaminación visual por lo que el tamaño recomendado para el delineador O es el de 1.20 x 0.90 m (simple).

1.7 CONCLUSIONES Y RECOMENDACIONES

El proyecto de señalización es integral, por lo que se consideran todos los puntos de conflicto en el área de influencia del proyecto de vía y deben ser complementados con los proyectos de señalización de las intersecciones manteniéndose los mismos estándares utilizados.

En el presupuesto deberá diferenciarse las señales utilizadas a lo largo de la ruta y las utilizadas exclusivamente en el intercambiador. Para la conservación y mantenimiento de las señales se recomienda tomar en cuenta los siguientes aspectos:

- Mantener en su posición correcta
- Superficies limpias y legibles
- Reemplazo de señales defectuosas
- Retiro de señales que no cumplan su función o porque ha cesado las condiciones que obligaron a instalarlas.

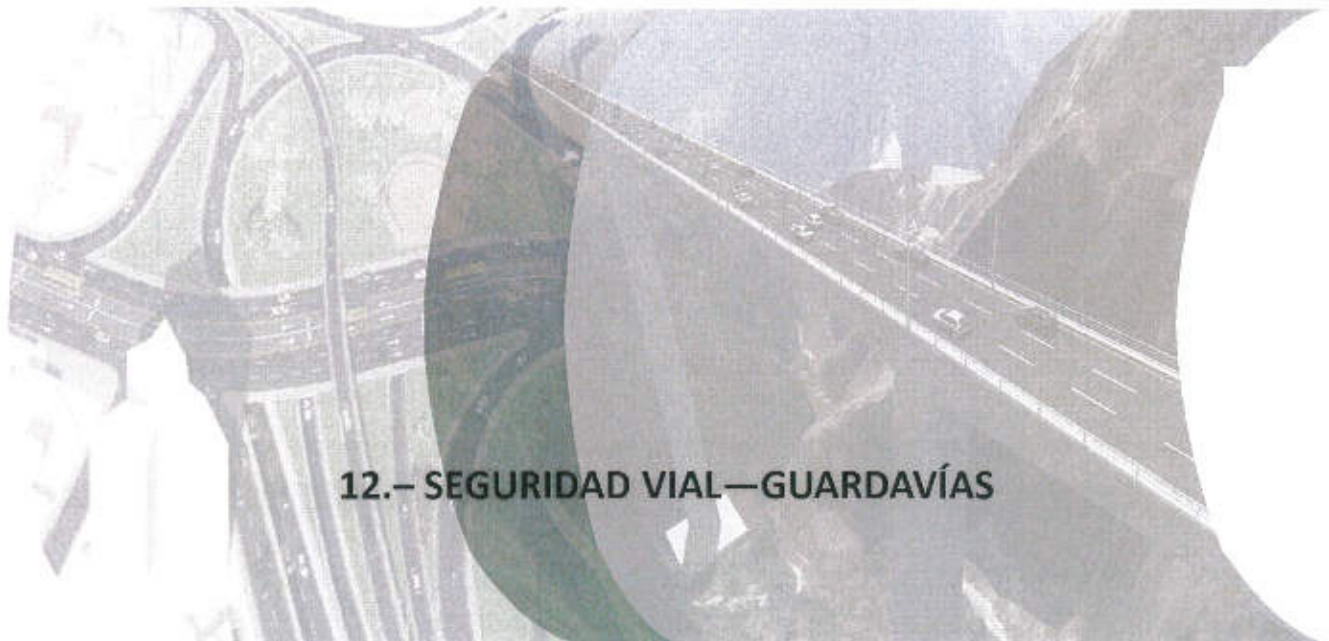
Esta propuesta considera la señalización horizontal y vertical de los tramos o sitios puntuales donde se planifica realizar ajustes a las curvas, peraltes y demás tramos que el estudio definitivo lo recomiende.



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



12.- SEGURIDAD VIAL—GUARDAVÍAS



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



ELEMENTOS DE SEGURIDAD VIAL

1.1 INTRODUCCIÓN

El proyecto de seguridad vial corresponde al Acceso Centro Norte a Quito, tiene un nivel medio de complejidad. Se ha prediseñado una cantidad suficiente de elementos y recursos para proveer un adecuado nivel de seguridad a los conductores y peatones.

Los elementos de seguridad vial que se han propuesto son las Guardavías dobles, las cuales incluyen todos los accesorios para su correcta funcionalidad.

Para el análisis de los elementos de seguridad vial se ha tomado los estándares y recomendaciones de últimos Reglamentos Técnicos Ecuatorianos INEN y normas técnicas vigentes al año 2013 que son las siguientes:

(1) NTE INEN 2473:2013 2013 Perfiles corrugados y postes de acero para guardavías

1.2 GUARDACAMINOS Y BARRERAS DE PROTECCIÓN

Los guardacaminos al igual que las barreras tienen por objetivo el evitar daños a personas fuera del vehículo e impedir que los vehículos, especialmente los livianos, ingresen en áreas peligrosas. Estos dispositivos desvían al vehículo que choca con la barrera, obligándolo a adoptar una trayectoria sensiblemente paralela a la dirección de la barrera de seguridad. También hace que las fuerzas que inician sobre los ocupantes del vehículo se mantengan dentro de los límites tolerables y minimiza el costo resultante de los daños.

Los guardacaminos estarán compuestos por poste, barrera, gemas y separador, deberán cumplir con lo señalado en la Norma Técnica Ecuatoriana NTE INEN 2473-2013, respecto a los requisitos mecánicos, de materiales e inspección y para su colocación serán complementadas con las especificaciones MOP-F-001 2002 sección 703 y sección 829-3. Se deberán utilizar a lo largo de la carretera guardacaminos dobles, en el costo deberá incluirse las gemas reflectivas y los terminales al inicio y fin de cada tramo. Luego de la construcción deberá reevaluarse las condiciones de diseño y colocarlos adicionalmente en sitios peligrosos.

1.3 CONCLUSIONES Y RECOMENDACIONES

Instalar correctamente los guardacaminos para brindar la máxima protección al usuario en un eventual accidente.

Colocar todos los accesorios como gemas reflectivas, terminales para su optimización.

Las expropiaciones y el pago de las indemnizaciones estarán a cargo del Municipio y Distrito Metropolitano de Quito, por lo tanto no es parte de esta propuesta.



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ACCESO A QUITO DESDE LOS VALLES

10

ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



13.- EXPROPIACIONES



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



EXPROPIACIONES

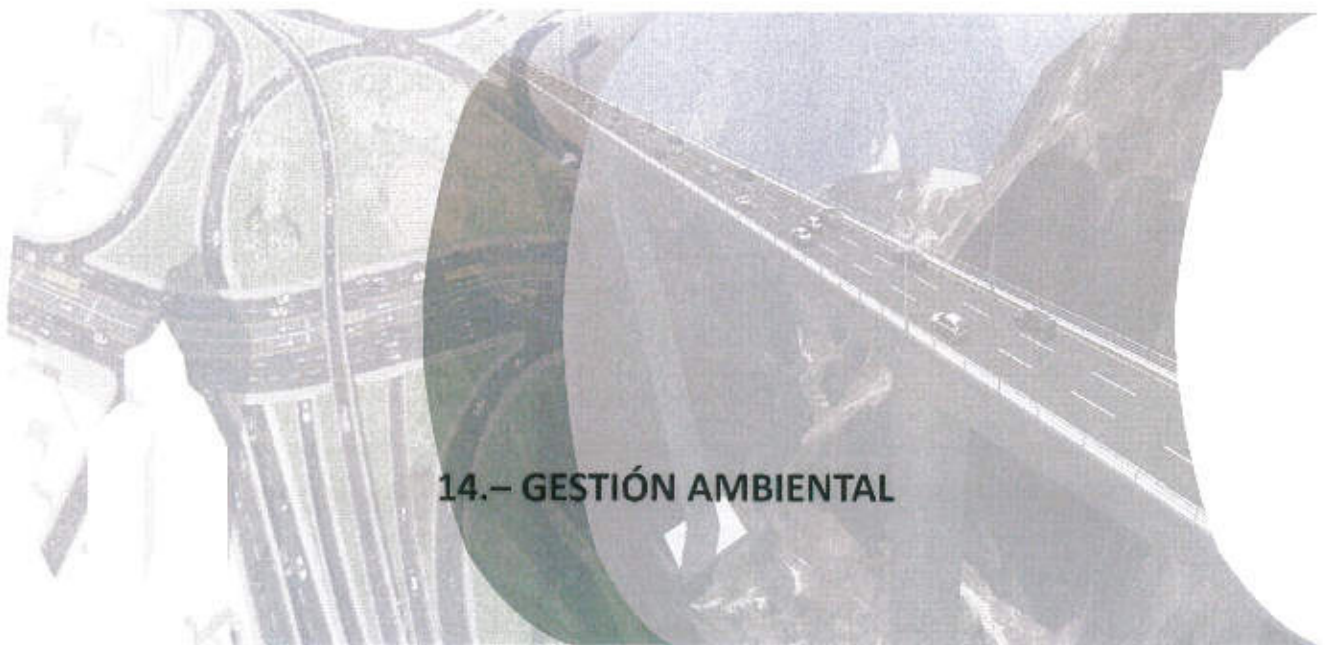
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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



14.- GESTIÓN AMBIENTAL



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



PLAN ESPECÍFICO DE GESTIÓN AMBIENTAL FASE DE CONSTRUCCIÓN Y EXPLOTACIÓN

1. OBJETIVO

Cumplir con lo estipulado en la Normativa Ambiental vigente, relacionado con la calidad ambiental, en todos los procesos constructivos desarrollados por la empresa ; reduciendo, mitigando y controlando los riesgos ambientales.

1.1 Objetivos Específicos

- Identificar y evaluar los impactos ambientales que se presenten por la intervención de la adecuación y operación de la vía "ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN", y describir aquellos de mayor impacto ambiental y social.
- Presentar medidas preventivas y mitigadoras que contribuyan atenuar los impactos generados por la construcción y operación del proyecto.

2. INFORMACIÓN DE LA EMPRESA

CHINA ROAD AND BRIDGE CORPORATION., es una empresa de la Republica Popular China

cuya actividad operacional es la construcción civil, vial, mantenimiento vial. La empresa opera a nivel nacional, con proyectos distribuidos estratégicamente en las obras asignadas.

3. POLÍTICA EMPRESARIAL DE SALUD, SEGURIDAD Y AMBIENTE CHINA ROAD AND BRIDGE CORPORATION CRBC (SUCURSAL ECUADOR)., Es una compañía constituida al amparo de las leyes Ecuatorianas, cuyas actividades operacionales son Ingeniería Civil. Se compromete, a través de sus más altas autoridades, a desarrollar sus actividades, difundiendo y aplicando una Política de Seguridad y Salud en el Trabajo que se inscribe dentro de las políticas generales de la empresa. Poniendo todo su empeño en desarrollar una gestión administrativa y operacional eficiente, favoreciendo la capacitación y el desarrollo de su recurso humano, buscando el crecimiento de la infraestructura instalada previniendo en todo momento los riesgos, tanto cuanto sea posible, mitigando los probables daños y la seguridad de las labores, incrementando la productividad, aplicando tecnología de punta y velando por la satisfacción y el bienestar de sus trabajadores y colaboradores .

CHINA ROAD AND BRIDGE CORPORATION. aplica un sistema de gestión que preserva la salud y la seguridad de todos sus empleados , la comunidad involucrada en el proceso, la protección del ambiente , esforzándose para mantener una alta calidad y confiabilidad en sus servicios .

CHINA ROAD AND BRIDGE CORPORATION. se compromete a

cumplir la norma legal vigente aplicable en el campo de la Seguridad y la Salud. Se compromete a realizar los seguimientos necesarios para ayudar a una mejora continua de los sistemas de gestión en dichas materias , utilizando programas de control y revisión sistemática de los procesos y actividades, así como un diagnóstico , evaluación y control de riesgos, con el fin de ajustarse regularmente a los objetivos y metas



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



con respecto a los impactos ambientales, la salud y la seguridad del personal, preservando siempre la calidad de los servicios que presta.

Es obligación de todo el personal dar la debida atención y aplicación a las normas contenidas en el presente Reglamento. En ese afán, CHINA ROAD AND BRIDGE CORPORATION (SUCURSAL ECUADOR), hará extensiva su cultura e prevención en materia de Seguridad y Salud a sus proveedores, contratistas, clientes y comunidad en general.

El Apoderado General será la máxima autoridad responsable del cumplimiento de las normas de Seguridad y Salud de la misma, las cuales deberán ser documentadas y conocidas por todos los trabajadores, para lo cual asignará los recursos económicos que sean necesarios.

4. PLAN ESTRATÉGICO AMBIENTALES DEL CONTROL DE RIESGOS

4.1 Metodología empleada para la Evaluación de Impactos Ambientales

A fin de evaluar los impactos ambientales, se utiliza una matriz causa

- efecto valorado que permitan jerarquizar los efectos ambientales negativos y positivos que se originan por las acciones aplicadas por el proyecto.

Esta matriz está dada por cruces o interacciones entre acciones del proyecto y factor ambiental implicado, conceptualmente cada uno de estos cruces vendría a corresponder a cada uno de los impactos producidos por el proyecto, es decir corresponde a una celda de la matriz - causa efecto tipo Leopold, pero que simplemente por comodidad, se ha preferido exponerlos separados y encolumnados, tal como se presenta más adelante. Cada cruce o interacción está compuesto de cuatro partes principales:

- Identificación del impacto

Se identifica la etapa en la que se produce el impacto durante el desarrollo del proyecto que sigue un orden cronológico Construcción Operación y Mantenimiento. Se identifica la acción del proyecto que causa el impacto, el factor ambiental afectado y se hace una descripción sucinta del efecto del impacto en cuestión.

- Característica del efecto

A través de esta caracterización se trata de obtener la importancia que tiene el impacto en relación del efecto que causa sobre el factor ambiental, valorado cualitativamente por varios atributos que define su importancia.

Tipo (T).- Se establece aquí si el impacto es beneficioso o negativo para el primer caso se le asigna + 1 (Positivo) y para el segundo -1 (negativo).

Intensidad (I).- Se refiere al grado de la incidencia sobre el factor en el ámbito específico que actúa, se le otorga el valor de 1 cuando la incidencia es baja, 2 cuando es media y 3 cuando es alta.

Plazo (P).- Es el momento en que se produce el efecto, describe el tiempo en que transcurre entre la acción y el efecto. Cuando es a largo plazo se le puntúa como 1, mediano plazo 2 y cuando es inmediato 3.

Área de influencia (Ai).- Se refiere a la extensión que alcanza el efecto en relación con el entorno del proyecto. Cuando es puntual 1, local 2, lineal 3, zonal 4, regional 5 y si el alcance es nacional 6.



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Duración (D).- Se refiere al tiempo que supuestamente permanecería el efecto a partir del inicio de la acción. Cuando es temporal se le otorga el valor de 1, eventual 2, periódico 3 y si es permanente 4.

Tendencia (Tn).- Se trata de establecer el comportamiento del efecto a través del tiempo. Cuando el efecto es reversible su tendencia será decreciente, para lo cual se le asigna el valor 1, si su comportamiento es estable 2, y si es creciente 3.

Medidas Correctoras.- Se establece la posibilidad de introducir diferentes tipos de medidas correctoras:

- Preventivas: Que se pueden prevenir y por tanto anular el efecto
- Mitigación: Que se puede reducir su efecto pero que no lo elimina totalmente
- Contingencia: Que se aplican cuando el efecto ocurre, sin embargo el efecto puede ser eliminado totalmente o reducirlo.
- Rehabilitación: Cuando el efecto ha ocurrido, se introducen medidas correctivas que pueden reducir el efecto o anularlo totalmente
- Compensación: Cuando el efecto ocurre y no es posible su recuperación, sin embargo para reducirlo se establece otro tipo diferente de corrección.
- No es posible: Definitivamente no es posible dar medidas correctivas y el efecto perdura durante el tiempo de referencia del estudio.

4.2 Identificación y evaluación del impacto ambiental

Para la evaluación del impacto ambiental, el medio ambiente se ha dividido en tres subsistemas: Físico, Biótico y Socio-económico.

Las actividades fundamentales consideradas para la identificación y evaluación de impactos, en orden cronológico son:

- Ubicación de campamentos y talleres
- Derrocamiento de infraestructura existente
- Desbroce, desbosque y limpieza
- Excavación y Movimientos de tierras
- Depósito de materiales excedentes
- Protección de taludes
- Obras de drenaje
- Circulación vehicular
- Mantenimiento, Rutinario, periódico o emergente

4.3 Actividades previstas generadoras de impactos

4.3.1 Fase de Construcción:

- Movilización e Instalación del Contratista/Operación de Campamentos y Talleres

Son instalaciones que permiten acondicionar las facilidades de infraestructura tanto para el personal del proyecto cuanto de logística y abastecimiento de materiales y demás insumos para el desarrollo de la obra.



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Estas instalaciones son generalmente temporales que se construyen preferentemente cerca de los frentes de obra para optimizar recorridos y tiempo de viaje de los servicios auxiliares de la obra y servir de depósito de herramientas y combustibles.

- Derrocamiento de Infraestructura

Esta actividad será ejecutada previa al inicio de los trabajos e incluye la demolición viviendas, infraestructura vial como calles, veredas, bordillos, plazas y otras estructuras como jardines, que se encuentren dentro del área de adecuación de la construcción de las nuevas vías. Esta actividad deberá permitir al dueño o afectado, la recuperación de elementos que puedan ser reutilizados y reubicar aquellas que sea necesario hacerlo por reposición o compensación de daños. En este caso se

encuentran en su mayoría viviendas, jardines, plaza, vallas publicitarias, etc

- Desbroce, desbosque y limpieza de la vegetación

Son actividades que se ejecutarán específicamente en los sitios de afectación a taludes por donde pasaría el viaducto, así como también de la reubicación de los árboles y arbustos encontrados en la Plaza Argentina y los jardines que se afectarían por la construcción del proyecto.

- Excavación y Movimiento de Tierras

Consistirá principalmente en la excavación y remoción del material necesario para la conformación de la obra básica. Este trabajo gravitará en la excavación, transporte, desechos, colocación, manipuleo, humedecimiento y compactación del material necesario a remover en las zonas de corte y colocar los excedentes en zonas de relleno.

- Transporte de material excedente hacia escombrera

El transporte de material excedente a escombreras, consiste en la recolección, transporte y disposición final de desechos de materiales excedentes y escombros producto de las diferentes actividades de construcción de la nueva vía y obras complementarias. Esta adecuación requiere también de la utilización de equipo y maquinaria adecuada, entre ellas se encuentran; volquetes, tractores, rodillos y vehículos en general.

- Protección de taludes

Los cambios de la morfología y estabilidad de taludes; erosión y posible deslizamientos por excavaciones y movimiento de tierras será uno de los aspectos a considerar pues los taludes altos tendrán bajas posibilidades de recuperación vegetal, hace que los esfuerzos y la recuperación natural sean importantes



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



y costosos, por esta razón se realizará la protección de los taludes con alternativas viables que han dado buen resultado en otros proyectos que se ha ejecutado en la empresa.

- Obras de drenaje

Este trabajo consiste en recolectar las aguas existentes en la vía con la finalidad de que no dañen la estructura del pavimento a través de sumideros y alcantarillado pluvial y sanitario y en el caso de aguas subterráneas de subdrenes.

4.3.1 Fase de Operación y Mantenimiento

- Circulación Vehicular

La fase de operación del proyecto consiste básicamente en poner en funcionamiento y servicio la vía, incluyendo dos viaductos, ampliación y mejoramiento vial, de modo que la fluidez del tránsito vehicular mejore la comunicación e integración local, con menores tiempos de recorrido, mayor seguridad y confort para el usuario.

- Señalización Vial e iluminación (Vertical y Horizontal)

Es la colocación de dispositivos reglamentarios que permitan proporcionar seguridad tanto peatonal como vehicular en la nueva vía siendo esta actividad de gran importancia debido a que la vía formará parte de una zona urbana y de alto tráfico.

- Mantenimiento Vial Programada y Rutinario

El mantenimiento rutinario durante de la vía útil de la vía está referido a todas aquellas actividades que se realizarán de manera frecuente para mantener la operatividad normal de la infraestructura vial.

- Manejo adecuado de derrames
 - Todos los equipos y maquinarias presentada deberan ser inspeccionados para verificar que no existen goteos de combustible o lubricante. En caso de que estas anomalías se presenten, los equipos y maquinaria deberan ser retirados y reemplazados o llevados a mantenimiento antes de retomarse los trabajos.
 - Todos los combustibles, aceites, lubricantes productos químicos se transportarán en recipientes adecuados.

- El mantenimiento de los vehículos equipos y maquinaria , solamente se realizará en los lugares designados y preparados para tal actividad .
- En el caso de requerir el almacenamiento temporal de combustibles, se construirán cubetos para almacenamiento de acuerdo al Reglamento Ambiental Hidrocarbúrico.
- De producirse pequeños derrames, se contendrá con una bermá pequeña de tierra; la limpieza podrá efectuarse con materiales absorbentes citados a continuación:
 - Orgánico natural: - aserrín.
 - Minerales - vermiculita , perlita, o arcilla
 - Sintéticos - polímeros
 - Los sintéticos son los más efectivos; sin embargo, puede ser más difícil su disposición .
- Todos los materiales utilizados para la limpieza de derrames pequeños deberán estar disponibles de manera apropiada en sitios de fácil acceso y siempre visibles , todo el personal debe tener conocimiento de la ubicación y manejo, posterior se gestiona su tratamiento con un gestor de desechos calificados por el Ministerio del Ambiente.

Medidas preventivas para el almacenamiento de sustancias químicas

- El transporte, almacenamiento, manipulación y uso de productos químicos peligrosos deberá estar acompañada de las respectivas hojas de seguridad (MSDS) de los productos.
- Se colocará rótulos que indiquen la disposición de "NO FUMAR" en todas las áreas donde se almacenen productos inflamables .
- Los productos inflamables contenidos en recipientes plásticos se ubicarán bajo cubierta y alejados del calor y fuentes de ignición.
- Se deberá considerar el grado de compatibilidad de productos químicos peligrosos para su almacenamiento , transporte y manejo; por ningún motivo se almacenarán conjuntamente productos químicos combustibles e inflamables con oxidantes .
- Todo tanque o tambor conteniendo combustibles y productos químicos será rotulado con su contenido y clases de riesgos, así como con las etiquetas de seguridad y precauciones a tomar .

Generalmente se utiliza el rombo de seguridad para su señalización , así:

Figura No. 1: Señalización de sustancias químicas.



- Se instalará un área específica para almacenar combustibles, con camellones de contención y un revestimiento impermeable para contener los derrames y proteger los suelos y los cuerpos hídricos. El área de contención tendrá un volumen mínimo de 110% del volumen del tanque o recipiente más grande dentro de la contención. Si se equipan las áreas secundarias de contención con válvulas para el desfogue del agua lluvia, las válvulas deberán ser actuación manual y deben permanecer en la posición cerrada; el agua será descargada únicamente cuando sea verificado que no contiene residuos aceitosos.
- Del mismo modo, antes de descargar el agua lluvia de las áreas de contención secundaria, el personal deberá verificar si está presente algún brillo aceitoso u otra evidencia de contaminación. Si el agua lluvia se ha contaminado, debe transferirse al sistema para tratamiento de agua aceitosa antes de descargarse. El agua lluvia puede ser encausada directamente al sistema para tratamiento de agua aceitosa sin inspección.
- Todo equipo mecánico como bombas, generadores, tanques de almacenamiento de combustibles, motores eléctricos deberán contar con dispositivos para descarga de energía estática (conexiones a tierra).
- Durante el trasvase de combustibles desde autotanques; el vehículo deberá estar conectado a tierra. La transferencia de combustibles debe tener lugar sobre una superficie impermeable, de ser posible. El trasvase será supervisado en todo momento por parte del personal de operaciones para evitar el sobrellenado.
- Recipientes pequeños con productos químicos, combustibles, aceites o lubricantes no se almacenarán directamente sobre el suelo, deberán tener material impermeable para evitar su contaminación por goteos o derrames accidentales durante los abastecimientos.
- Las áreas fijas para almacenamiento de combustibles estarán libres fuentes de ignición para impedir o aislar eventuales incendios.
- Las herramientas y materiales, incluyendo material absorbente, palas y fundas plásticas, estarán fácilmente disponibles para limpiar cualquier derrame o goteo.
- Toda actividad de mantenimiento de equipos, maquinarias o vehículos deberá efectuarse en áreas impermeabilizadas y que dispongan de canales perimetrales por recolección de posibles derrames de combustibles, aceites, lubricantes u otros productos.
- Las áreas de ubicación de transformadores de potencia deberán contar con un sistema de captación de derrames de aceite dieléctrico que consistirá en un cubeto de concreto armado con una capacidad igual al 110% del transformador más grande.

Manejo adecuado de desechos

La reducción en la fuente es la primera medida para una gestión adecuada de los desechos sólidos, para lograr esta reducción se pueden tomar las siguientes medidas:

- Reducción del volumen de desechos en el punto de generación, es decir utilizar insumos que sean envasados en recipientes de mayor capacidad para no generar mayor volumen de desechos con envases pequeños y de preferencia que sea reutilizables o que se pueda retornar al fabricante.
- Todo trabajador que tenga a su cargo o bajo delegación en su área, el manejo de los desechos deberá estar capacitado sobre el lugar y la correcta disposición de los desechos. La capacitación está a cargo del Departamento de Salud, Seguridad y Ambiente.
- Para el almacenamiento temporal de desechos en los diferentes frentes de trabajo deberán proveerse contenedores claramente diferenciados por color y con rotulación. En general se dispondrán de contenedores para residuos orgánicos, para residuos reciclables (papel,

cartón, plásticos, y chatarra) . De ser requerido y en función de las actividades a efectuarse en los sitios de trabajos se dispondrán otro tipo de contenedores para residuos especiales (baterías, pilas, fluorescentes) y peligrosos (aceites y lubricantes usados, entre otros) .

- Los contenedores se ubicarán en áreas no inundables, alejados de cuerpos hidráulicos superficiales, sitio de ubicación deberá estar protegido de lluvia para evitar lixiviaciones y del viento para impedir que se dispersen los desechos.
- De ser requerido se mantendrá un solo sitio de acopio final de residuos; el mismo que debe estar alejado al menos 50 m de cuerpos hidráulicos superficiales y dotados de cubierta; estos sitios de acopio deberán disponer de contenedores con una capacidad de almacenamiento acorde a los volúmenes generados .
- En función del tipo de residuos (por ejemplo madera, chatarra, plástico) en lugar de contenedores podrá emplearse sitios debidamente cercados sin necesidad de superficies impermeabilizadas , siempre y cuando los desechos a acopiarse no generen lixiviados que eventualmente podrían contaminar el suelo y cuerpos hídricos cercanos. Las áreas de almacenamiento deberán estar claramente diferenciadas mediante rótulos informativos.
- Los recipientes que contengan material que puede lixiviar o debido a su naturaleza (por ejemplo aceites y lubricantes) deberán estar ubicados en áreas impermeabilizadas y con diques de contención.
- Para el almacenamiento de residuos peligrosos se observará la compatibilidad de los mismos, a fin de no generar riesgos de combustión o explosión.
- Esta medida reduce el riesgo en la manipulación, embalaje, y transporte de desechos, para que cada tipo pueda ser fácilmente reconocido y manejado acorde a su grado de peligrosidad.
- Es importante realizar una evaluación de los lugares de desalojo de los desechos y una vez identificados proceder a trazar rutas, horarios y frecuencias para el transporte de los mismos. El programa previsto debe incluir, entre otras, las siguientes medidas:
 - El personal en contacto con los desechos debe estar provisto de equipo de protección personal adecuado a sus funciones.
 - Asegurar que durante el transporte de los desechos se cuente con un todo de protección.
 - Asegurar el mantenimiento apropiado de los vehículos de transporte.
 - La gestión de los desechos se realizará por empresas que cuenten con los permisos , autorizaciones por parte de entidades competentes y equipo necesario.
 - Los residuos de productos químicos deberán manipularse y transportarse conforme lo establezca la respectiva MSDS; los contenedores deberán estar debidamente rotulados identificando el tipo de producto contenido y avisos de seguridad .
 - Los desechos que por su origen, composición o tipo no puedan reciclarse o reutilizarse deberán ser depositados en un relleno sanitario autorizado por la entidad competente . Según el volumen de generación y previo a un acuerdo con la empresa recolectora los desechos pueden ser retirados en el lugar, respetando para ello las normas establecidas por la empresa en cuanto al envase recolector, días y horas indicados por la entidad encargada de su manejo.
 - El transporte y disposición final de desechos catalogados como peligrosos serán efectuados por una empresa que cuente con licencia ambiental otorgado por la entidad de control competente . Los contenedores de residuos peligrosos deberán contar con

rotulación informativa sobre el tipo de producto contenido, advertencia del peligro y otra información relevante.

- En la tabla a continuación se sugieren alternativas para el manejo de los desechos.

Tabla No. 1: Alternativas de manejo de desechos

DESECHO	ALTERNATIVA
BOTELLAS DE VIDRIO	CENTRO DE RECICLAJE
ENVASES DE METAL	CENTRO DE RECICLAJE
ENVASES DE PLÁSTICOS	CENTRO DE RECICLAJE
PLÁSTICO INDUSTRIAL	CENTRO DE RECICLAJE
TONNERS Y/O CARTUCHOS	CENTRO DE RECICLAJE

Medidas de control de la erosión

- Se controlarán los procesos erosivos en zonas de relleno realizando inspecciones continuas de los disipadores de energía, los taludes, cunetas de coronación, revisando su correcto funcionamiento.
- Después de cada lluvia fuerte y/o cuando llueva en forma prolongada, el Responsable y/o Asistente de Gestión Ambiental inspeccionará los dispositivos de control de erosión y sedimentación, tanto transitoria como permanente, para verificar posibles deficiencias, que serán corregidas en el plazo más inmediato

Control de Contaminación Atmosférica

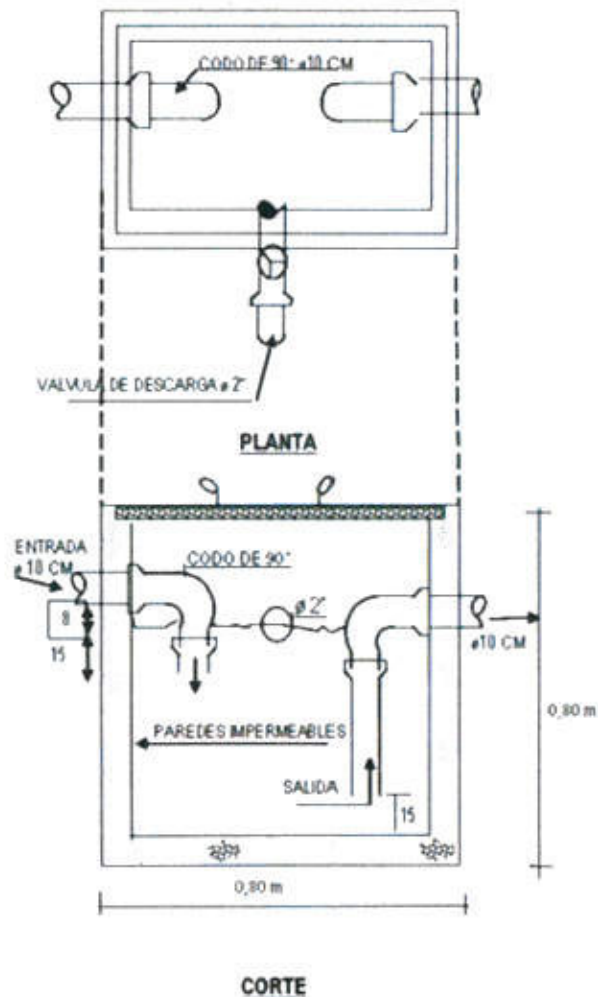
- Se controlarán las emisiones a la atmósfera empleando en las actividades de la Empresa, maquinaria nueva que cuente con un mantenimiento preventivo adecuado que asegure la buena combustión de su motor, evitando emisiones indeseadas.
- Los equipos y maquinarias recibirán mantenimiento regular y permanecerán en buenas condiciones de funcionamiento para evitar emisiones y ruido excesivos. No se modificarán las condiciones técnicas y operativas de equipos y maquinarias si como producto de dicha modificación resulta en un incremento de los niveles de ruido o emisiones atmosféricas.
- Siguiendo las normativas establecidas en el Reglamento para la Prevención y Control de la Contaminación Ambiental originado por la emisión de ruidos; en el manual operativo del reglamento para la prevención y control de la contaminación ambiental originada por la emisión de ruidos; Anexo 5, Libro VI, TULAS, se deberá evaluar la emisión de ruidos mediante la medición de los niveles de emisión de ruido del ambiente exterior.

- El área dentro de la cual se exigirá el cumplimiento de estos niveles es aquella comprendida dentro del perímetro del área del y para el caso de las viviendas y centros poblados, lo establecido en el TULAS, en el Libro VI. Anexo 5, acápite 4.1.1.4 "En las áreas rurales, los niveles de presión sonora corregidos que se obtengan de una fuente fija, medidos en el lugar donde se encuentre el receptor, no deberán superar al nivel ruido de fondo en diez decibeles A [10 dB(A)]."
- Riego de agua y/o sustancias químicas para prevención de levantamiento de polvo al transitar.

Medidas de prevención de contaminación del agua

- La Empresa tomará todas las precauciones que sean requeridas para impedir la contaminación de los cuerpos de agua. Los residuos de productos químicos, combustibles, lubricantes, pinturas, sedimentos y otros desechos, no serán descargados en cauces naturales o artificiales que desemboken en estos. Los productos químicos, combustibles, lubricantes serán almacenados por lo menos a 50 m de cualquier cuerpo de agua.
- En el caso que se vierta, descargue o derrame cualquier combustible, lubricante o producto químico que llegue o que potencialmente pueda llegar a un cuerpo de agua o al nivel feático, se tomarán medidas inmediatas para contener y recuperar lo derramado y ejecutará todas las acciones necesarias para remediar y restaurar el área afectada.
- El abastecimiento de combustible, se efectuará en forma tal que se eviten derrames de hidrocarburos u otras sustancias contaminantes.
- Se debe cuidar que las aguas superficiales no presenten contaminación, para lo cual, en los sitios donde puedan ocurrir derrames que contaminen el agua se deben ubicar trampas de grasa antes de la descarga a los drenajes.

Figura No. 2 Esquema de trampa de grasas.



- Debe prestarse especial importancia al mantenimiento del sistema natural de drenaje y el eficaz funcionamiento de los medio artificiales que se instalen o construyan con el mismo fin. Para:: lograrlo se, evitarán las acumulaciones de materiales que se instalen o construyan con el mismo fin. Para lograrlo se evitaran las acumulaciones de materaiels directamente en la cuencas de los exteros o las quebradas.
- Todas las estructuras de drenaje cunetas demas desagues debran ser limpiados, eliminando los mismos cualquier acumulacion de materiales extraños y afectando los trabajos de manteniemento necesarios que permitan la operatividad de las mismas y salvaguardar su integridad.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Medidas de corrección emergente

- La Empresa, después de la evaluación de estabilidad de taludes, y en el caso de identificarse problemas en los mismos, procederá a ejecutar la hidrosiembra de acuerdo a su factibilidad.
- Si, en el seguimiento y mantenimiento de áreas revegetadas, se identifica una mortalidad alta, se procederá a realizar siembras de restitución, siempre y cuando, las causas de la mortalidad presentada lo permitieran.
- En el caso que se identificaran afectaciones a escolleras realizadas para contención de rellenos o protección de zonas sensibles, se evaluará el daño y se lo repondrá si fuese necesario.

Monitoreo

- Se realizarán seguimiento de la contaminación del aire mediante monitoreo de ruido y gases, cuando las actividades que generen este tipo de contaminantes se estén ejecutando (
- Se realizarán seguimiento de la contaminación del agua mediante su monitoreo, cuando las actividades que generen este tipo de contaminantes se estén ejecutando (cada dos años según cronograma).

Adiestramiento y capacitación de posibles contingencias ambientales en diversas actividades

Proveer información sobre los procedimientos a seguir, para enfrentar adecuadamente posibles emergencias, durante el desarrollo de las actividades laborales en las instalaciones, para ello se ha desarrollado la orientación, capacitación y adiestramiento del personal, minimizando los impactos que puedan ocasionarse sobre el ecosistema, poniendo énfasis en los siguientes puntos:

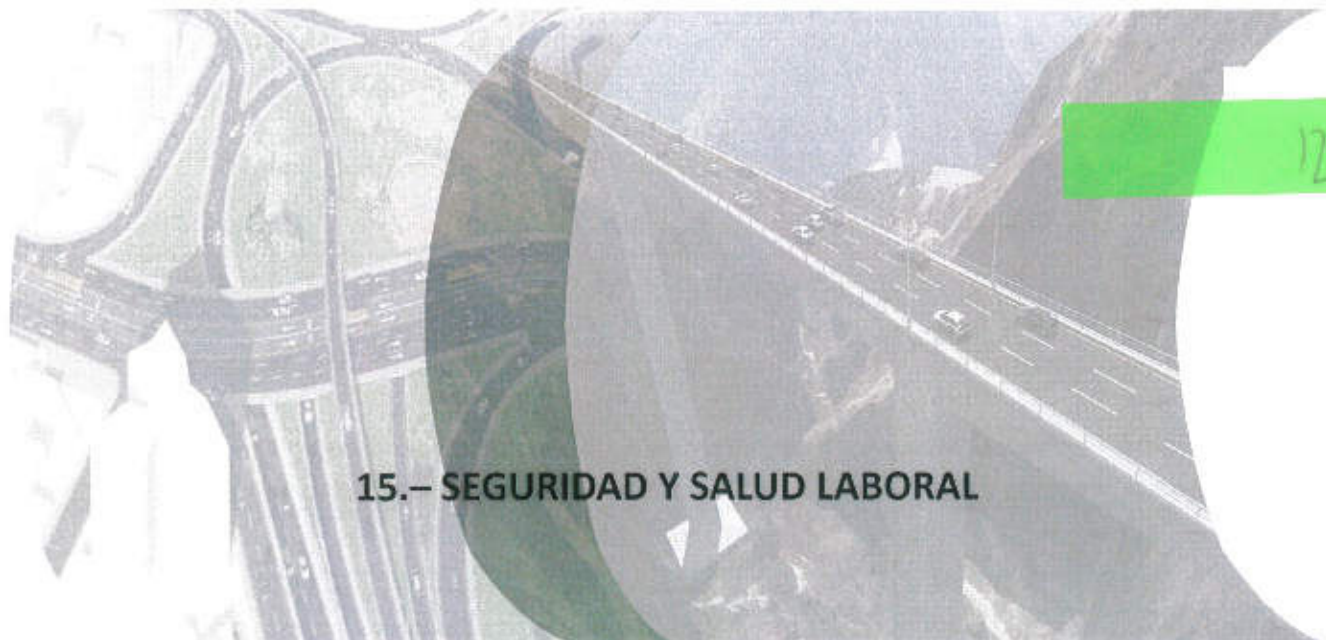
- Prevalcer y garantizar la integridad (seguridad) física de los trabajadores.
- Contar con los mecanismos y las directrices necesarias para brindar una eficiente respuesta a situaciones de emergencias ambientales durante el desarrollo de las actividades diarias.
- Mitigar las consecuencias de cualquier evento o incidente
- Para ello, se tendrá como eje transversal del proyecto la capacitación ambiental.



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



15.- SEGURIDAD Y SALUD LABORAL



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



PLAN DE SEGURIDAD Y SALUD OCUPACIONAL

1. ANTECEDENTES

La ciudad de Quito se encuentra conectada con el resto del país por medio de cuatro carreteras principales que son: la carretera noroccidental hacia los Bancos Esmeraldas, la Panamericana Norte hacia Imbabura y Carchi, la Interoceánica hacia el Oriente y la Panamericana Sur hacia Ambato, Santo Domingo y Guayaquil.

La Vía Interoceánica inicia en Quito y empieza a descender a lo largo del valle interandino, intersecando la vía Simón Bolívar hasta llegar a Cumbayá - Tumbaco - Pifo y al Oriente Ecuatoriano a través de la bifurcación de las vías Troncal de la Sierra (E35) y la Transversal Norte (E20).

Existe un tramo de la antigua vía Interoceánica, a la salida de Quito, que fue clausurado debido a deslizamientos tanto de los taludes superiores como inferiores.

El túnel Guayasamin tiene una longitud de 1340m y en su momento representó una solución parcial para el flujo de tráfico en este punto, consta tan solo de dos carriles (ida y vuelta) y en horas pico representa una vía poco eficiente, exigiendo una mayor fluidez en el tráfico vehicular diario. Por este motivo, es necesario un nuevo proyecto vial que solucione a largo plazo el tráfico vehicular en este inicio de la Vía Interoceánica.

2. OBJETIVO

Para la ejecución de dicho proyecto es necesario e indispensable velar por la seguridad y salud del personal que intervendrá en la ejecución del mismo, así como también por la seguridad de los usuarios y vecinos de áreas intervenidas; para ello se debe implementar en un sistema de gestión que permita realizar los procesos constructivos, mitigando y controlando los riesgos laborales a fin de evitar accidentes de trabajos y enfermedades profesionales.

a. OBJETIVOS ESPECÍFICO

- Desarrollar un programa de seguridad industrial y salud ocupacional, que permita alcanzar los objetivos propuestos, para lo cual es necesario establecer los sistemas de control por parte de los responsables de cada área (administrativo y operativo), acrecentando el compromiso de la alta dirección.
- Desarrollar un procedimiento de identificación de peligros, la evaluación de riesgos y control operativo de las actividades realizadas por la empresa.
- Elaborar un programa de capacitación el cual este dirigido en las actitudes conductuales de autocuidado por parte de todos los trabajadores.
- Elaborar e implementar un procedimiento adecuado de inspecciones y auditorías en forma sistemática a todos los centros y áreas de trabajo, que nos permitan indicar los hallazgos, las no conformidades, observaciones y oportunidades de mejora con el propósito de elevar nuestro compromiso en materia de seguridad industrial y salud ocupacional.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



3. POLÍTICA EMPRESARIAL DE SEGURIDAD, SALUD OCUPACIONAL Y AMBIENTE

CHINA ROAD AND BRIDGE CORPORATION, dedicada a las actividades de construcción de vías y puentes que son coordinadas a través de actividades administrativas, se compromete, a través de su más alta autoridad a cumplir la normativa legal vigente y aplicable en el campo de la seguridad y la salud en el trabajo, con el objetivo de brindar el bienestar a sus colaboradores y mitigar mediante un plan de acción de mejora continua de sus procesos y poder reducir la exposición a los factores de riesgos causantes de generar accidentes y enfermedades ocupacionales.

Para ello CHINA ROAD AND BRIDGE CORPORATION, se compromete a brindar los recursos económicos, humanos, tecnológicos, y hace un llamado a todos sus colaboradores, contratistas y clientes a que se involucren en el cumplimiento de normas de seguridad para garantizar ambientes de trabajo saludables.

4. PLANIFICACIÓN, IMPLANTACIÓN Y OPERACIÓN

El principal propósito del plan de gestión en seguridad industrial y salud ocupacional es desarrollar implementar, mantener y mejorar un sistema, de tal manera que asegure el cumplimiento de la política empresarial planteada, la cual es la principal conductora del sistema de gestión de la prevención, ya que establece la estrategia de comportamientos de la empresa.

La política establece como uno de los aspectos relevantes, el unificar los esfuerzos en la identificación de peligros, evaluación y control de los riesgos laborales que se enfrenten en los procesos, para lo cual es necesario y fundamental, que cada nivel dentro de la empresa, cumpla con las funciones y responsabilidades definidas dentro del sistema.

En general, el compromiso será asumido íntegramente por toda la organización, por la gerencia y en particular por todos los responsables de los campamentos y lugares de trabajo.

El plan de gestión concibe un programa específico de control, con un conjunto de temas, donde se proponga elaborar líneas de trabajo, que desarrollen el sistema de seguridad industrial y salud ocupacional y mejorar los resultados, a través de un proceso de mejora continua como objetivo permanente que permita incrementar la satisfacción de las partes involucradas en el desenvolvimiento de la operación.

Es importante destacar que la planificación es una actividad básica para la implantación de la política, de una manera eficaz. La planificación del sistema de gestión de la prevención, consiste en establecer en forma organizada las actuaciones que se van a llevar a cabo para alcanzar los objetivos definidos, estableciendo plazos, prioridades, recursos materiales, económicos, así como las capacidades humanas necesarias.

El programa de seguridad industrial y salud ocupacional, que se propone orienta a qué hacer, cómo, quiénes y cuándo, para obtener los resultados esperados, es desarrollando e implantando el sistema de gestión, revisando sistemática y periódicamente los elementos que lo integran, como un compromiso permanente de la alta gerencia que permita detectar los aciertos y las debilidades del plan e ir rectificando los errores que puedan afectar los procesos operativos.

Para la implementación y operación se debe organizar una estructura, responsabilidades, funciones y autoridades del personal que gestionará, desarrollará y verificará las actividades que tienen y tendrán efecto sobre los riesgos, tanto en las actividades, en los procesos y en las instalaciones de cada área,



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



procurando que los trabajos que denoten un riesgo estén definidos, documentados y comunicados a fin de facilitar todos los procesos.

5. RESPONSABILIDADES

a. Gerencia General

- La gerencia general otorgará todos los recursos y medios necesarios a fin de que las actividades de la planificación de implementación del sistema de gestión de la prevención se ejecuten.
- Asegurar el cumplimiento de la legislación nacional vigente aplicable en seguridad.

b. Directores

- Tienen la responsabilidad de impulsar todo el sistema de gestión en seguridad industrial y salud ocupacional, incorporando a todo el personal, para lo cual entregará los recursos necesarios para el correcto funcionamiento del programa.
- Dar a conocer la política empresarial de seguridad industrial y salud ocupacional a toda la organización, ejerciendo un liderazgo efectivo y motivador.
- Apoyar la implantación y puesta en marcha del sistema de gestión en seguridad industrial y salud ocupacional, entendiendo lo relevante que es incorporar estas medidas en todas las actividades y tareas que se realicen por la empresa.

c. Superintendentes y Jefes de área

- Realizar las actividades operacionales de manera segura.
- Tienen la responsabilidad de difundir y hacer cumplir la política empresarial de seguridad industrial y salud ocupacional, además de proteger los recursos de la empresa y controlar el adecuado desarrollo del plan de gestión.
- Llevar un estricto control de la siniestralidad en las actividades y tareas de la empresa, participando activamente en el proceso de investigación de incidentes y accidentes.
- Desarrollar actividades preventivas, orientadas al control de los aspectos de seguridad industrial, ambiente, higiene laboral y salud ocupacional que puedan provocar accidentes del trabajo y/o enfermedades profesionales.
- Los jefes de cada área, son los responsables que las empresas o personas externas que realicen actividades en las instalaciones y áreas de influencia cumplan rigurosamente con el plan de gestión en seguridad industrial, y salud ocupacional, así como con las normativas y procedimientos establecidos por CHINA ROAD AND BRIDGE CORPORATION.
- Los responsables de cada área deben promover el desarrollo de actividades de capacitación del personal de CHINA ROAD AND BRIDGE CORPORATION, como de sus subcontratadas, entregando los recursos y condiciones laborales óptimas para alcanzar los objetivos del plan de seguridad industrial, y salud ocupacional.
- Brindar condiciones de trabajo adecuadas a los trabajadores, cumpliendo la reglamentación en materia de condiciones ambientales y sanitarias básicas en el trabajo.

- Mantener un control estricto del medio ambiente laboral, tomando las medidas necesarias para conservar los recursos de la empresa, el cuidado del ambiente y la salud del personal.
- Cumplir y hacer que se cumplan los procedimientos administrativos y operativos en materia de seguridad industrial, ambiente y salud ocupacional.
- Participar en reuniones de trabajo, donde se analice, se evalúe y se tomen decisiones para una mejor gestión en Seguridad Industrial y Salud Ocupacional.

d. Coordinadores y Supervisores

- Vigilar que la línea operativa lleve a cabo y cumpla con los planes de acción desarrollados y establecidos.
- Participar activamente en la motivación del personal para que se cumplan las metas; cooperar con el comité y subcomités paritarios, incentivando a llevar a cabo su programa de trabajo.
- Resolver las observaciones que realicen los organismos de control nacional, referente a la normativa de seguridad industrial, y salud ocupacional.
- Comunicar oportunamente al departamento de seguridad salud y ambiente, la ocurrencia de algún accidente laboral y/o ambiental, o enfermedad profesional.
- Debe implementar un procedimiento de detección de peligros y control de riesgos laborales, orientado a identificar posibles incidentes, accidentes, así como daño al medio ambiente.
- Participar activamente en la investigación de incidentes que se produzcan en la empresa y que puedan afectar a los trabajadores, al ambiente y/o a la propiedad de la empresa.
- Controlar el cumplimiento de las actividades de seguridad industrial y salud ocupacional que deben cumplir cualquier empresa o persona subcontratada.
- Velar por el cumplimiento de todos los procedimientos relativos a la seguridad y salud del personal a su cargo corrigiendo cualquier condición y/o acción insegura que hayan sido identificadas o informados por los trabajadores.
- Controlar que las personas a su cargo utilicen los equipos de protección individual designados en cada área.
- Determinar las condiciones de riesgo y coordinar las mejoras de estas condiciones con la unidad de seguridad y salud o con su responsable.
- Instruir al personal a su cargo sobre los riesgos específicos de los distintos puestos de trabajo y las medidas de prevención a adoptar.
- Prohibir o paralizar los trabajos en los que se adviertan riesgos inminentes de accidentes, cuando no sea posible el empleo de los medios adecuados para evitarlos. Tomada tal iniciativa, la comunicarán de inmediato a su superior jerárquico, quien asumirá la responsabilidad de ya decisión que en definitiva se adopte.
- Controlar la condición, posición y operatividad de los Sistemas de seguridad y contra incendios, letreros y avisos.
- Considerar la actividad de seguridad y salud ocupacional como parte fundamental del plan de mejoramiento continuo, buscando con ello; optimizar los procesos y el incremento en la eficiencia y eficacia del trabajo.
- Llevar a cabo con el personal a su cargo la aplicación de las políticas de seguridad y salud.
- Verificar que los equipos y herramientas utilizadas para la ejecución del trabajo, se encuentren operables o reemplazarlas de ser necesario, no

permitir por ningún motivo el uso u operación de estos, si se encuentran defectuosas o presentan daño.

- Proporcionar a los trabajadores nuevos las instrucciones de trabajo y las medidas de seguridad correspondientes y de igual forma, al asignarse nuevas actividades.
- Garantizar que los trabajadores de su área, cumplan con todas las medidas y normas de prevención de los riesgos laborales, presentes en la empresa.
- Cuidar que los lugares de trabajo se mantengan seguros y saludables.
- Promover la participación del personal a su cargo, en todo evento programado y relacionado con seguridad y salud ocupacional, especialmente en la aplicación de prácticas de los planes de emergencia y contingencia.
- Llevar a cabo con el personal a su cargo el desarrollo de charlas informales en seguridad y salud.
- Reportar al responsable de seguridad y salud ocupacional en forma inmediata, condiciones, actos subestándar y tomar acciones correctivas inmediatas de requerirse.
- Responder por la buena ejecución y fiel cumplimiento de las normas generales y específicas o procedimientos de seguridad y Salud del trabajo en las respectivas áreas o sitios de trabajo y reportar sobre incidentes y accidentes;
- Verificar constantemente que tales normas sean conocidas y correctamente aplicadas por el personal a su cargo;
- Concienciar e instruir al personal que va a comenzar un trabajo con charlas de inducción sobre las labores a realizarse, y los peligros que puedan existir en la ejecución de cada actividad, tanto en zonas de operación, como frentes de trabajo, equipos, maquinarias, instalaciones y herramientas.
- Impedir el uso de herramientas, materiales, implementos o maquinarias que sean impropios, peligrosos, inseguros o deteriorados;

e. Comité Paritario de Seguridad Industrial y Salud Ocupacional

- Promover la observancia de las disposiciones sobre prevención de riesgos profesionales y/o ambientales.
- Analizar y opinar sobre el reglamento de seguridad y salud ocupacional de la empresa a tramitarse en el Ministerio del Trabajo. Así mismo tendrá facultad para, de oficio o a petición de parte, sugerir o proponer reformas al reglamento interno de seguridad y salud ocupacional.
- Realizar inspecciones generales de edificios, instalaciones y equipos de centros de trabajo, recomendando la adopción de las medidas preventivas necesarias.
- Instruir y vigilar a los trabajadores la correcta utilización de los elementos de protección personal y colectiva.
- Cooperar y realizar campañas de prevención de riesgos laborales y ambientales, procurando que todos los trabajadores reciban una formación adecuada en dicha materia.
- Cumplir y colaborar en la difusión de las normas de seguridad industrial, ambiente, higiene laboral y salud ocupacional.
- Analizar las condiciones de trabajo en la empresa y solicitar a sus directivos la adopción de medidas de seguridad industrial y salud ocupacional.
- Vigilar el cumplimiento de lo estipulado en el reglamento interno de seguridad y salud ocupacional.
- Solicitar asesoramiento y capacitación a instituciones reconocidas por la



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



autoridad competente, si se requiere.

- Conocer los resultados de las investigaciones que realicen organismos especializados, sobre los accidentes de trabajo y enfermedades profesionales, que se produzcan en la empresa.
- Estudiar y recomendar las medidas de seguridad industrial y salud ocupacional tendientes a prevenir los riesgos en los procesos que se realizan.
- Elaborar el plan anual de trabajo.

f. Departamento de seguridad, salud y ambiente

- Efectuar el reconocimiento y evaluación de riesgos laborales y ambientales.
- Control de los riesgos laborales.
- Investigar conjuntamente con el servicio médico las causas de accidentes y enfermedades que se presenten en la empresa, y obligará a la adopción de las medidas colectivas que fueren necesarias para eliminar o aminorar sus consecuencias.
- Mantener registros de la accidentalidad, ausentismo y evaluación estadística de los resultados.
- Reportar a Riesgos del Trabajo del IESS la estadística de accidentalidad.
- Reportar al Departamento de Riesgos del Trabajo del IESS, los accidentes o enfermedades que puedan ocasionar incapacidad de trabajo o muerte.
- Asesorar en los aspectos preventivos relacionados con el trabajo y otros temas relacionados a seguridad industrial, ambiente, higiene laboral y salud ocupacional.
- Colaborar en el cumplimiento de la normativa ambiental y de prevención de riesgos que efectúen los organismos de control y comunicará los accidentes y enfermedades ocupacionales, que se produzcan al IESS, al Comité Interinstitucional y al Comité de Seguridad e Higiene del Trabajo del Ministerio del Trabajo.
- Capacitar al personal en materia de seguridad industrial, ambiente, higiene laboral y salud ocupacional (riesgos en el trabajo, prácticas seguras, manejo de hidrocarburos, planes de emergencias, simulacros de evacuación, etc.)
- Asesorará, instruirá e impulsará a los trabajadores de la empresa en el correcto aprendizaje de sus labores específicas, mediante la aplicación adecuada de manuales, catálogos, normas, etc., que para el efecto se utilice.
- Mantener actualizado los planes de emergencias y mapas de riesgos.
- Vigilar el cumplimiento tanto por parte de la empresa como de los trabajadores de las leyes de seguridad industrial, ambiente, higiene laboral y salud ocupacional, reglamento interno de seguridad, medidas preventivas, así como la aplicación de las acciones correctivas correspondientes.
- Asesorar y ejecutar trabajos de señalización en la empresa, de acuerdo a normas nacionales e internacionales.
- Realizar inspecciones de seguridad industrial, ambiente, higiene laboral y salud ocupacional.
- Intervenir en los procesos de selección para la adquisición de equipos, herramientas, vestuarios de trabajo y demás.
- Velar por el buen uso de los equipos de protección personal y autorizar la reposición del mismo en caso de daño o desgaste normal.
- Coordinar con el personal técnico de mantenimiento, la revisión de las herramientas de trabajo (las de uso diario), así como equipos de elevación y



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



- transporte de carga pesada (montacargas, carretillas, cargadoras, etc.)
- Sugerir la adopción de medidas correctivas y/o preventivas.
- Revisar y sugerir las reformas que fueren necesarias.

g. Servicio Médico

- Prevención y fomento de la salud de los trabajadores.
- Análisis y clasificación de puestos de trabajo, para seleccionar el personal, en base a la valoración de los requerimientos psicofisiológicos de las tareas a desempeñarse, y en relación con los riesgos de accidentes del trabajo y enfermedades profesionales.
- Promoción y vigilancia del adecuado mantenimiento de los servicios sanitarios generales, tales como: comedores, servicios higiénicos, suministros de agua potable y otros en los sitios de trabajo.
- Apertura de la ficha médica ocupacional al momento de ingreso de los trabajadores a la empresa.
- Examen médico preventivo de seguimiento y vigilancia de la salud de todos los trabajadores.
- Examen especial en los casos de trabajadores cuyas labores involucren alto riesgo para la salud, el que se realizará semestralmente o a intervalos más cortos según la necesidad.
- Atención médico – quirúrgica de nivel primario y de urgencia.
- Colaborar con el departamento de seguridad de la empresa en la investigación de los accidentes de trabajo.
- Investigar las enfermedades ocupacionales que se puedan presentar en la empresa.
- Organizar programas de educación para la salud en base a conferencias, charlas, concursos, recreaciones, y actividades deportivas destinadas a mantener la formación preventiva de la salud y seguridad mediante cualquier recurso educativo y publicitario.
- Elaborar la estadística de ausentismo al trabajo, por motivos de enfermedad común, profesional, accidentes u otros motivos y sugerir las medidas aconsejadas para evitar estos riesgos;

El Plan de Vigilancia de la Salud comprende:

- Identificación y evaluación de los factores de riesgos laborales presentes en los diferentes procesos productivos.
- Estudio de los factores de riesgo causantes de enfermedad: laboral, poblacional y comunes.
- Estudios de indicadores biológicos, de cribado y selección y aplicación de pruebas que reúnan condiciones de validez fiabilidad, factibilidad y buena relación costo – efectividad.
- El Plan de Vigilancia se aplicará a todos los trabajadores de CHINA ROAD AND BRIDGE CORPORATION a través de los servicios médicos de la empresa, independientemente de su modalidad de contrato.
- Precautelar la salud integral de los trabajadores de CHINA ROAD AND BRIDGE CORPORATION, a través de la evaluación y control de los diferentes factores de riesgo existentes en el ambiente laboral.
- Identificar trabajadores con mayor susceptibilidad.

- Identificar trabajadores vulnerables: embarazadas, edades extremas, discapacitados y con enfermedades catastróficas.
- Seguimiento y control del estado de salud de los trabajadores.
- Aportar datos para la evaluación ambiental.
- Evaluar la eficacia de las acciones preventivas.
- Intervenir en los planes de promoción y fomento de la salud.

h. Personal en general de la empresa

- Mantendrá estrecha relación con el departamento de seguridad, salud y ambiente de la empresa para lograr la prevención más completa de los riesgos ambientales y ocupacionales.
- Fomentará una cultura de prevención de la salud en los trabajadores a fin de evitar daños que pudieran ocurrir por los riesgos comunes y específicos de las actividades que desempeñan.
- Asumir una conducta de autocuidado personal permanente, ayudando a la detección de peligros y de control de los riesgos en las instalaciones de la empresa.
- Cumplir los procedimientos, estándares de operación y cumplir con las instrucciones impartidas por las jefaturas.
- Utilizar en todo momento y de acuerdo a la tarea realizada, los elementos de protección individual que se le han asignado.
- Denunciar inmediatamente la ocurrencia de un accidente del trabajo y/o ambiental, y/o enfermedad profesional a su jefe directo, responsable o al Comité Paritario o al Departamento de Seguridad, Salud y Ambiente.
- Dar a conocer al responsable de cada área, la existencia de condiciones de peligro existentes en el área de trabajo, que puedan provocar lesiones a las personas, contaminación ambiental, pérdidas o daños a la propiedad.
- Participar activamente en los comités paritarios de seguridad y salud ocupacional.
- Participar en las actividades de capacitación que se desarrollen en cualquier momento por parte de la empresa.
- Cooperar y comprometerse activamente con la prevención de los riesgos ambientales y/o laborales, acatando y respaldando las recomendaciones de las jefaturas, el comité paritario y el departamento de seguridad, salud y ambiente de CHINA ROAD AND BRIDGE CORPORATION.

6. SISTEMA DE GESTIÓN DE LA PREVENCIÓN

Se establece la organización donde se ejecuten actividades, procesos y procedimientos para la implementación del Sistema de Gestión de la Prevención delimitando responsables y funciones específicas, así se detallan los elementos y sub-elementos del sistema.

Elementos y sub elementos del Sistema de Gestión de Seguridad Industrial y Salud en el Trabajo:

a. Gestión Administrativa

- Política.
- Planificación.
- Organización.

- Integración – implantación.
- Verificaciones / auditorías interna de cumplimiento de estándares e índices de eficacia del plan de gestión.
- Control de las desviaciones del plan de gestión.
- Mejoramiento continuo.
- Información estadística.

b. Gestión Técnica

- Identificación de los factores de riesgo.
- Medición de los factores de riesgo.
- Evaluación de los factores de riesgo.
- Control operativo integral.
- Vigilancia ambiental y de la salud.

c. Gestión del Talento Humano

- Selección de los trabajadores.
- Información interna y externa.
- Comunicación interna y externa.
- Capacitación.
- Adiestramiento.
- Incentivo, estímulo y motivación de los trabajadores.

d. Procedimientos y programas operativos básicos

- Investigación de incidentes, accidentes y enfermedades profesionales.
- Vigilancia de la salud de los trabajadores (vigilancia epidemiológica).
- Planes de emergencia en respuesta a factores de riesgo de accidentes graves.
- Plan de contingencia.
- Auditorías internas.
- Inspecciones de seguridad y salud.
- Equipos de protección personal individual y ropa de trabajo.
- Mantenimiento predictivo, preventivo y correctivo.

7. PLAN ESTRATÉGICO DEL CONTROL DE RIESGOS LABORALES

a. Liderazgo y Compromiso Directivo

Esta sección del plan comprende puntos importantes del sistema de gestión de la prevención:

- Plan estratégico de seguridad industrial y salud ocupacional.
- Política integral de seguridad industrial y salud ocupacional.
- Programa general de seguridad industrial y salud ocupacional.
- Revisión del programa y sus avances por parte de la más alta autoridad de la organización.

Lo más importante es consolidar el liderazgo de la alta gerencia de la empresa, motivando y orientando a todos sus colaboradores y trabajadores en general, la



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



búsqueda del cumplimiento de los objetivos del Plan.

El liderazgo de alta gerencia se establece a través de la unidad de propósitos y de la orientación que dan a la organización en materia de Seguridad Industrial y Salud Ocupacional, creando y manteniendo un ambiente interno adecuado para que el personal se involucre y comprometa totalmente con el logro de los objetivos de la organización, para lo cual es primordial la participación de todo el personal.

La manera de hacer evidente el liderazgo ejercido por las jefaturas a los distintos niveles de organización, es, por una parte, delimitando correctamente el rol que juega el Departamento de Seguridad, Salud y Ambiente, como ente asesor de la línea de mando y destacando por lo tanto, el papel de la línea operativa, es decir, constatando que son los responsables o jefes de cada área los primeros y principales responsables del cumplimiento de la política, objetivos y desafíos en materia de Seguridad Industrial y Salud Ocupacional en conjunto con sus colaboradores directos.

La alta gerencia deberá difundir la política, a través de los medios de difusión interna, motivar positivamente al personal a través de una comunicación escrita, reforzando las actitudes preventivas y proactivas, felicitando y destacando el desempeño correcto del personal.

La alta gerencia deberá entregar los recursos necesarios para el funcionamiento del programa específico.

b. Identificación sistemática de los riesgos

En esta sección se desarrollara un conjunto de planes, los cuales se orientan fundamentalmente a detectar las no conformidades, observaciones, oportunidades de mejora, así como las fortalezas y esfuerzos que se realicen.

La detección sistemática de riesgos se orienta fundamentalmente a controlar las condiciones operacionales existentes en el ambiente laboral, a realizar un análisis y seguimiento de los incidentes ocurridos que puedan provocar lesiones a personas, ambientales y a la propiedad privada, así como verificar si se cumplen las normas, procedimientos de operación y aplicación de los instructivos internos.

Esta sección parte del plan en la que, deben ser desarrollados por los Jefes, Coordinadores, Supervisores y responsables de cada Área así:

- Inspección a las condiciones físicas y de funcionamiento operacional de las áreas
- Condiciones físicas de las instalaciones de la empresa
- Investigación y análisis de incidentes: personales, ambientales y daño a las instalaciones:
- Observación del desempeño en tareas críticas.
- Control de siniestralidad de la empresa.

i. Las inspecciones a las condiciones físicas y de funcionamiento operacional:



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Se orientan a detectar cualquier desviación de los procedimientos, normas, instructivos, prácticas, desempeño, que puede llevar directa o indirectamente a una lesión, enfermedad, a un daño a las instalaciones, al ambiente o a una combinación de éstos, es lo que se llama una no conformidad, la cual podrá tener distintos grados.

Debido a una falta o falla de control administrativo se puede variar las condiciones existentes en los equipos, materiales, herramientas, maquinarias o entorno laboral e incorporar riesgos a los procesos operativos, pudiendo degradar la eficiencia de la empresa. Para reconocer estos factores que inciden en los resultados operacionales es que nos proponemos llevar a cabo las inspecciones planeadas, las cuales se realizarán en formas sistemáticas y permanentes y, no planeadas las que se orientan a detectar lo que resalta en el recorrido.

Las inspecciones deben considerar requisitos de calidad, así como de registro, reporte y seguimiento que se aplicarán y serán calendarizadas.

Las inspecciones deben apuntar a las condiciones subestándares existentes en las instalaciones y a los Items críticos (equipos, maquinarias, herramientas, tareas críticas específicas).

ii. **Condiciones de las instalaciones:**

Se analizarán las condiciones de las instalaciones existentes al momento de la inspección, supervisión o auditoría. Esto incluye evaluar por parte del inspector/auditor las superficies de trabajo, las instalaciones eléctricas, orden, aseo, acopio y retiro de materiales, equipos, maquinarias, herramientas, etc.

c. **La investigación y análisis de incidentes y accidentes.**

Se llevan a cabo, ya que existe una evidencia concreta de falta o falla en el control de los riesgos por parte de la administración de la obra. Cada vez que ocurre un incidente, significa que hay uno o varios problemas que dieron origen a la ocurrencia de éste.

Si no se lleva a cabo una investigación y análisis a fondo de los incidentes, de las pérdidas involucradas y las causas que lo provocaron, la empresa no tendrá un conocimiento cabal de las situaciones que afectan los resultados de la empresa y degradan su eficiencia operativa.

La investigación de incidentes es una actividad operativa, la cual aplica una metodología de recolección, análisis, evaluación de información, de hechos, causas, consecuencias y solución de problemas.

Para CHINA ROAD AND BRIDGE CORPORATION, la investigación de incidentes significa que debe evaluar los incidentes con daño a las personas, ambiental y/o a la propiedad privada.

d. **Formación del personal**



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Otro punto importante y fundamental del presente plan es lograr que el personal desarrolle conductas de autocuidado personal, a través de una serie de herramientas y técnicas como cursos, charlas, talleres, videos, etc., que permitan lograr la participación activa de los trabajadores.

Comprende los siguientes planes:

- Capacitación interna y externa.
- Entrenamiento del personal.
- Comunicaciones grupales.
- Incentivos y promoción general de la seguridad industrial y salud ocupacional.

La formación del personal en CHINA ROAD AND BRIDGE CORPORATION, constituye un punto de primera importancia para nuestra empresa. La educación, instrucción y entrenamiento del personal es una herramienta de trabajo primordial para enfrentar los peligros y los riesgos, de ahí la importancia que todo el personal participe y se incorpore activamente en todas las acciones que se realicen en forma organizada, participativa y positiva.

i. Capacitación interna y externa

La capacitación en temas de Seguridad Industrial y Salud Ocupacional estara orientado a todos los niveles de la empresa (gerencia, jefaturas, supervisores, personal operativo, etc.), destacando la periodicidad y duración de los mismos.

ii. El entrenamiento del personal

Se realizará a través de capacitación interna impartida por el Departamento de Seguridad, Salud y Ambiente de CHINA ROAD AND BRIDGE CORPORATION, y externa a través de organismos o instituciones especializadas en los temas específicas a los cuales se enfoca el plan de capacitación, cuyo propósito fundamental es entregar las herramientas y conocimientos necesarios que permitan cumplir con la política y objetivo de la organización.

iii. Las comunicaciones grupales

Se realizarán a través de la gestión que lleven a cabo los jefes directos, coordinadores o supervisores, donde es fundamental generar una relación de comunicación clara, transparente, persuasiva y directa, pero eminentemente de calidad. Se debe destacar el papel del autocuidado en este tipo de actividades.

iv. Incentivos y promoción general de la seguridad industrial, ambiente, higiene laboral y salud ocupacional

En las áreas de la empresa, se llevará a cabo actividades de difusión permanente y sistemáticas, a través de correos electrónicos, murales, pizarras informativas, afiches que expresen temas referentes a la prevención de riesgos laborales, en la fase de explotación. El sistema de incentivos, significa motivar



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



y reconocer las conductas de auto cuidado y cumplimiento de nuestra reglamentación, aprobado por la alta Gerencia.

e. Gestión operativa de los riesgos

Este apartado dentro del Plan General de Gestión involucra un conjunto de Planes específicos de primera importancia para la empresa, en la que se especifica la definición de procedimientos y metodologías para la identificación, evaluación y medición de los riesgos, cumplimiento de los requisitos legales, control de emergencia operacional, medios de protección personal y colectiva de los trabajadores.

Los planes que forman parte del control operacional son:

- Cumplimiento legal, por parte de la empresa.
- Protección personal de los trabajadores.
- Control del personal externo.
- Análisis de tareas, procedimientos, normas de operación e instructivos técnicos.
- Control de salud ocupacional.
- Control de emergencias operacionales.
- Protección del medio ambiente.

f. Cumplimiento legal por parte de la empresa

Comprende a aquellas actividades que están orientadas a mantener el estricto cumplimiento de las leyes, normas y reglamentos vigentes en Ecuador referente a Seguridad e Higiene, Salud Ocupacional y Medio Ambiente entre los principales cuerpos legales, sin perjuicio de otros existentes o suscritos internacionalmente por el Ecuador podemos citar las siguientes:

- Constitución Política de la República del Ecuador.
- Convenios Internacionales ratificados por el país.
- Resolución 584 C.A.N., Instrumento Andino de Seguridad y Salud.
- Resolución 957 C.A.N., Reglamento del Instrumento Andino de Seguridad y Salud.
- Código de Trabajo del Ecuador.
- Ley de Tránsito del Ecuador.
- Reglamento de Seguridad para la Construcción y Obras Públicas (Acuerdo Ministerial 011).
- Reglamento para el funcionamiento de los Servicios Médicos de Empresas (Acuerdo Ministerial 1404).
- Reglamento de Seguridad y Salud de los Trabajadores y Mejoramiento del Medio Ambiente de Trabajo (Decreto Ejecutivo 2393).
- Reglamento para el Sistema de Auditoría de Riesgos del Trabajo "SART", Resolución CD 333.
- Reglamento del Seguro General de Riesgos del Trabajo IESS, Resolución CD. 390.
- Acuerdos Ministeriales y otras disposiciones específicas del IESS.
- Normas INEN.
- Procedimientos de análisis de Trabajo Seguro y Permisos de Trabajo en CRBC.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



i. Departamento o unidad de prevención de riesgos laborales:

- Organización y planificación de programas y planes de seguridad industrial, ambiente, higiene laboral y salud ocupacional en la empresa.
- Asesorar a la empresa en materia de Seguridad, Salud y Ambiente.

ii. Comité paritario de higiene y seguridad:

- Conformación y funcionamiento del comité de acuerdo al DE. 2393. Reglamento de seguridad y salud de los trabajadores y el medio ambiente del trabajo.
- Programa básico de actividades, con objetivos, plazos, acciones específicas, responsables y mecanismos de evaluación: Se elaborará por el departamento de seguridad industrial, ambiente, higiene laboral y salud ocupacional, el programa para los comités, el cual contempla: organización y funcionamiento; control de riesgos; promoción de la salud ocupacional; protección de los trabajadores; compromiso de contratistas y subcontratistas; evaluación.

iii. Reglamento interno de seguridad y salud ocupacional:

Actualizar el reglamento de acuerdo a los requerimientos establecidos por los entes de seguimiento.

- Publicarlo en todos los centros y áreas de trabajo, carteles informativos.
- Realizar la entrega y el correspondiente registro a cada uno de los trabajadores.
- Información e instrucción sobre los contenidos del reglamento interno de seguridad y salud ocupacional al personal de la empresa.

iv. De los trabajadores:

- Existencia de contrato de trabajo y afiliación desde el primer día.
- Conocimiento del Reglamento Interno de Seguridad y Salud Ocupacional.
- Registro de Inducción al trabajador.
- Registro de entrega de elementos de protección individual.
- Registro de Capacitación General y específica a su actividad laboral.

g. La protección personal de los trabajadores de CHINA ROAD AND BRIDGE CORPORATION

Se elaborará un inventario actualizado de los peligros existentes en los procesos productivos y que se consideran críticos para la seguridad del proceso. Esto implicará establecer un sistema para: el control, selección, certificación, adquisición, uso y reposición de los equipos destinados a dar protección personal a los trabajadores expuestos a riesgos, ya sea ante eventuales accidentes del trabajo o enfermedades



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



profesionales.

Los elementos de protección individual forman parte de los equipos o recursos necesarios que el trabajador requiere para llevar a cabo su labor, por lo tanto, es fundamental la entrega, mantenimiento y recambio de los mismos de acuerdo al uso y condiciones laborales.

h. Procedimientos y normas de operación e instructivos técnicos

Se deberá llevar a cabo un inventario de tareas críticas, considerando los equipos, maquinarias y herramientas involucradas en el proceso operativo de la fase de explotación.

Del resultado del inventario de riesgos, se deberá llevar a cabo un análisis de cuales requieren la elaboración de un procedimiento o un instructivo técnico según corresponda.

En primer término se elaborará un procedimiento para la identificación de los peligros existentes y luego para la evaluación de los riesgos, lo que dará paso al análisis de tareas para valorar la criticidad de las acciones.

El grado de criticidad dependerá del valor que se espera de la pérdida, lesión, daño a la propiedad, al ambiente, etc., y fundamentalmente a la experiencia, criterio o juicio profesional.

i. Control de salud ocupacional

"La salud ocupacional tiene como finalidad fomentar y mantener el bienestar físico, mental y social de los trabajadores en cualquiera que sea su profesión, involucrando actividades encaminadas a la prevención, promoción, educación y recuperación de la salud de los trabajadores, protegiéndoles contra los riesgos derivados de la actividad laboral, de acuerdo a sus condiciones psicofisiológicas y manteniéndolos en aptitud de trabajar". (OIT/OMS)

Para la empresa es de fundamental importancia la prevención y control de los riesgos para la salud de los trabajadores. Las enfermedades profesionales y los accidentes relacionados con el trabajo se constituyen en un factor negativo de graves implicaciones en el entorno laboral, familiar y social, así como también afectan el normal desenvolvimiento de las actividades empresariales, relacionadas a productividad e imagen.

Considerando lo anteriormente expuesto, se desarrollará e implementará acciones tendientes a brindar al trabajador un ambiente laboral seguro y saludable que mejore los niveles de eficiencia de la empresa, para lo cual se aplicará un programa de salud ocupacional.

El objetivo general del Programa de Salud Ocupacional es brindar un ambiente de trabajo seguro y saludable, a través de la identificación y evaluación de los peligros, el control de los riesgos ocupacionales, así como también la prevención y reducción de accidentes y enfermedades ocupacionales.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



El Programa de Salud Ocupacional, procura ser un instrumento eficaz para el mantenimiento de un estado integral de salud del empleado y de los contratistas de CHINA ROAD AND BRIDGE CORPORATION, controlando los riesgos relativos a su ambiente de trabajo.

Los factores de riesgo identificados, sobre los que se pretende actuar, corresponden a las siguientes categorías:

Químicos: Aquellos riesgos para la salud que resultan de concentraciones excesivas de sustancias químicas, como partículas aéreas de gases, vapores, aerosoles, humos, polvos, nieblas, líquidos, fibras y sólidos que pueden ser inhalados, ingeridos o absorbidos a través de piel, mucosas, tracto digestivo y respiratorio.

Físicos: Aquellos relacionados a niveles excesivos de ruido, vibración, iluminación, temperaturas y presiones extremas, radiación ionizante y no ionizante.

Biológicos: Aquellos resultantes de residuos orgánicos humanos y animales, plantas y microorganismos que interactúan con el individuo y pueden causar lesiones o enfermedades. Adicionalmente, aquellos relacionados con la mala calidad de las fuentes o suministros de agua para consumo humano, inadecuados manejo y suministro de alimentos, mala disposición de aguas negras, relacionados al orden y limpieza de las áreas de trabajo y relativos a deficientes instalaciones sanitarias y de alojamiento.

Ergonómicos: Aquellos que son producto de la interrelación entre el trabajador y su estación de trabajo, máquinas o su ambiente de trabajo. Los factores biomecánicos, fisiológicos inmersos en la actividad laboral de los empleados pueden generar daños físicos o enfermedades, debido a movimientos repetitivos, como por ejemplo: lesiones de la espalda, otros problemas musculares – articulares, y esqueléticos.

Reconocimientos médicos ocupacionales

Al incorporarse a CHINA ROAD AND BRIDGE CORPORATION, el trabajador tendrá que someterse a evaluaciones médicas, exámenes de laboratorio y gabinete.

No.	DESCRIPCIÓN DE LAS TAREAS
1.	Historia clínica ocupacional corporativa Levantar la historia clínica ocupacional del personal.
2.	Realizar reconocimientos médicos preocupacionales Para conocer las condiciones de salud del trabajador en relación con las actividades del puesto de trabajo que ocupará y los factores de riesgo a los que estará expuesto, previo al ingreso al trabajo.

3.	Realizar reconocimientos médicos iniciales Permitirán conocer el estado de salud del trabajador antes de iniciar sus labores y en razón de esto asignarle tareas en función de sus aptitudes y actitudes.
4.	Realizar reconocimientos médicos periódicos Serán efectuados a intervalos regulares con el fin de realizar un seguimiento de los efectos sobre la salud relacionados con las condiciones de trabajo, detectar enfermedades precozmente y realizar una intervención eficaz.
5.	Realizar reconocimientos médicos especiales Realizados a grupos vulnerables, en especial a mujeres embarazadas, grupos de edad extrema (niños, ancianos), discapacitados y a trabajadores expuestos a riesgos específicos
6.	Realizar reconocimiento médico de egreso Se realiza previo a la salida del trabajador para documentar su estado de salud
7.	Realizar examen de reingreso Se realiza cuando el trabajador reingresa a la compañía luego de un periodo prolongado de ausencia, cualquiera sea la causa

Resultados de vigilancia de la salud:

- Diagnóstico del estado de salud del colectivo laboral.
- Medidas preventivas para evitar las enfermedades ocupacionales.
- Tratamiento médico de casos identificados
- Identificación de enfermedades relacionadas con el trabajo.
- Identificación de los riesgos laborales.
- Diseño preventivo de puestos de trabajo.

j. **Control de emergencias operacionales**

Se elaborará un plan general de emergencia para las distintas obras y oficina central. El plan estará concebido para actuar en caso de emergencias y contingencias operativas a fin de que el personal desarrolle conductas de auto cuidado, a través de una serie de técnicas y así mitigar o reducir las consecuencias en una emergencia en respuesta a factores de riesgo ocupacional, tecnológico, natural, medio ambiental, y social de accidentes graves como incendios, explosiones, derrames, terremotos, erupciones, inundaciones, deslaves y todo lo aplicable u susceptible de originarse en las operaciones normales de la empresa CHINA ROAD AND BRIDGE CORPORATION.

Se deberá organizar y estructurar un Comité de Emergencias, el cual tenga claramente definidas sus responsabilidades y autoridad.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



El comité deberá poseer la preparación, instrucción y entrenamiento necesario y suficiente para responder oportunamente a las emergencias que se presenten.

La empresa deberá establecer y mantener procedimientos para atender incidentes y situaciones de emergencia, así como para reducir sus consecuencias.

k. Auditorias y Acciones correctivas

Monitoreará y medirá periódicamente el desempeño en Seguridad Industrial y Salud Ocupacional.

Se establecerá y mantendrá un programa y procedimientos para las auditorias periódicas del Sistema de Gestión en Seguridad Industrial y Salud Ocupacional.

La auditoria se realizará sistemáticamente y documentada para obtener evidencias de la gestión realizada la misma que será evaluada de manera objetiva con el fin de determinar el cumplimiento e implementación del sistema de gestión.

Establecer verificaciones de cumplimiento técnico legal del Sistema de Gestión de Seguridad y Salud del Trabajo de la empresa CHINA ROAD AND BRIDGE CORPORATION.

Verificar la integración e implantación del Sistema de Gestión de Seguridad y Salud en el Trabajo en el sistema general de la empresa.

l. Sistemas de información

El sistema de información, normalizará los documentos de registro, así como los mecanismos o procedimientos de información que existen en CHINA ROAD AND BRIDGE CORPORATION, en materia de Seguridad Industrial y Salud Ocupacional.

Esto permitirá contar con los respaldos de las acciones realizadas para fines de control, como de evaluación y auditoria del programa.

- Registros de incidentes y fechas de mantenimiento y revisión.
- Registros de capacitación e información de los riesgos presentes.
- Registros de la entrega de equipos de protección personal y ropa de trabajo.
- Y otros registros que se incorporen de acuerdo a la necesidad o requerimientos operacionales de la fase de la explotación.

8. INGRESO Y SALIDA DE VEHÍCULOS Y MAQUINARIA PESADA

Para precautelar la seguridad física de los trabajadores, de los transportistas, peatones y usuarios que diariamente transitan por la vía; se ubicará en sitios estratégicos señalización vertical y horizontal que alerte del riesgo.

9. IMPLEMENTACIÓN DE SEÑALIZACIÓN INTERIOR, DELIMITACIÓN Y SECTORIZACIÓN DE LAS ÁREAS DE LA OPERACIÓN DE LA FASE DE EXPLOTACIÓN



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



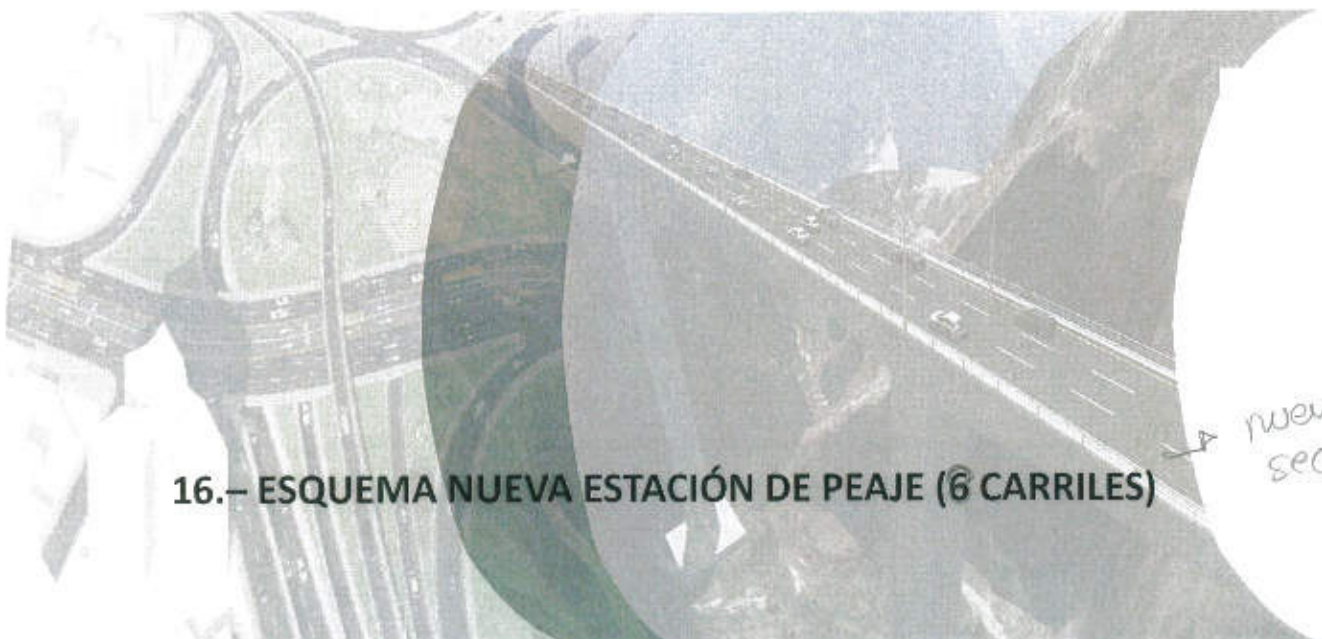
Se procederá a identificar claramente a través de la señalización necesaria a todas las áreas de trabajo, como; ubicación de servicios básicos y estacionamientos dentro de todo el espacio de las áreas operativas.



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



16.- ESQUEMA NUEVA ESTACIÓN DE PEAJE (6 CARRILES)



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



17.- ANALISIS DE ESTACIÓN DE PEAJE

13

ESTACIÓN DE PEAJE MIRAVALLE

1. INFRAESTRUCTURA Y DISEÑO PARA RECAUDO

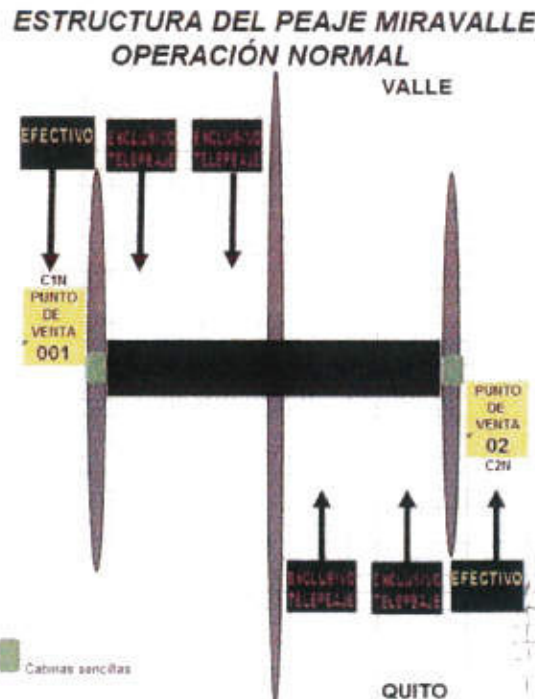
La estación de peaje está dimensionada para operar con 8 carriles: 2 carriles externos (1 en cada sentido) para pago manual (efectivo) y 6 carriles internos (3 por sentido) equipados con telepeaje (Free Flow).

Durante la operación normal existirán 4 carriles por sentido, de los cuales 1 operará bajo la modalidad Manual, es decir se podrán aceptar solo pagos manuales por la presencia de cobrador y 3 vías free flow exclusivas para los usuarios que adquieran el servicio de Telepeaje.

PEAJE	TOTAL CARRILES	CARRILES		VÍAS EXCLUSIVAS
		ESTE - OESTE	OESTE - ESTE	
Miravalle	8	4	4	6

El diseño del peaje incluye una oficina de Auditoría, una oficina de Supervisión de Cajas, una oficina de Atención al Cliente, una bóveda donde se ubica la caja fuerte, un área de acceso del blindado para entregar y recibir valores, un área para los equipos confinados, una oficina con bodega para el Técnico de Mantenimiento y una cafetería para el personal de Recaudo.

2. GRÁFICO DE CARRILES - Referencial



3. PERSONAL DE RECAUDO

La estación de peaje contará con personal de recaudo que labora en turnos rotativos y cubriendo las labores de recaudo durante las 24 horas del día, la cantidad necesaria es la siguiente:

PERSONAL	N° PERSONAS	PERMANENCIA
Auditor	2	9 horas
Supervisor de Recaudo	4	8 horas
Atención al Cliente	2	10 horas
Cajero	11	8 horas
Auxiliar de Recaudo	2	8 horas
Técnico de Mantenimiento	2	8 horas

Con esta planta de personal de Cajeros se mantendrán 3 para los turnos de la mañana y tarde, en los turnos de la noche se laborará con 2 cajeros. El personal considerado incluye personal de soporte para cubrir vacaciones, ausencias por enfermedades, embarazos, etc.

4. SERVICIOS AUXILIARES DE LA CONCESIÓN

La Concesionaria brindará adicionalmente a los usuarios de la vía los siguientes servicios auxiliares:

- Servicio Mecánico
- Servicio de Comunicación
- Servicio de Vigilancia

5. INFRAESTRUCTURA PARA SERVICIOS AUXILIARES

Para la prestación de los servicios auxiliares, el peaje contará con la siguiente infraestructura:

- Oficina de Administración y monitoreo de la vía
- Sala de reuniones
- Hangar para estacionamiento de vehículos
- Estacionamientos para usuarios
- Cafetería para el personal
- Sala de descanso para el personal del servicio mecánico
- Bodega para material inflamable
- Bodega para material no inflamable
- Hangar para generador de luz
- Área de cancelas y cafetería para personal de guardias

6. VEHÍCULOS PARA SERVICIOS AUXILIARES

Para la prestación de los servicios auxiliares, el peaje contará con los siguientes vehículos:

- 2 grúas tipo plataforma dotadas de equipos de comunicación, herramientas y accesorios de seguridad.
- 2 camionetas doble cabina dotadas de equipos de comunicación y accesorios de seguridad.

7. PERSONAL PARA SERVICIOS AUXILIARES

La estación de peaje contará con personal que labora en turnos rotativos y cubriendo la operación durante las 24 horas del día, la cantidad necesaria es la siguiente:



PERSONAL	N° PERSONAS	PERMANENCIA
Administrador	2	12 horas
Asistente Administrativo	3	12 horas
Conductores Mecánicos	3	12 horas
Auxiliar SSGG y Mantenimiento	2	8 horas

8. AREAS DE DETENCIÓN DE VEHICULOS EVASORES

Hasta que la cultura de pago del peaje en este sistema se haya fortalecido y que se cuente con la normativa legal que castigue la evasión, se contará con 2 áreas para detener a los vehículos evasores, una en el sentido oeste – este antes de intercambiador Simón Bolívar y la segunda en sentido este – oeste antes del intercambiador Plaza Argentina.

Con estos antecedentes se evaluará la posibilidad de mantener la ubicación actual de la zona del peaje y construir y ampliar las edificaciones necesarias para el manejo eficiente del recaudo y la prestación de los servicios complementarios.



中国路桥工程有限责任公司
CHINA ROAD AND BRIDGE CORPORATION



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



18.- IMPLEMENTACIÓN DE TELEPEAJE (FREEFLOW)

IMPLEMENTACIÓN DEL TELEPEAJE (Free Flow)

La estación de peaje está dimensionada para operar con 8 carriles según la siguiente organización: 2 carriles externos (1 por cada sentido) para pago manual y 6 carriles internos (3 por cada sentido) equipados con telepeaje.(free flow).



Se implementará la aplicación de las últimas tecnologías en el ámbito de la carretera, el pórtico Free-Flow, un sistema de cobro electrónico de peaje, que elimina cualquier barrera o vía de cobro, permitiendo la libre circulación de vehículos y evitando la congestión generada por los procesos tradicionales de recaudación de peaje. El término Free Flow implica un tráfico sin parada ni deceleración, debido a que el vehículo es detectado, clasificado e identificado de forma automática en tiempo real, permitiendo la conducción libre, sin reducciones de velocidad en la zona de paso y el cambio de carril.

El punto de cobro se compone de una estructura metálica o pórtico, que permite cubrir los 4 carriles, sobre el que se colocan los sensores que forman parte de los diferentes módulos de detección y clasificación automáticos que utilizan sensores laser para detectar el vehículo , clasificarlo en una de las categorías prefijadas.

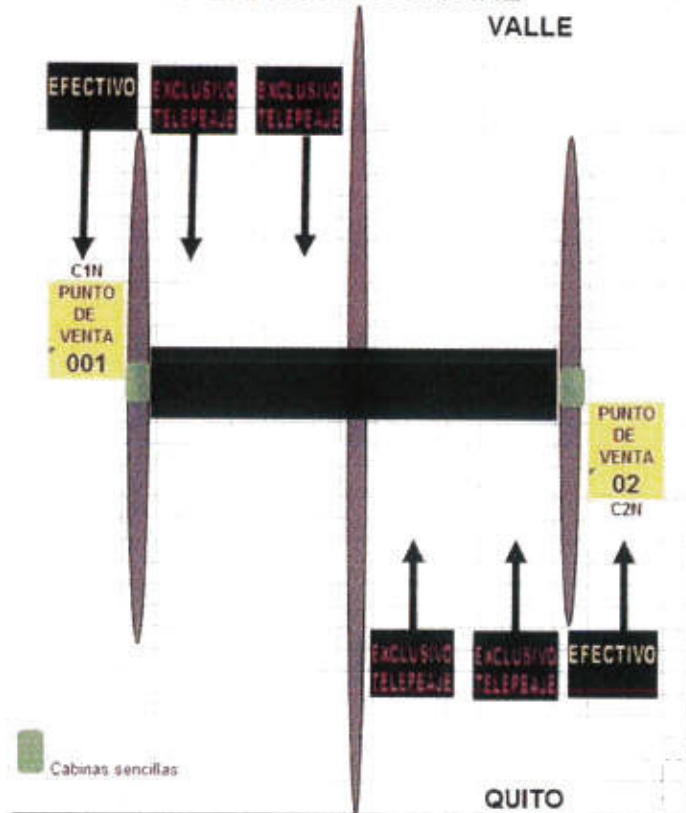
El módulo de cobro electrónico de peaje (ETC), permite la identificación automática del vehículo mediante una comunicación basada en enlace de microondas que se lleva a cabo entre una antena colocada en el pórtico y el TAG del vehículo. En el momento de paso se genera una transacción que es utilizada posteriormente en el nivel de back-office para el proceso de cobro de peaje.

El módulo de detección de infractores (VES), permite identificar a todos aquellos usuarios que cruzan el punto de cobro sin un medio de pago válido. Para ello, el sistema captura imágenes frontales y traseras del vehículo que permiten leer la matrícula de forma automática utilizando un software de reconocimiento.

El diseño del peaje incluye una oficina de Auditoría, una oficina de monitoreo de Carriles, una oficina de Atención al Cliente, una bóveda donde se ubica la caja fuerte, un área de acceso del blindado para entregar y recibir valores, un área para los equipos confinados, una oficina con bodega para el Técnico de Mantenimiento y una cafetería para el personal de Recaudo.

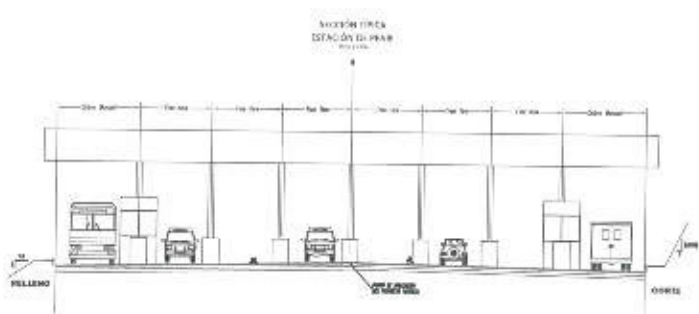
GRÁFICO DE CARRILES – ESQUEMA REFERENCIAL

**ESTRUCTURA DEL PEAJE MIRAVALLE
OPERACIÓN NORMAL**



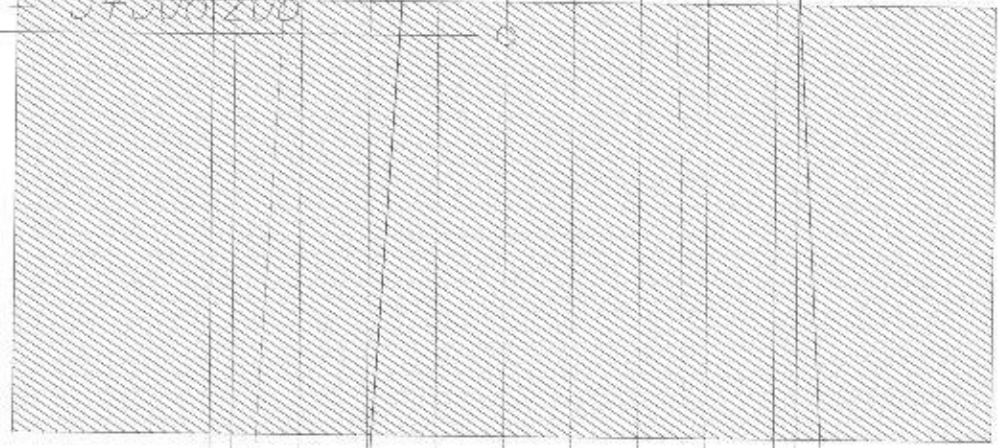
Los datos de TPDA analizados para este proyecto e los dos sentidos de circulación figuran en el Anexo de "Estudio Preliminar de Tráfico" y se resumen en el siguiente cuadro:

3/2



3+500

ET 3+508.208



ESTACION DE PEAJE



中国路桥工程有限责任公司
CHINA ROAD AND BRIDGE CORPORATION



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



19.- IMPLEMENTACIÓN DE SERVICIOS DE LA ALIANZA ESTRATÉGICO



IMPLEMENTACIÓN DE SERVICIOS DE LA CONCESIÓN

1. PRINCIPIOS DE LA OPERACIÓN

Bajo el sistema de Concesión de Carreteras, la administración, control y supervisión de las áreas operativas cuentan con una estructura organizacional adecuada dentro de la empresa. El Área de Operaciones está encargada, dentro de la etapa de Explotación de la Concesión, de la prestación de los siguientes servicios auxiliares:

- Servicio Mecánico
- Servicio de Comunicación
- Servicio de Vigilancia

El objetivo que se persigue es el de garantizar la fluidez de tráfico con comodidad y seguridad para los usuarios de la carretera en los diferentes destinos.

Para mejorar la prestación de los servicios auxiliares el Área Operativa maneja canales de comunicación con los usuarios para receptor opiniones y reclamos, reportar a la Gerencia General de la Concesionaria y por medio de ésta, mensualmente, al Concedente mediante el Informe General de Operación; informar a los usuarios sobre la prestación de los servicios auxiliares y lo concerniente a las condiciones del tráfico en la carretera.

El área Operativa se compone, para la prestación de los servicios auxiliares, de un área administrativa ubicada en la oficina central y de áreas administrativas y operativas en la estación de peaje soportadas por apoyo logístico y técnico.

Los canales de comunicación constituyen líneas telefónicas (convencional y celular) destinadas a receptor llamados de auxilio de usuarios de la vía por cada estación de peaje adicionalmente una línea gratuita 1800 con comunicación directa a la estación de peaje; Radios de comunicación interna que dispone la estación y cada vehículo de auxilio para informar sobre los eventos y accionar los procedimientos pertinentes.

2. INFRAESTRUCTURA, VEHÍCULOS Y PERSONAL

Los servicios de Operación buscan garantizar el máximo de fluidez de tráfico con comodidad y seguridad para los usuarios de la carretera. Para alcanzar este objetivo, el conjunto de los servicios previstos requiere la disponibilidad de los siguientes medios:

- Instalaciones adecuadas para centralizar y apoyar las operaciones. Cada estación de peaje cuenta con: una oficina de Administración, una oficina de Atención al Cliente, una oficina de Auditoría, una oficina de Recaudo, un galpón para estacionamiento de vehículos de servicios y plazas de estacionamiento para usuarios.
- Equipos de radio para comunicación interna, línea celular y un computador con escáner para envío de información por e-mail.
- Vehículos apropiados y dotados para la realización de trabajos de atención mecánica y supervisión. La estación de peaje contará con:
 - ✓ 2 grúas livianas.
 - ✓ 2 camionetas para seguridad vial.
- Personal especializado para los servicios de atención mecánica y empresas de seguridad para la vigilancia del tramo y de la Estación de Peaje. La estación de peaje cuenta con el siguiente personal:



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- ✓ Administrador.
- ✓ Asistentes administrativos.
- ✓ Auditores.
- ✓ Supervisores de recaudo.
- ✓ Asistentes de atención al cliente.
- ✓ Cajero (en función al número de cabinas de recaudo).
- ✓ Auxiliares de recaudo.
- ✓ Conductores – Mecánico de grúa.
- ✓ Guardias de seguridad.
- Sistema informático de almacenamiento y procesamiento de datos operacionales mediante enlaces de banda ancha.

La Administración de la Estación ejecuta las tareas de apoyo logístico y gestión de las Operaciones durante la prestación de los servicios, manteniendo constante comunicación con los vehículos de auxilio, los usuarios, el ECU911, la Policía, Bomberos, Hospitales y Defensa Civil en su área de influencia.

El Administrador registra en los formatos correspondientes la información proveniente de los vehículos de auxilio y unidades de Policía, así como la que llega permanentemente a través de radio - comunicación, líneas de ayuda como el 911 y la línea de emergencias del peaje.

3. REGLAMENTO DE OPERACIÓN DE SERVICIOS AUXILIARES

Los vehículos de auxilio y el personal encargado de atender los servicios auxiliares permanecen alertas las 24 horas del día en cada Estación de peaje.

El administrador de la Estación de peaje es el responsable directo de la planeación, operación, control y mantenimiento de los vehículos y equipo destinado a la Estación, así como de reportar los requerimientos de mantenimiento mayor o cambio de esos equipos.

3.1 PROCEDIMIENTO PARA PRESTACIÓN DE SERVICIOS

En todos los casos existen estándares de atención los cuales se rigen por el cumplimiento estricto de las siguientes actividades:

3.1.1 RECEPCIÓN DEL REPORTE DE SOLICITUD DEL SERVICIO

El reporte de una necesidad de asistencia o auxilio del usuario de la vía concesionada, se puede recibir por varios medios como son:

- Llamadas del usuario solicitando asistencia o auxilio, receptadas a través de las líneas telefónicas de servicios de emergencia con que cuenta la estación de peaje; los números de éstas líneas telefónicas se encuentran impresos en las facturas de pago del peaje además de un número gratuito 1-800.
- Llamadas de parte de la policía, defensa civil o línea 911, a través de la línea de servicios de emergencia con que cuenta cada estación de peaje.
- Por el informe verbal del Supervisor del Concedente, durante los recorridos de rutina de inspección que realiza.
- Por llamada o pedido verbal de un usuario a la estación de peaje sobre un evento o petición para otro usuario que necesita la asistencia o auxilio.



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- Por el informe verbal del conductor de un vehículo de operaciones, grúas o patrullaje, que encuentra durante la prestación de un servicio y/o regresando de ella a la base del peaje, a través del radio de comunicaciones con que cuenta.

3.1.2 INFORMACIÓN DEL USUARIO QUE REQUIERE EL SERVICIO

Una vez recibido el Reporte de Auxilio se toma toda la información posible acerca de la ubicación del vehículo, sus características y requerimientos, como son:

- El kilómetro (postes de kilometraje) o lugar más cercano al sitio donde se encuentra el vehículo y/o la referencia a un sitio determinado (población, comercio, restaurante, establecimiento, etc.).
- Tipo, marca, color y placa del vehículo que requiere el servicio. En caso de operación de emergencia, registrar la información de todos los vehículos involucrados.
- Necesidades específicas del evento ; en el caso de daño, que tipo de daño o características de las fallas que presenta el vehículo , cambio de llanta, gasolina , etc.; en el caso de accidente , gravedad , vehículos involucrados , posibles víctimas e información relevante que ayude a montar el operativo necesario.

3.1.3. ATENCIÓN DEL REPORTE

Inmediatamente el Administrador dispone el traslado de las unidades de auxilio requeridas para la atención del servicio de asistencia o emergencia, teniendo siempre identificada la actividad que se ejecuta, llevando un registro pormenorizado de los datos y procesos realizados. Adicionalmente en caso de accidentes de tránsito coordina con los entes de apoyo (ECU911 Policía, Cruz Roja, Bomberos, etc.) la atención inmediata del mismo.

La atención del servicio termina cuando la unidad retorna a la base y hace la entrega de las planillas de servicios debidamente llenadas, junto al formato de registro del evento o accidente y al Parte Policial de ser el caso.

Por cada accidente ocurrido se debe llenar el Formato de Reporte de Accidentes y hacerlo llegar a la Oficina Central junto con el Formato de Registro de Accidentes, copia del parte policial y el Informe Fotográfico.

3.2 PRESTACIÓN DEL SERVICIO MECÁNICO.

3.2.1 VEHÍCULOS CON AVERÍAS MECÁNICAS O ELÉCTRICAS

El auxilio mecánico de emergencia tiene por objetivo retirar el vehículo dañado de la calzada (carril de circulación, espaldón o cuneta), ya sea, brindando asistencia mecánica en el sitio o trasladándolo hacia un lugar seguro o un taller mecánico cercano.

Asistencia Mecánica

La asistencia mecánica puede requerir arreglos sencillos para averías mecánica o eléctrica, al cambio de una llanta o la falta de combustible, que pueden solucionarse de inmediato y en el sitio donde se encuentra el vehículo para que este siga su recorrido.

Traslado Mecánico

En el caso de daños mayores se requiere el traslado a un sitio seguro o un taller mecánico cercano, para esta ocasión se debe registrar el sitio exacto donde se recogió y el destino al que se trasladó el vehículo.

3.2.2 VEHÍCULOS ACCIDENTADOS SIN REPORTE DE DAÑOS PERSONALES

El auxilio mecánico en caso de accidentalidad pero sin daños personales, tiene por objeto retirar de la calzada el o los vehículos involucrados; el Reporte de la asistencia vendrá acompañado del Parte Policial si éste existe, para lo cual se coordina con las autoridades civiles y de Policía.

3.2.3 VEHÍCULOS ACCIDENTADOS CON REPORTE DE DAÑOS PERSONALES

El Administrador, dependiendo del tipo de accidente (leve, grave y fatal), coordina con la Policía y las autoridades del sector, para movilizar el o los vehículos afectados de la calzada de la vía, para lo cual requiere la autorización verbal de la autoridad competente.

En el caso de víctimas el auxilio a éstas se convierte en la prioridad de la emergencia por lo que se deberá coordinar con los servicios públicos de emergencias médicas "911"

3.2.4 REQUISITOS PARA LA OBTENCIÓN DEL SERVICIO

El servicio de asistencia y auxilio mecánico se presta bajo los siguientes requisitos.

- a. Para el servicio gratuito en cualquier sitio de la vía concesionada, se requiere la presentación obligatoria de la factura de pago del peaje, emitido máximo en las 24 horas anteriores a la solicitud del servicio, si tiene pago electrónico se confirmará su tránsito con el Sistema de Control de Tráfico del peaje.
- b. En el caso de no contar con la factura de pago del peaje y que además el vehículo se encuentre en una posición que enmarque peligro, tanto para los ocupantes del mismo como para otros usuarios de la vía concesionada, se procederá a ubicar el vehículo al borde de la carretera, en condiciones seguras hasta que el propietario lo traslade por su cuenta y riesgo. En caso de identificar vehículos abandonados en la vía concesionada, se procede a trasladarlo a la Jefatura de Policía más cercana con el registro de entrega respectivo.

3.2.5 PROCEDIMIENTO PARA PRESTACIÓN DE SERVICIO MECÁNICO

1. Administración: Recibe el requerimiento de servicio del usuario y registra la hora de recepción de la solicitud del servicio.
2. Administración: Registra en la planilla de control de movilización de vehículos a la salida de los mismos (fecha, hora y kilometraje de salida; nombre del conductor, destino y objetivo).
3. Operario: Recibe la instrucción del Administrador para la prestación del servicio, lugar de servicio, tipo de vehículo, color, marca, número de placa y tipo de servicio.
4. Operario: Mantiene abierta la comunicación por radio y reporta cuando localiza al vehículo que prestará el servicio.
5. Operario: En el sitio del evento, se presenta y ofrece su servicio gratuito al usuario, solicita la factura de pago del peaje, ubica conos de seguridad, prende balizas y coordina la seguridad en el sector del servicio.
6. Operario: Consulta al usuario la avería o últimos daños que el vehículo ha tenido, verifica y determina el tipo de daño que presenta el vehículo e informa al usuario.

7. Operario: Si la reparación puede ser realizada en el lugar y de forma inmediata, se procede al arreglo; si la reparación no se puede realizar en el lugar, informa al usuario sobre el servicio gratuito de traslado en grúa al lugar seguro más cercano.
8. Operario: Coloca las cadenas de seguridad y carga el vehículo del usuario en la grúa, retira los conos y señales de seguridad del lugar y los ubica en la grúa.
9. Operario: Terminado el servicio consulta al usuario los datos personales, los cuales registra en el formulario "Servicio gratuito de grúa" conjuntamente con la firma del usuario.
10. Operario: Reporta vía radio a administración la labor concluida y procede a retornar a la estación de peaje, al llegar reporta el kilometraje de llegada, parquea el vehículo en el lugar y la posición establecida en el peaje.
11. Administración: Registra en la planilla de control de movilización de vehículos, la llegada de los mismos (hora y kilometraje de llegada).
12. Operario: Entrega las llaves del vehículo y el "Formato de Servicio gratuito de grúa" en administración.
13. Operario: Asea la grúa en caso de ser necesario.

3.2.6 REPORTE AL CONCEDENTE DE SERVICIOS MECÁNICOS PRESTADOS

El Concesionario envía mensualmente al Concedente un resumen detallado de todas las asistencias mecánicas y traslados de grúa en el Informe General de Operación, el mismo contiene la fecha, hora, ubicación (abscisa), tipo de servicio, datos del vehículo, destino y formularios de soporte.

El reporte incluye el tiempo de respuesta que considera el lapso entre la hora de recepción de la solicitud del servicio y la hora de llegada al sitio del evento. Dicho tiempo es la sumatoria del tiempo de comunicación y preparación interna más el tiempo de traslado al sitio del evento considerado una velocidad promedio de 40 kilómetros por hora en condiciones normales de circulación.

3.3 PRESTACIÓN DE SERVICIO DE COMUNICACIÓN - LÍNEA GRATUITA 1-800

Es un sistema gratuito de ayuda inmediata, mediante la comunicación directa con la estación de peaje.

1. El Servicio de Comunicación - Línea Gratuita 1-800 se presta bajo las siguientes condiciones:

- a. El usuario se comunica con la Administración del peaje, marcando desde un número convencional o celular el número 1-800 definido.
- b. El servicio permite una comunicación directa con el usuario y sin costo para este para reportar eventos ocurridos en la vía, como son accidentes, desperfectos mecánicos, seguridad u otra información relevante de emergencia para proceder a atender a los usuarios con el resto de servicios que presta la Concesionaria.
- c. Durante la comunicación con el usuario, el Administrador de la estación de peaje obtendrá toda la información que le sea posible del usuario y del evento que está reportando.

2. El administrador escucha y atiende calmadamente al usuario, recopila toda la información necesaria para tomar la decisión de que equipamientos, vehículos y personal enviará para atender el evento. Transmite confianza al usuario por medio de la comunicación.

3. Administración: Despacha los equipamientos, vehículos y personal acorde a los requerimientos del evento.

3.4 SERVICIO DE VIGILANCIA



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



Este servicio tiene como objetivo la vigilancia de la vía, instalaciones, recaudos y transporte de los últimos.

Para este fin se cuenta en cada estación de peaje con 1 supervisor de seguridad y 4 guardias de seguridad por cada turno, armados y equipados con un sistema de comunicación con las centrales operativas de sus respectivas empresas de seguridad.

El personal de seguridad realiza turnos de tal manera que durante las 24 horas del día se cuente con 4 guardias para brindar la seguridad permanente prevista en cada estación de peaje.

3.5 PROCEDIMIENTO DE RECAUDO

3.5.1 RECAUDO EN OPERACIÓN NORMAL

El servicio de recaudo en operación normal se presta bajo las siguientes condiciones:

- a. El usuario transita por una estación de peaje.
- b. El peaje tiene habilitado el sistema de control automático de tráfico
- c. La transacción se realiza sin contratiempos.

Procedimiento:

1. Usuario: Ingres a la estación de peaje proveniente de la carretera.
2. Operario: Previa verificación visual del tipo y categoría del vehículo, digita la categoría correspondiente.
3. Usuario: Entrega el valor correspondiente a la tarifa que aplica al tipo de vehículo
4. Operario: Consulta al usuario si desea factura con datos tributarios :
 - i. En caso afirmativo solicita al usuario sus datos para la emisión de factura identificada.
 - ii. En caso negativo continua con el proceso de Recaudo Normal con emisión de factura para Consumidor Final.
5. Operario: Dependiendo del modo de cancelación de la tarifa, digita la tecla correspondiente de forma tal que la barrera se retire y permita el paso del vehículo.
 - i. En caso de ser pago en efectivo se digita la tecla "Pago Efectivo"
 - ii. En caso de ser vehículo exento se digita la tecla "EX" y se selecciona el menú correspondiente.
6. Sistema: Registra el tránsito en la base de datos y emite la factura correspondiente, al tiempo que retira la barrera y permite el paso del automotor.
7. Operario : Entrega la factura al usuario
8. Usuario: sale del carril y posterior sale de la estación de peaje.
9. Sistema: Con sensores detecta el tipo y categoría del vehículo ingresando esta información a la base de datos, adicional detecta la completa salida del automotor para posteriormente colocar la barrera en su lugar a espera de un nuevo tránsito.
10. Auditor: Al día siguiente controla el correcto funcionamiento del sistema y la correcta categorización del operario, mediante la revisión en video de la información del carril.
11. Sistema: AL culminar la revisión del auditor, emite los informes de operación y contables para análisis y tratamiento.

3.5.2 RECAUDO EN OPERACIÓN ESPECIAL

El servicio de recaudo en operación especial se presta bajo las siguientes condiciones:

- a. El usuario transita por una estación de peaje.
- b. El peaje no tiene habilitado el sistema de control automático de tráfico.
- c. La transacción se realiza con contratiempos.
- d. Operación Especial Controlada: ocurre cuando por planificación se apaga el sistema para mantenimiento u otras situaciones no emergentes.
- e. Operación Especial No Controlada: ocurre cuando por eventos de fuerza mayor el sistema no está en capacidad de funcionar.

Procedimiento:

1. Usuario: Ingres a la estación de peaje proveniente de la carretera.
2. Operario: Previa verificación visual del tipo y categoría del vehículo ingresa la información correspondiente en la factura manual asignada a su carril
3. Usuario: Entrega el valor correspondiente a la tarifa que aplica al tipo de vehículo.
4. Operario: Consulta al usuario si desea factura con datos tributarios:
 - a. En caso afirmativo solicita al usuario sus datos para la emisión de factura identificada.
 - b. En caso negativo se colocan los datos de consumidor final en la factura manual.
5. Operario: Recibe el valor , en efectivo, de la tarifa correspondiente al vehículo en el carril
 - a. En caso de ser vehículo exento, entrega la factura al usuario con datos de Consumidor Final, solicitando al usuario que firme la planilla de vehículos exentos.
 - b. En caso de tratarse de vehículos no exentos, ingresa:
 - i. En el detalle la frase "Servicio de Peaje".
 - ii. En la cantidad " 1" correspondiente al tránsito.
 - iii. En el valor la cantidad correspondiente a la tarifa de la categoría del automotor.
 - iv. En el resumen se coloca el subtotal en el sector correspondiente a Tarifa "O".
 - v. Se hace firmar la factura al usuario y firma el operario en los lugares correspondientes.
6. Operario: Entrega el original de la factura al usuario manteniendo la copia para sí, misma que entrega al Supervisor en el cierre de turno.
7. Usuario: Sale del carril y posteriormente sala de la estación de peaje.
8. Auditor: Al día siguiente ingresa la información de la facturación manual en el sistema.
9. Sistema: Al culminar la revisión del Auditor, emite los informes de operación y contables para análisis y tratamiento.

3.5.3 RECAUDO PREPAGO CON FREE-FLOW

El servicio de recaudo prepago se presta bajo las siguientes condiciones:

- a. El usuario requiere estar registrado como cliente de la Concesionaria.
- b. El usuario debe poseer un dispositivo electrónico utilizado en el servicio prepago.
- c. El usuario debe abonar a la Concesionaria el valor que desea tener a favor en su cuenta asignada, los pagos pueden ser realizados en efectivo, cheque certificado o transferencia bancaria.
- d. Se puede recargar en efectivo valores entre USD \$1.00 y USO \$ 60.00 directamente en el carril manual, montos superiores u otros modos de pago deben ser tramitados directamente en la oficina de Atención al Cliente.
- e. El sistema de control de tráfico detecta y debita el Valor correspondiente a la categoría del vehículo por cada pasada, mediante antenas de largo o corto alcance, según el dispositivo utilizado por el usuario.



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



- f. Los saldos y tránsitos detectados son consultados por el usuario a través de la página de internet de la concesión.

Procedimiento:

1. Usuario: En la oficina de Atención al cliente del peaje, adquiere el servicio de prepago. Presenta la documentación requerida (RUC y matrícula del vehículo), llena la Solicitud de Servicio y se entera de condiciones de uso.
2. Operario: Recapta la documentación y confirma si el usuario está registrado como cliente en la base de datos de la Empresa, en el caso de que el cliente no se encuentre procede a la creación del mismo.
3. Operario: Procede a facturar el dispositivo solicitado por el usuario, configurando el mismo con las características del vehículo del cliente.
4. Operario: Asocia los dispositivos a la cuenta del usuario y factura el valor solicitado por el usuario, como pago adelantado de los tránsitos a realizar por la estación de peaje.
5. Usuario: Cancela el valor de los dispositivos y el pago adelantado mediante los modos autorizados, firma la documentación de entrega y facturación de los dispositivos y recargas.
6. Operario: Deposita los valores recaudados siguiendo los procedimientos de recaudo (efectivo en la cuenta del peaje, cheques y transferencias en la cuenta única de la empresa) y entrega los dispositivos asignados a la oficina de Administración para la instalación respectiva.
7. Administración: Verifica el correcto funcionamiento de los dispositivos entregados por Atención al cliente, la correcta configuración de cada uno; y posterior a ello, procede con la instalación en el vehículo del usuario.
8. Usuario: Transita libremente por la estación de peaje sujetándose a las condiciones de uso del dispositivo y constatando regularmente el estado o saldo de su cuenta.
9. Sistema: Autoriza el libre tránsito mediante lectura de los dispositivos por medio de las antenas ubicadas en el pórtico free flow, realiza el débito automático de la tarifa asociada a la categoría del vehículo.
10. Sistema: Actualiza la información de saldos.
11. Usuario: En caso de pérdida del dispositivo, debe comunicar a la Empresa emisora para proceder con la desactivación del mismo, posterior a ello puede acceder a un nuevo dispositivo.
12. Operario: En los cambios de dispositivo debe desactivar el dispositivo y/o el vehículo en caso de ser requerido.
13. Usuario: Cuando el saldo para transitar sea insuficiente, debe coordinar con Atención al Cliente para realizar una nueva recarga o efectuarla en las cabinas de cobro.

3.6 INSTALACIONES PROPUESTAS DE RECAUDO

3.1 CABINAS DE COBRO

Se tiene contemplado la operación con 2 cabinas de cobro manual, una en cada sentido y 4 vías Free - flow, 2 en cada sentido.

3.6.2 OFICINA DE SUPERVISIÓN

En la estación de peaje, se cuenta con una oficina de supervisión de recaudo, que permitirá el control, retiro y depósito de los valores recaudados en las vías manuales, así como también el control de personal y monitoreo del sistema electrónico de cobro.

3.6.3 OFICINA DE AUDITORIA



ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCION DEL PUENTE GUAYASAMIN



En la estación de peaje se cuenta con una oficina de auditoría, que permite el control y revisión del tráfico-recaudo obtenido en las labores operativas de peaje.

3.6.4 BÓVEDAS

En la estación de peaje se cuenta con bóveda y espacio de seguridad de retiro de valores, que permite al auditor de turno entregar de forma segura los valores recaudados, al personal de la transportadora de valores contratada.



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ACCESO A QUITO DESDE LOS VALLES ORIENTALES Y CONSTRUCCIÓN DEL PUENTE GUAYASAMIN



20.- PLAN DE CONSERVACIÓN Y MANTENIMIENTO

FASE DE CONSERVACIÓN Y MANTENIMIENTO

PLAN DE CONSERVACION Y MANTENIMIENTO

a) Representación Gráfica de la vía:

Elaborados los diseños definitivos serán insertados en un Sistema de Información Geográfica (GIS por sus siglas en inglés) cuya interface permitirá la integración organizada de los datos digitales gráficos (georeferenciados) de la vía con los datos alfanuméricos que generen los estudios, de manera que, para cada elemento de la vía se cuente con la información de su localización, de sus características físicas y de su evolución durante el período concesionado.

Se trata entonces en marcar un momento inicial "O" para plasmar en el GIS los diseños originales que se irán complementando con los planos "as built" en una base de datos histórica que proseguirá con las intervenciones de conservación realizada durante el período concesional.

Con la implementación del sistema se garantizará documentalmente la gestión de los activos de la vía, su conservación y servicio.

b) Inventario de elementos de la vía: pavimentos y/o estructuras

Se implementará en el sistema de información geográfica (GIS) mencionado en el numeral a) que permitirá la integración organizada de datos geográficos con información detallada de las características de la vía, diseñado para capturar, almacenar, manipular, analizar y desplegar en todas sus formas la información georeferenciada y gestionar información relacionada con la misma como por ejemplo: ubicación de las estación de peaje, señales verticales de tránsito, intervenciones realizadas, etc. Permitirá inventariar los elementos de la vía: pavimentos, alcantarillas y/o estructuras, intervenciones en la vía, postes SOS, etc.

PROGRAMA DE ACTIVIDADES

i. Tareas de conservación y explotación

Tareas de Conservación

Las tareas de conservación y mantenimiento de la vía se dividen en rutinarias y periódicas. Las primeras se refieren al conjunto de actividades cíclicas que se realizan diaria, semanal o mensualmente con el fin de mantener a la vía y sus elementos operativos de forma aceptable; y, corresponden entre otras a las siguientes:

RUBRO
Bacheo asfáltico
Limpieza de cunetas a mano
Limpieza de alcantarillas
Limpieza de espaldones y calzada
Corte de césped
Limpieza de señales verticales
Limpieza de guardavías

Limpieza de banquetas y derrumbes a máquina

Para realizar estas actividades se prevé su ejecución por rubros, cuya cantidad y montos están incluidos en el Programa de Mantenimiento.

El mantenimiento periódico se refieren al conjunto de actividades cíclicas que se realizan anual e interanual con el fin de mantener a la vía y sus elementos dentro de los niveles de servicio que la Concedente así lo requiera en los aspectos de: carpetas, señalización, drenaje y hormigones, mantenimiento de estructuras ; y, corresponden entre otras a las siguientes:

CARPETA ASFÁLTICA
Fresado capa de rodadura + TTE a botadero e=5cm
Capa de rodadura de hormigón asfáltico mezclado en planta e=7.5cm
Asfalto emulsionado para riego de adherencia)0.45 l/m ²)
Transporte de capas de rodadura
Slurry Seal
Sello de fisuras

SEÑALIZACIÓN
MARCAS DE PAVIMENTO (Pintura termoplástica) e=2.3 mm, LÍNEA CONTINUA (ancho=0.15m) AMARILLA
Marcas de pavimento (flechas, letras, símbolos, etc., tipo termoplástica)
MSP (tachas) reflectivas (REPOSICIÓN) incluido pegamento epóxico (blancas) 0.13*0.10*0.018m
MSP (tachas) reflectivas incluido pegamento epoxico (blancas) 0.13*0.10*0.018 m
Delineador PVC con material reflectivo ø=3 pulg h=1.5m (2 cintas reflectivas de 15 cm c/u)
Poste de kilometraje de 0.45 x 0.60 doble cara
Placa informativa de menssaje en pórtico (varias dimensiones) fondo verde o blanco
Señales al lado de la carretera preventiva informativas y reglamentarias
Señales al lado de la carretera preventiva delineador vial de 0.90x1.20 m (simple)
Guardavías doble hoja

DRENAJE Y HORMIGONES
Remoción de estructuras de hormigón (alc. existentes y entradas y salidas de alc. existentes)
Excavación y relleno para estructuras
Hormigón estructural de cemento Portland, $f_c=180 \text{ kg/cm}^2$ (replantillos)
Hormigón estructural cemento Portland $f_c=210 \text{ Kg/cm}^2$ (alcantarillas, cabezales, muros, pozos, drenaje, protecciones)
Relleno con material seleccionado incluye transporte

MANTENIMIENTO DE ESTRUCTURAS Y TALUDES
Mantenimiento sistema de ventilación
Pintura de acero estructural
Mantenimiento de estructuras metálicas
Tapa de hormigón
Resane de paredes con hormigón estructural de cemento Portland, clase B, $f_c=280 \text{ Kg/cm}^2$
Pintura de hormigón (PUENTES)
Junta de dilatación tipo JNA-52 modificada
Reposición de equipo de vigilancia
Lavada de interna estructura

Para realizar estas actividades se prevé la ejecución por rubros de acuerdo a la cantidad y montos que están incluidos en el programa de mantenimiento.

Es necesario indicar que el mantenimiento periódico y rutinario del actual "Guayasamin" que incluye el programa de mantenimiento y conservación es solo a nivel de señalización y reposición de elementos constitutivos de seguridad vial como guardavías y losetas, el mantenimiento del sistema de ventilación, pero en ningún caso, el mantenimiento del pavimento rígido y trabajos mayores de resane en su estructura.

ii. Sistemas de indicadores a utilizar

A continuación se resume las principales auscultaciones que se realizará durante la etapa de conservación y explotación de la concesión:

Indicador 1. Capacidad Estructural (Pavimento con capa de rodadura Bituminosa)

Las medidas de las deflexiones se realizarán a través del deflectómetro de impacto (FWD), en centésimas de mm cada 100 m.

Indicador 2. Resistencia al deslizamiento

Se tomará como resultado el equivalente al coeficiente de rozamiento transversal medido con equipo equivalente al SCRIM.

Indicador 3 Regularidad superficial longitudinal (IRI)



La medición del Índice de Rugosidad Internacional (IRI) se realizará en continuo en todos los carriles de cada calzada, en las bandas longitudinales del pavimento donde se produce el contacto con las ruedas de los vehículos. Se empleará un perfilómetro inercial dotado de sensores láser. Se proporcionarán los datos de medida del perfil longitudinal y la medida del IRI cada 100.

Indicador 4. Regularidad Superficial Transversal (Surco de huella o rodera)

La auscultación se realizará con equipo de alto rendimiento dotado de un perfilómetro inercial con sensores láser; se medirá cada 100 m la deformación transversal, por hundimiento a lo largo de los ahuellamientos, tomando la diferencia máxima de cotas entre las crestas y senos del ahuellamiento más pronunciado.

Indicador 5. Fisuración y otros deterioros superficiales en pavimentos bituminosos.

Inspecciones visuales, tomando medidas de longitud del carril que presenta algún daño en cada hectómetro inspeccionado (como referencia el carril más deteriorado). Se tomarán como deterioros de fatiga los originados en las huellas, como grietas longitudinales simples, múltiples, zonas con piel de cocodrilo, con desprendimientos, etc.

Indicador 6. Fisuración en pavimentos de hormigón

Las auscultaciones se realizarán a través de inspecciones visuales.

Indicador 7. Asentamiento

Las auscultaciones se realizarán a través de inspecciones visuales, con toma de medida de asentamientos con regla de 3 m. Se hará un análisis de asentamientos con los datos del perfil longitudinal.

Indicador 8. Baches

Se realizarán inspecciones visuales, con toma de medidas en los casos requeridos.

Indicador 9. Marcas Viales – Retroflexión

Se tomarán medidas de la retroflexión, RL, mediante equipos de alto rendimiento, de acuerdo con la normativa ecuatoriana.

Indicador 10. Marcas Viales – Resistencia al deslizamiento

Se realizarán mediciones a través del Péndulo Británico en 10 puntos con mayor superficie pintada.

iii. Actividades excluidas

- Se excluye el mantenimiento mayor (rehabilitación) del túnel.
- Se excluye el mantenimiento de servicios públicos como redes de agua potable y alcantarillado.
- Se excluye el pago por consumo de electricidad del alumbrado público.