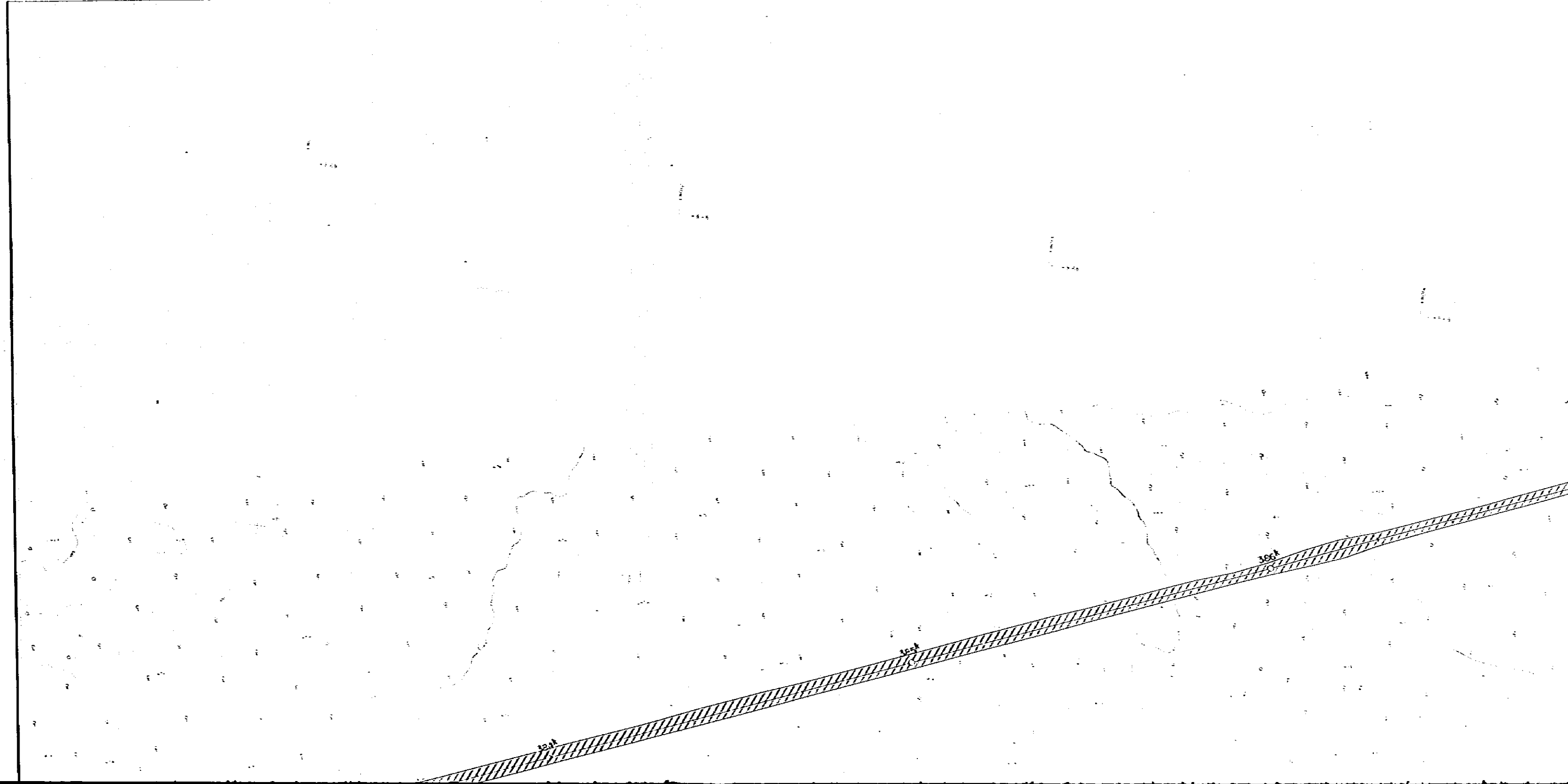
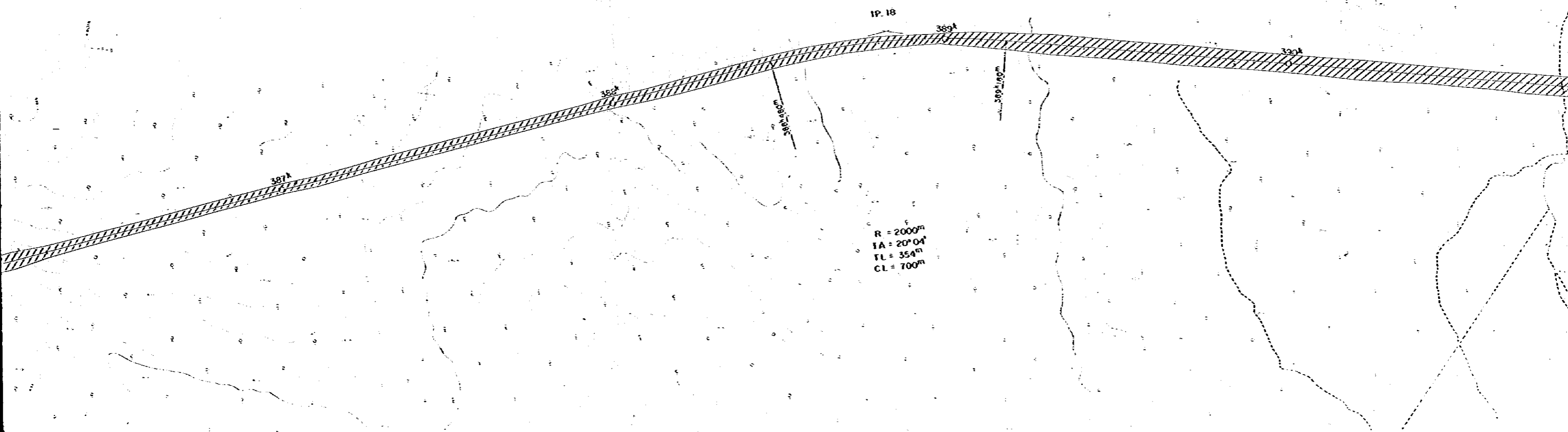


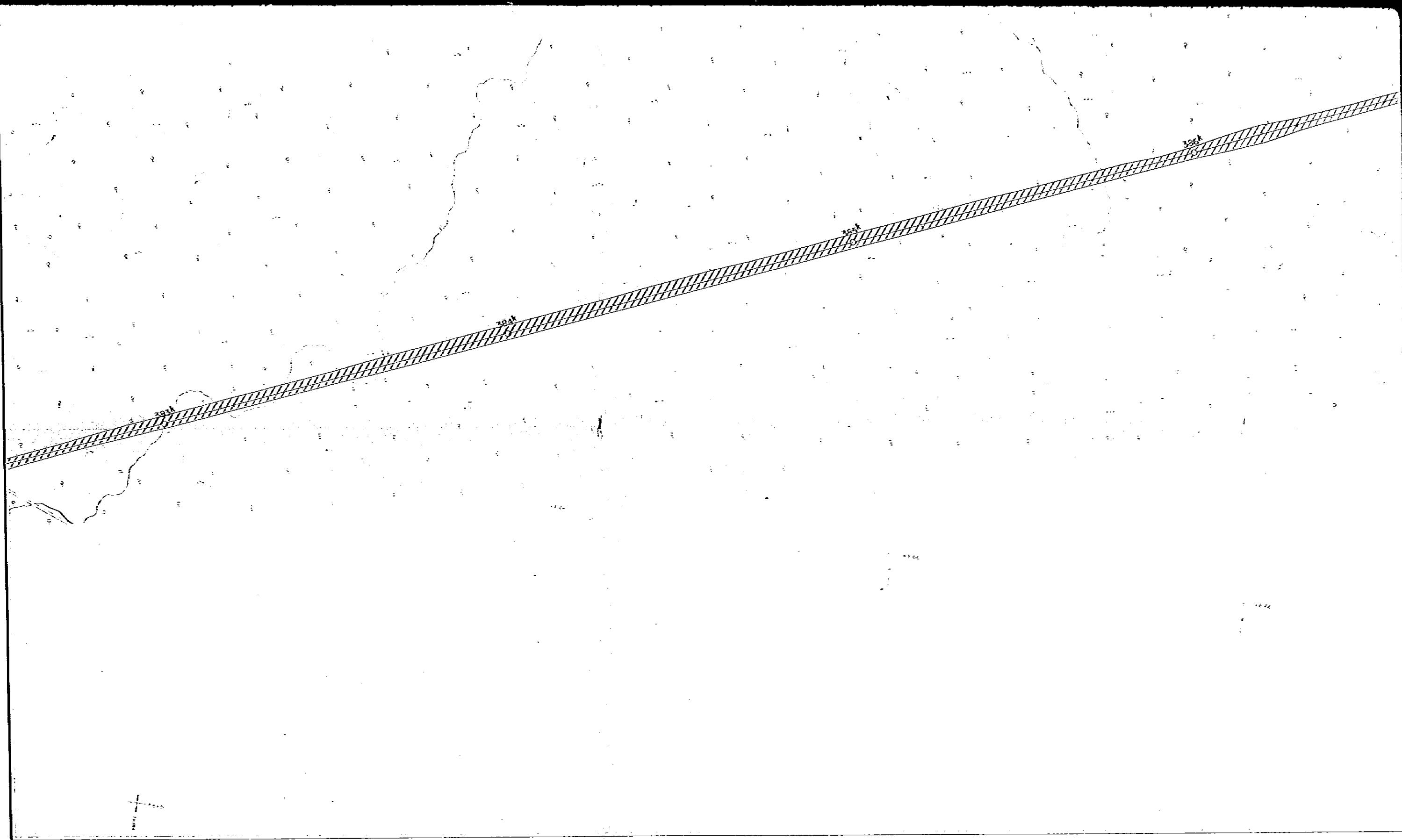
1 : 5000
BOLIVIA

RAILWAY

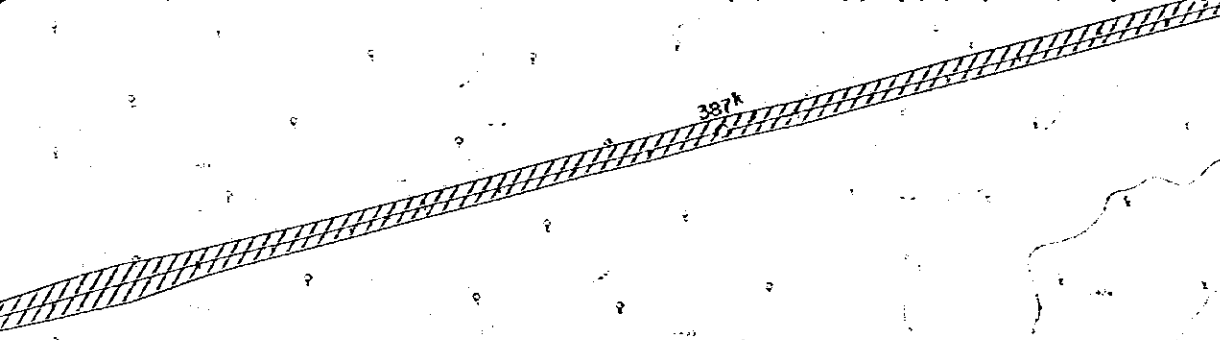


RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORIL)





NO.8 JAPAN INTERNATIONAL COOPERATION AGENCY



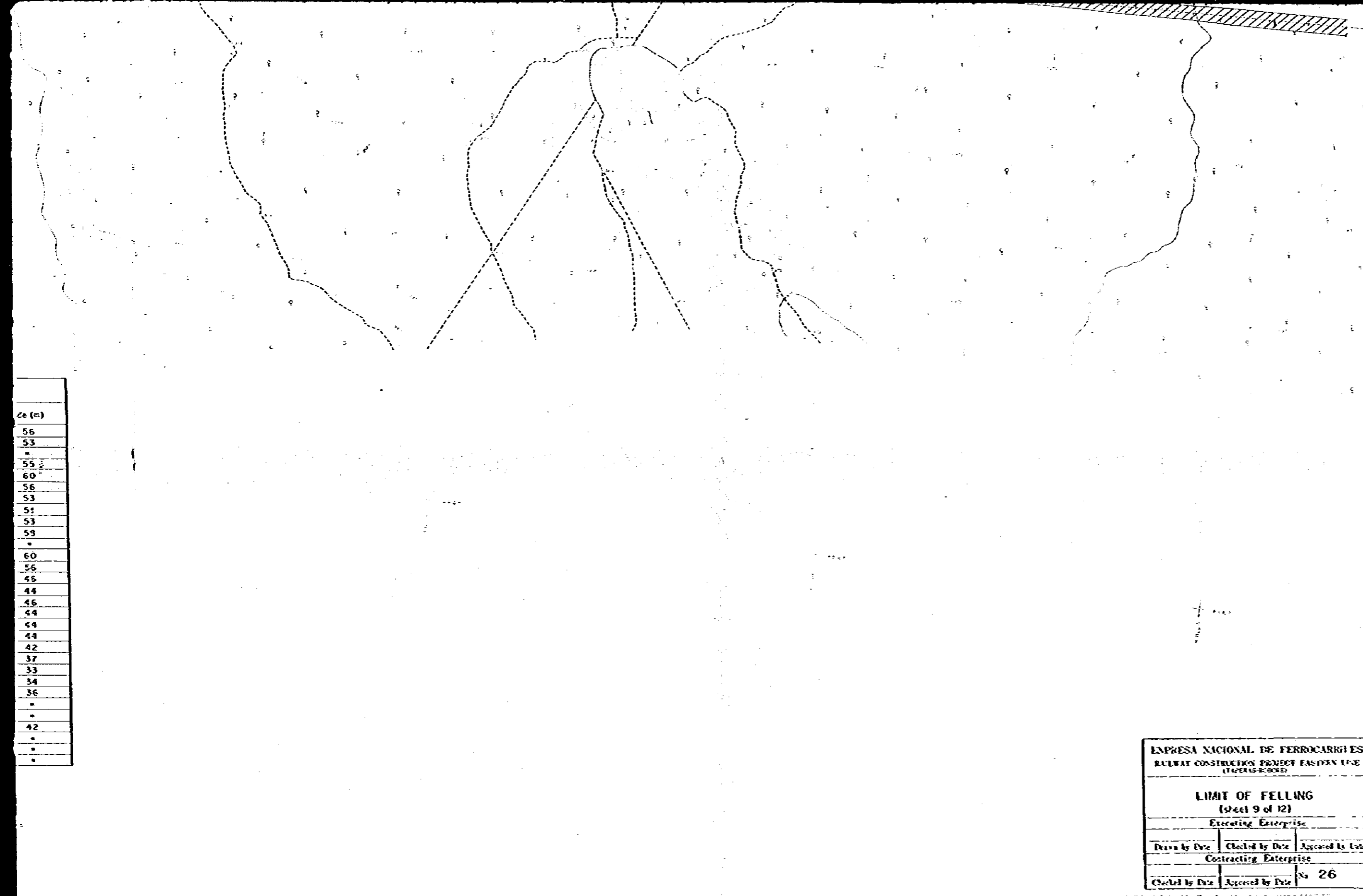
R = 2000m
 IA = 20°04'
 TL = 354m
 CL = 700m

Limits of Felling	
Kilometrage	Wide (m)
382 ^K 500 ^V 00	30
600	*
700	*
800	31.1
900	36.3
383 ^K 000	*
100	*
200	*
300	*
400	*
500	*
600	40.3
700	*
800	*
900	*
384 ^K 000	*
100	*
200	*
300	40.3
400	44.3
500	*
600	*
700	40.3
800	*
900	*
385 ^K 000	*
100	*
200	*
300	*
400	*
500	36.3
600	*
700	*
800	*
900	30
386 ^K 000	35
100	47
200	53
300	36

Limits of Felling	
Kilometrage	Wide (m)
386 ^K 300 ^V 00	36
400	33
500	30
560	*
600	*
700	31.1
800	32.2
900	31.1
387 ^K 000	*
100	30
200	*
250	*
300	*
400	*
500	*
600	*
700	*
800	*
900	*
388 ^K 000	36.3
100	*
200	40.3
300	*
400	*
500	*
600	*
700	36.3
800	*
900	31.1
980	30
389 ^K 000	34
100	44
200	51
300	60
400	58
500	55
600	56
700	60
800	56

Limits of Felling	
Kilometrage	Wide (m)
389 ^K 800 ^V 00	56
900	53
390 ^K 000	*
100	55
200	60
300	56
400	53
500	51
600	53
700	58
800	*
900	60
391 ^K 000	56
100	46
200	44
300	46
400	44
500	44
600	44
700	42
800	37
900	33
392 ^K 000	34
100	36
200	*
300	*
400	42
500	*
600	*
700	*

SCALE 1:5,000
 METRES



MISCELLANEOUS
 PROJECT NO. 100000000
 SHEET NO. 100000000
 DATE 10/10/80
 SCALE 1:50000
 PROJECTION UTM
 ZONE 18S
 COORDINATES
 EASTING 500000
 NORTHING 6000000
 DATUM WGS 84
 ELEVATION UNIT METERS
 HORIZONTAL SCALE 1:50000
 VERTICAL SCALE 1:10000

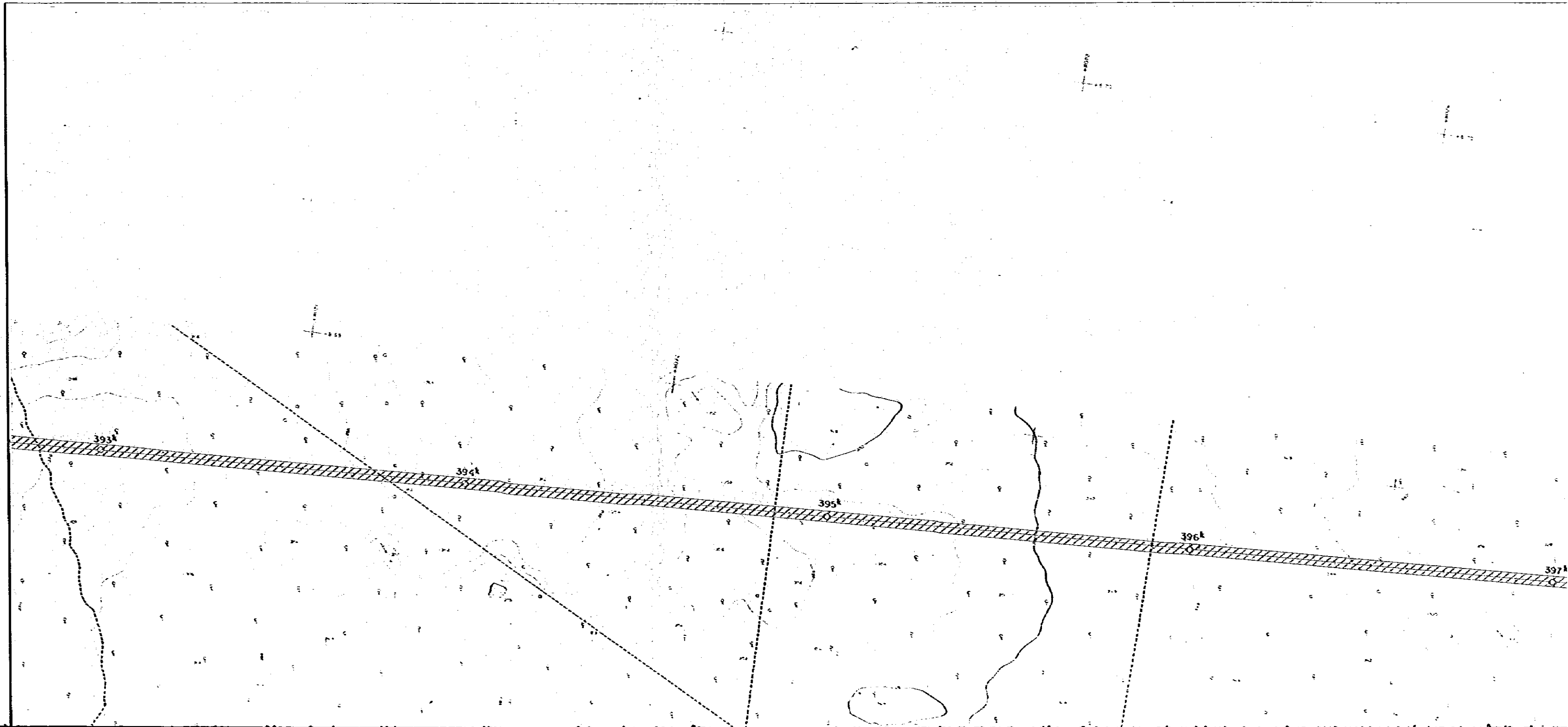
Le (m)
56
53
"
55
60
56
53
51
53
59
"
60
56
48
44
46
44
44
44
42
37
33
34
36
"
"
42
"
"

EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PROJECT EASTERN LINE (TUGUEBOBO)		
LIMIT OF FELLING (Sheet 9 of 12)		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Loc.
Contracting Enterprise		
Checked by Date	Approved by Date	No 26

1. Original topographic map 1980
 2. Topographic map 1980
 3. Topographic map 1980
 4. Topographic map 1980
- 1980
 1980
 1980
 1980

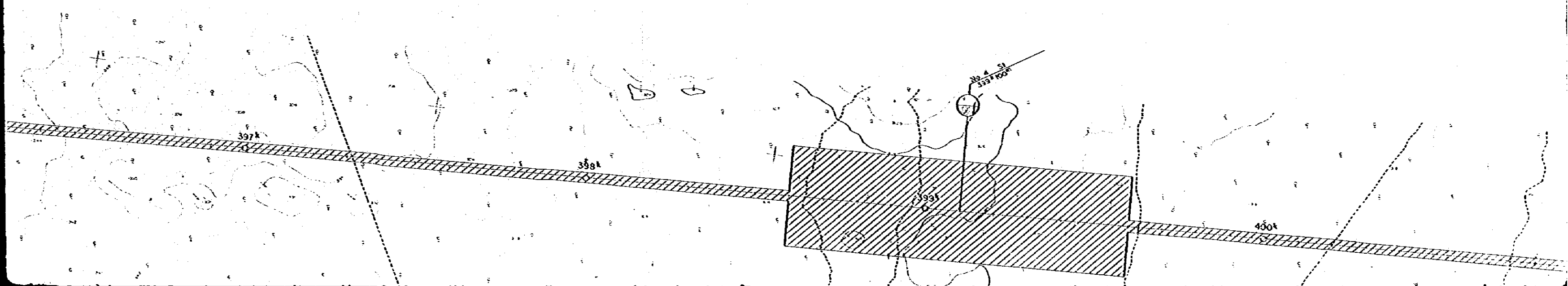
1 : 5000
BOLIVIA

RAILWAY CO



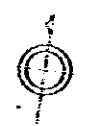
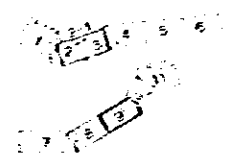
RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)

Limits of Felling	
Kilometrage	Wide (m)
398 ^k 200 ^m 00	30
300	"
400	"
500	"
600	300
700	"
800	"
900	"
399 ^k 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	36
800	34
900	33
400 ^k 000	31
100	"
200	"
300	30
400	"
500	"

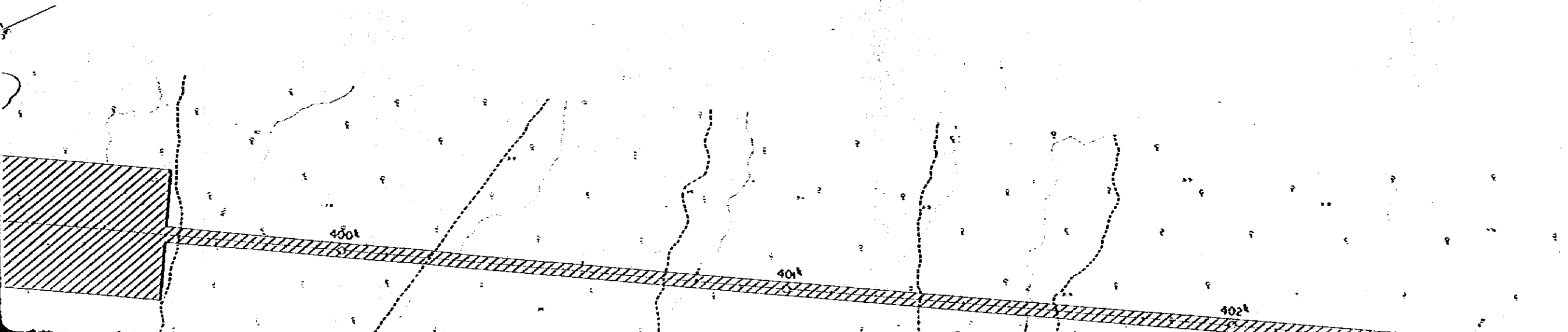


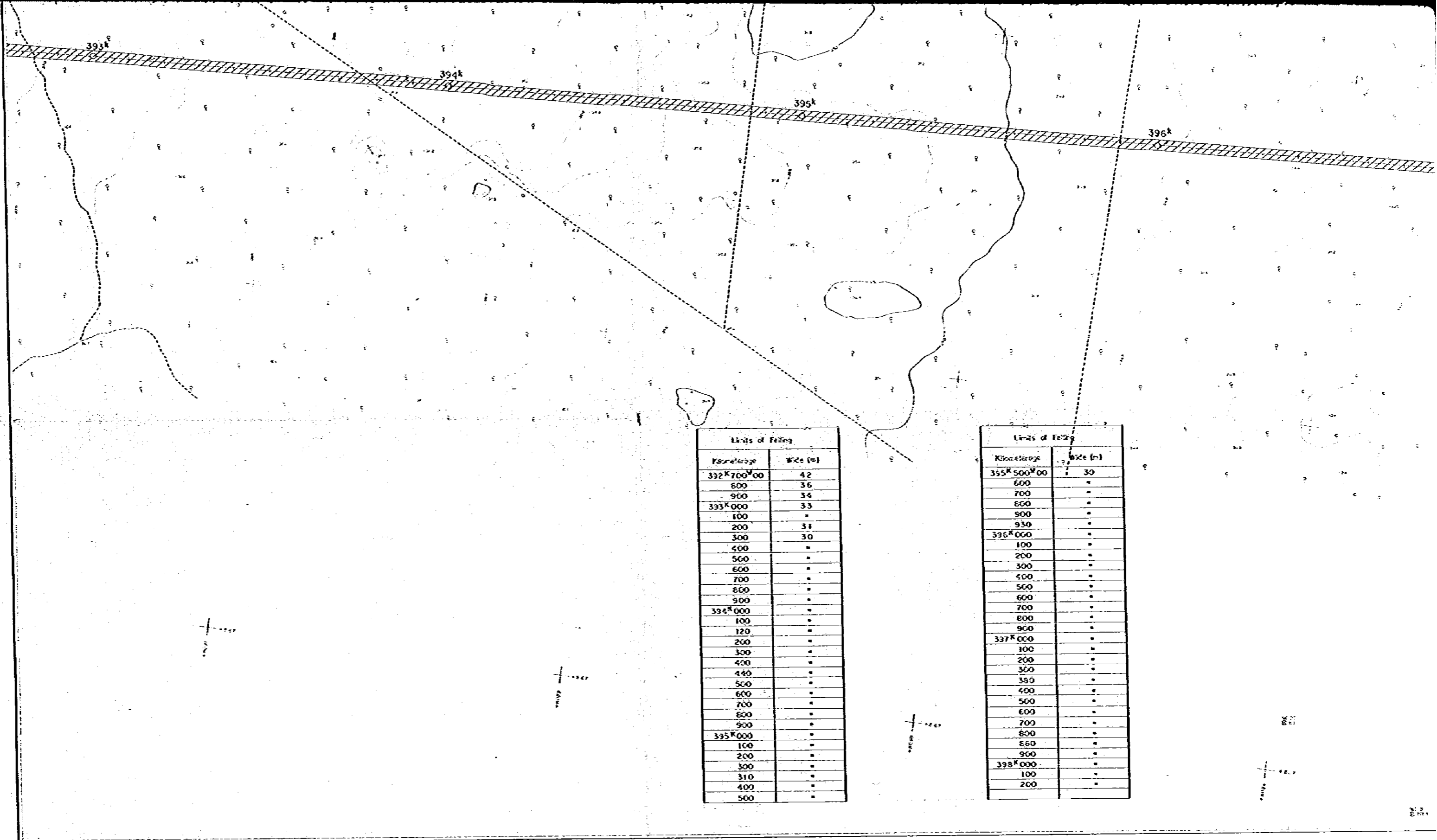
Limits of Feeding	
Kilometrage	Wide (m)
338 ^K 200 ^M 00	30
300	"
400	"
500	"
600	300
700	"
800	"
900	"
399 ^K 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	36
800	34
900	33
400 ^K 000	31
100	"
200	"
300	30
400	"
500	"

Limits of Feeding	
Kilometrage	Wide (m)
400 ^K 500 ^M 00	30
600	"
700	"
800	"
900	"
401 ^K 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
402 ^K 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"



- LEGEND**
- RAILS TRACKS ETC.**
- Sp.
 - Yoke Sp.
 - Flat Sp.
- RAILWAYS ETC.**
- SALES
 - Line
- VEGETATIONS**
- Coffee
 - Oil Palm
 - Teak
 - Rubber
 - Pine
 - Other
- MISCELLANEOUS**
- Excavation
 - Gravel
 - Rock
 - Other
- HYDROGRAPHY**
- Water Course
 - Canal
- CENTERS AND TRAVERSE POINTS**
- Center
 - Traverse Point
 - Other



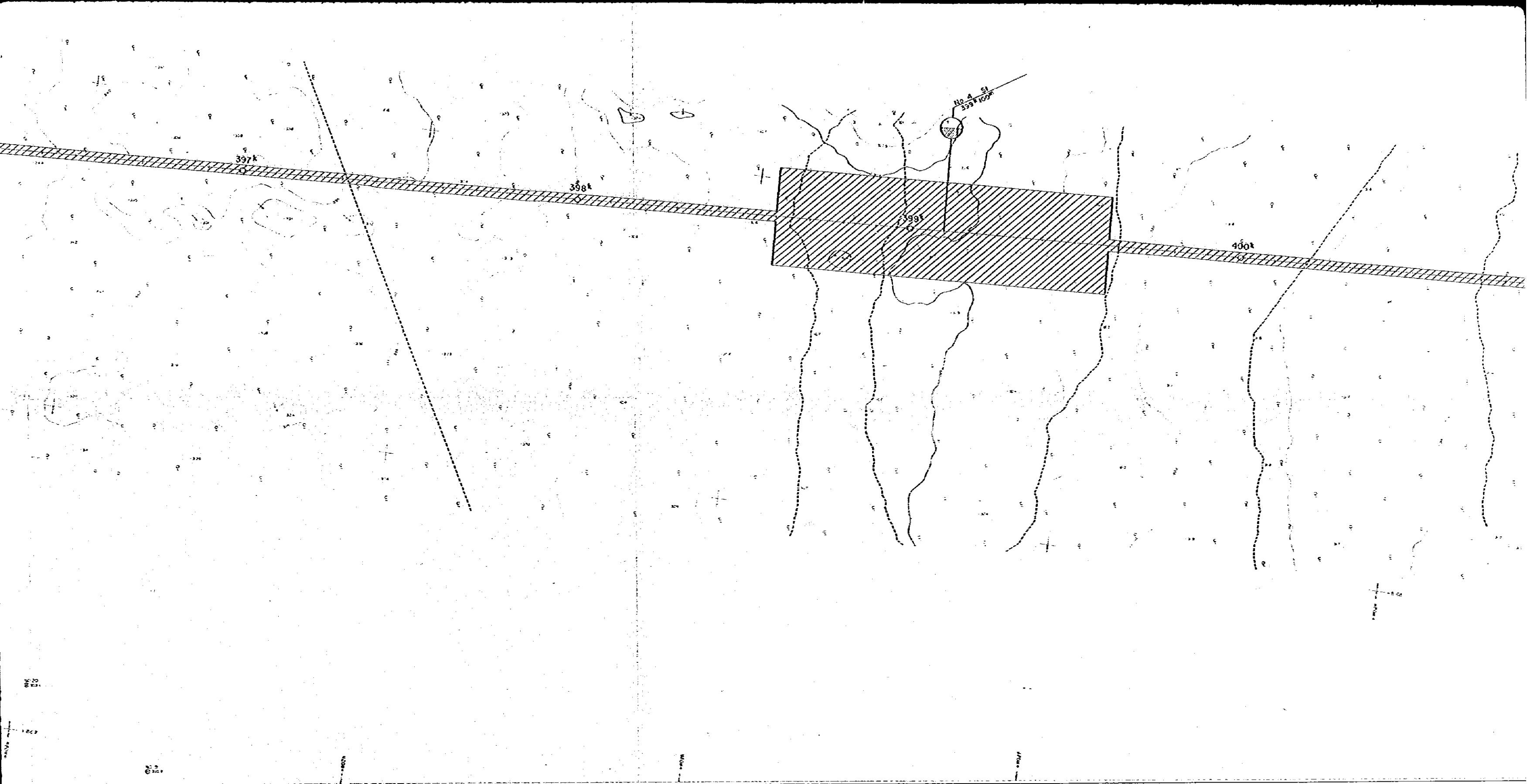


Limits of filling

Elevation	Width (m)
332 ^k 700 ^m 00	42
600	36
900	34
333 ^k 000	33
100	"
200	31
300	30
400	"
500	"
600	"
700	"
800	"
900	"
334 ^k 000	"
100	"
120	"
200	"
300	"
400	"
440	"
500	"
600	"
700	"
800	"
900	"
335 ^k 000	"
100	"
200	"
300	"
310	"
400	"
500	"

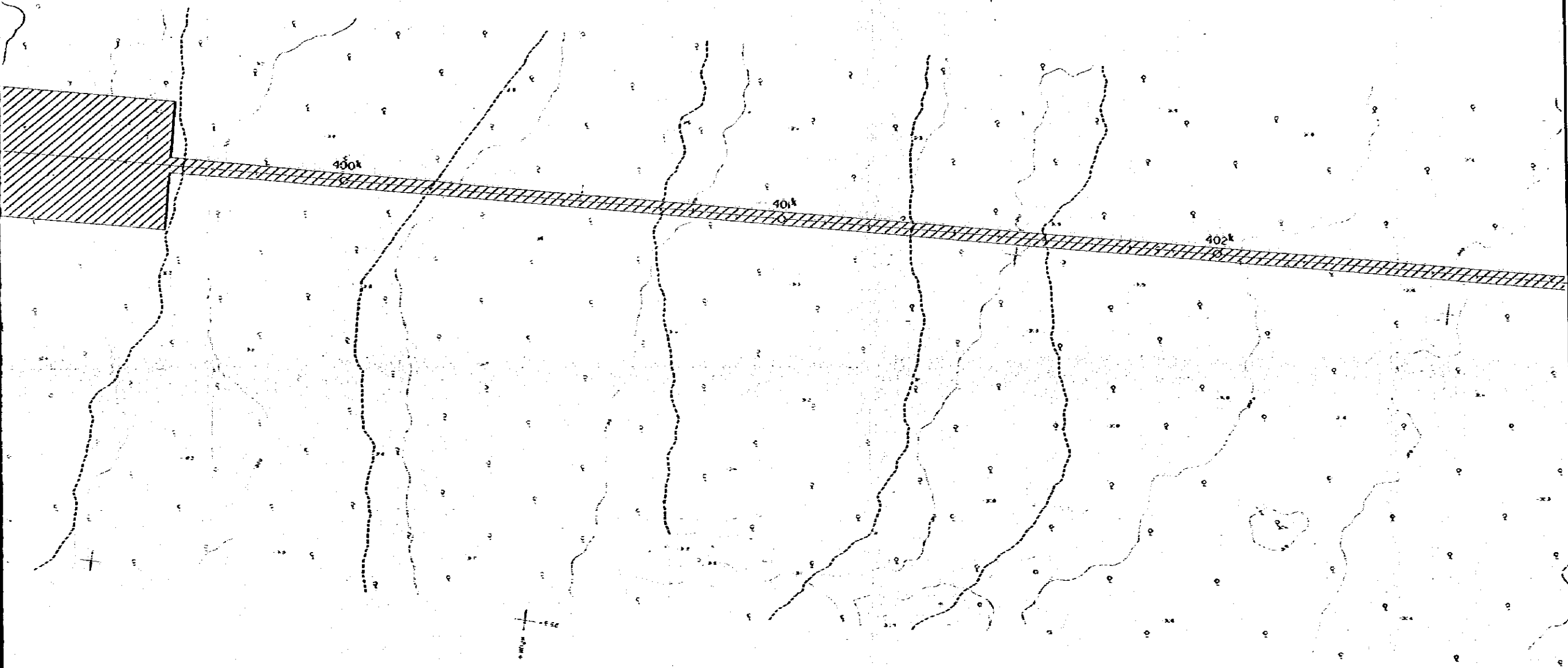
Limits of filling

Elevation	Width (m)
335 ^k 500 ^m 00	30
600	"
700	"
800	"
900	"
930	"
336 ^k 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
337 ^k 000	"
100	"
200	"
300	"
350	"
400	"
500	"
600	"
700	"
800	"
860	"
900	"
338 ^k 000	"
100	"
200	"



SCALE 1:5,000
METRES

- MISCELLANEOUS
- Electric Line
 - Gravel
 - Pipe
 - Well
- HYDROGRAPHY
- Public Water
 - Private Water
- By Rule
- CONTOURS AND TRAVERSE POINTS
- Contour
 - Spot Height
 - Survey Point
 - Leveling Point



EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PROJECT EASTERN LINE (MATERIAS-ROJAS)		
LIMIT OF FELLING (Sheet 10 of 12)		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No 27

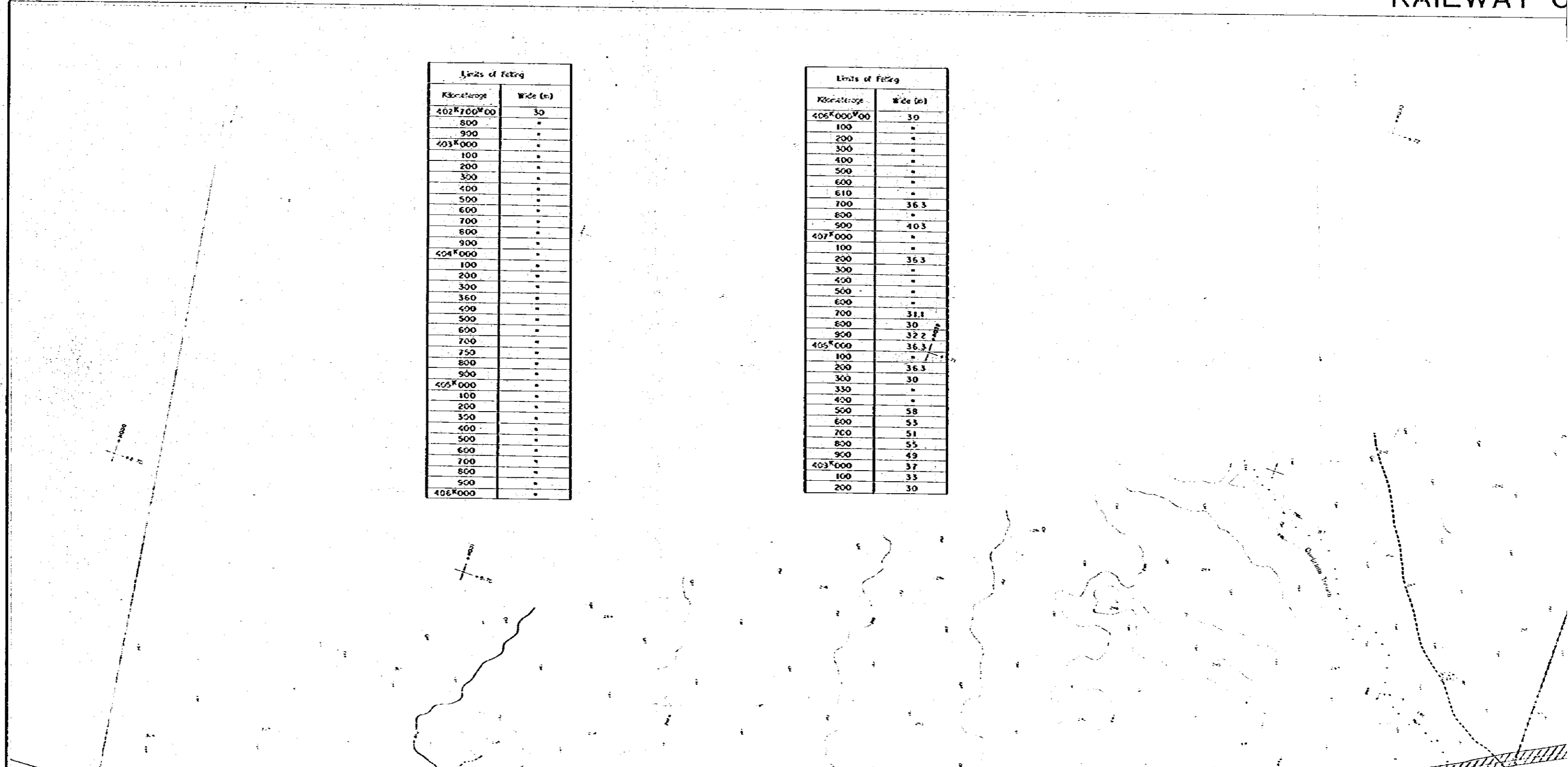
- 1 Photographic Flight—June 1950
 - 2 Control Point Survey—June 1950
 - 3 Detail Contouring—October 1950
 - 4 Detail Stationing—IGM Transition Point
- Use
 IGM Leveling Point
 LL 151 LL 153
 LL 159 LL 161
 LL 168 BC 27

1 : 5000
BOLIVIA

RAILWAY C

Limits of Felling	
Kilometrage	Wide (m)
402 ^K 700 ^M 00	30
800	"
900	"
403 ^K 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
404 ^K 000	"
100	"
200	"
300	"
360	"
400	"
500	"
600	"
700	"
750	"
800	"
900	"
405 ^K 000	"
100	"
200	"
300	"
400	"
500	"
600	"
700	"
800	"
900	"
406 ^K 000	"

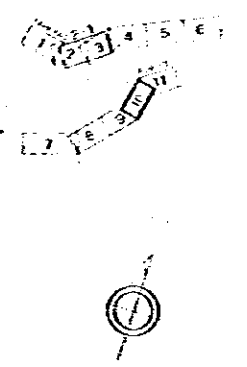
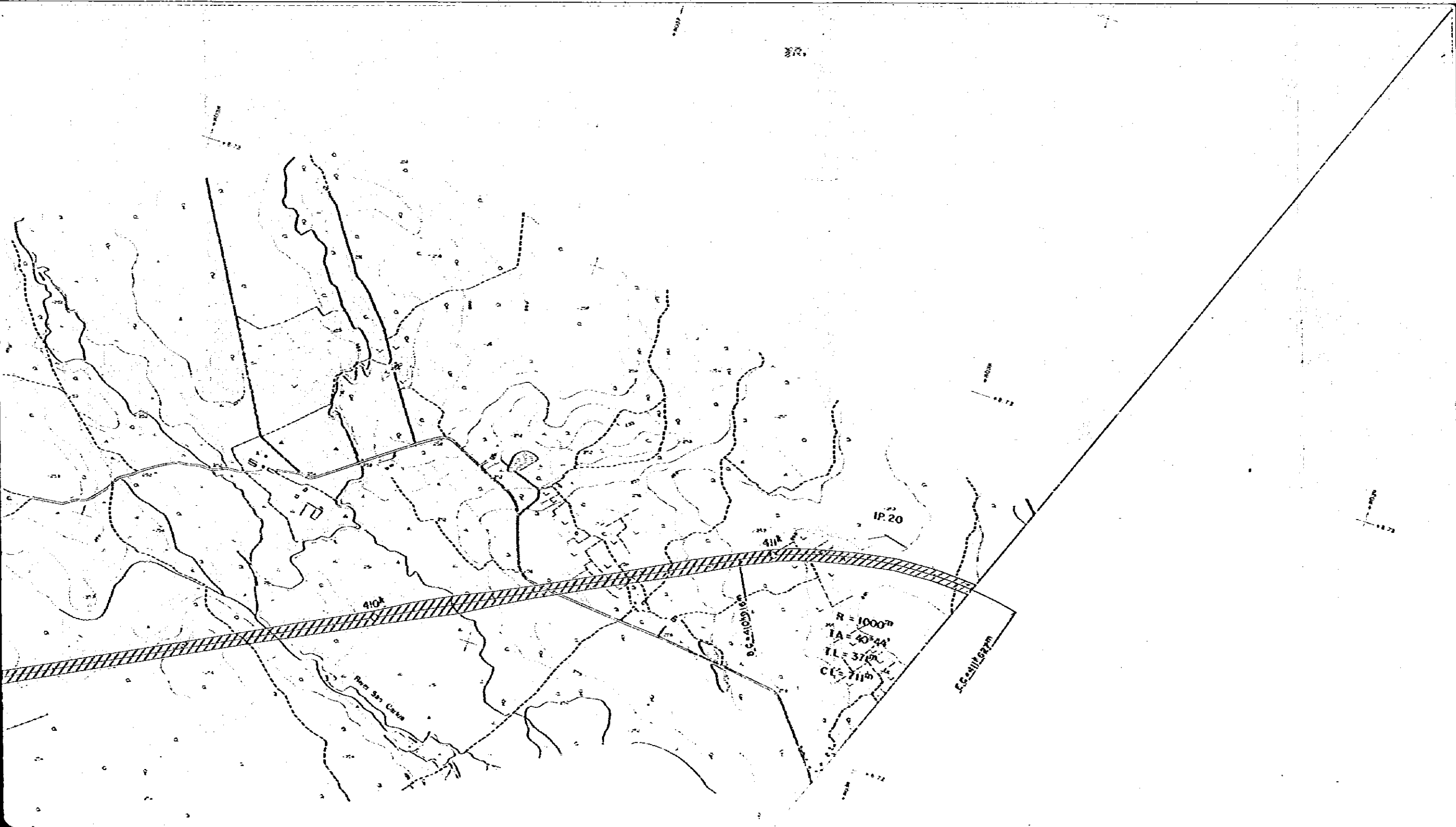
Limits of Felling	
Kilometrage	Wide (m)
406 ^K 000 ^M 00	30
100	"
200	"
300	"
400	"
500	"
600	"
610	"
700	36.3
800	"
900	40.3
407 ^K 000	"
100	"
200	36.3
300	"
400	"
500	"
600	"
700	31.1
800	30
900	32.2
405 ^K 000	36.3
100	"
200	36.3
300	30
350	"
400	"
500	58
600	53
700	51
800	55
900	49
403 ^K 000	37
100	33
200	30



RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)



NO.10



LEGEND

ROADS TRACAS ETC.

As

Via As

Ferrocarril

FALANYS ETC.

Sanctuario

Urb. Cur

VEGETATIONS

Cajal

Coque

Trochil

Bufo

Palm

Alm. Esc.

MISCELLANEOUS

Eremitio

Camp

Pisc.

Cen.

HYDROGRAPHY

Ran. L. S. C.

Ran. S. C.

DE FIN.

OUTLINES AND TRAVERSE POINTS

Altimeter

Sol. P. M.

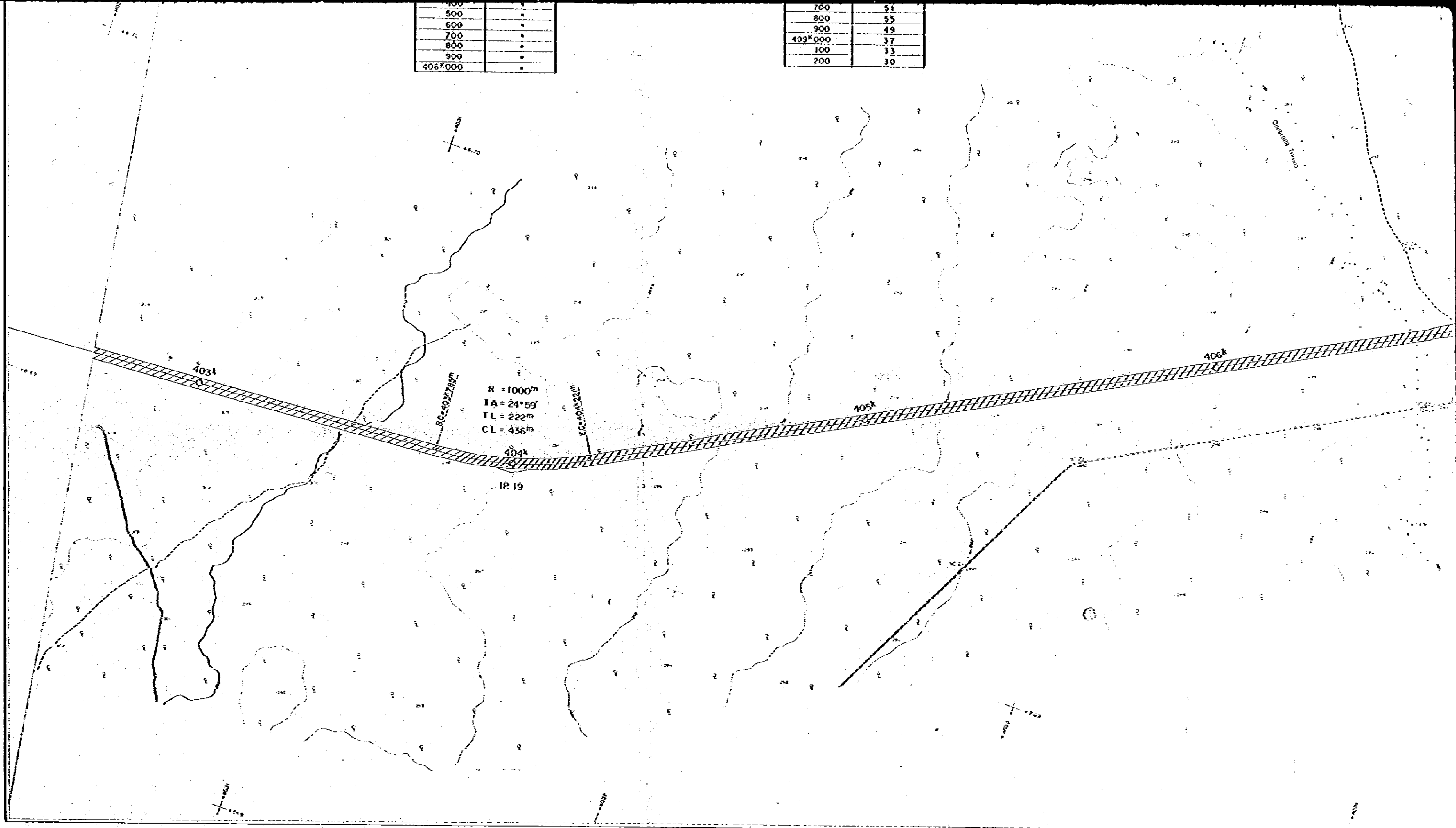
Sol. P. M.

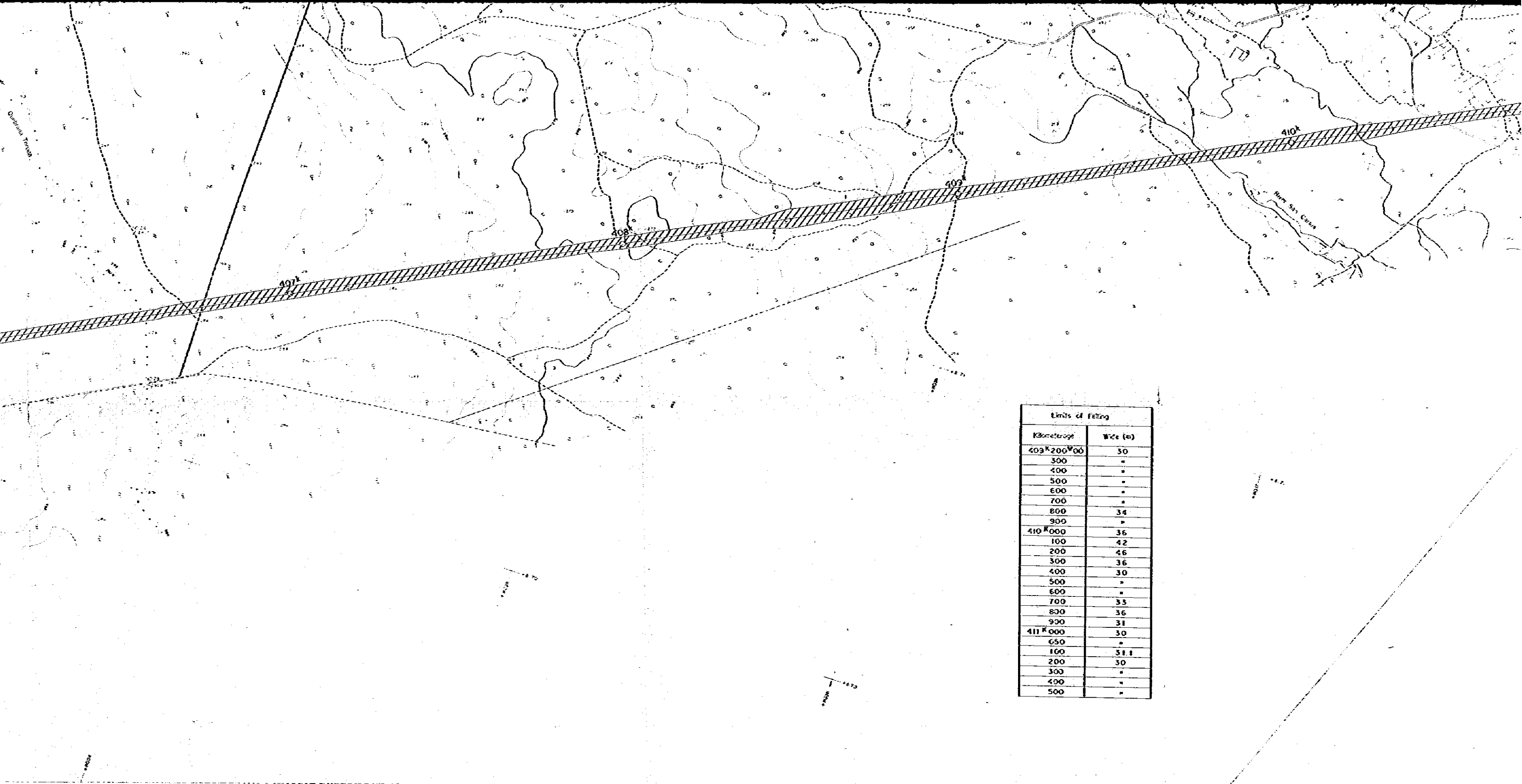
Sol. P. M.

Sol. P. M.

100	.
500	.
600	.
700	.
800	.
900	.
406*000	.

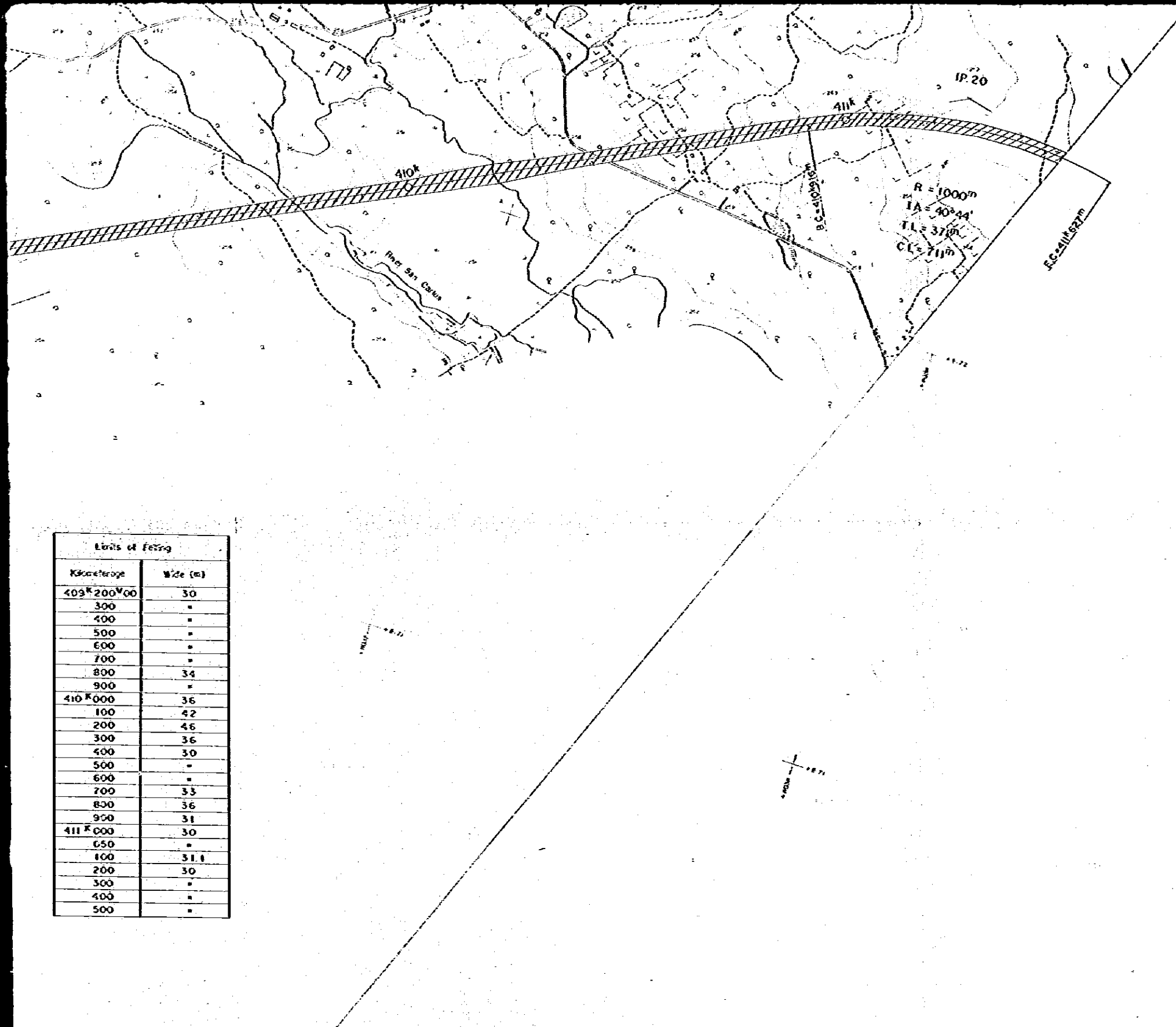
700	51
800	55
900	49
409*000	37
100	33
200	30





Limits of Feeding	
Kilometrage	Wide (m)
403 ^K 200 ^W 000	30
300	"
400	"
500	"
600	"
700	"
800	34
900	"
410 ^K 000	36
100	42
200	46
300	36
400	30
500	"
600	"
700	33
800	36
900	31
411 ^K 000	30
650	"
100	31.1
200	30
300	"
400	"
500	"

SCALE 1:5,000
METRES



- Path
- Arch Line
- MISCELLANEOUS
- Elevation
- Contours
- Peak
- Cliff
- HYDROGRAPHY
- Post Office
- Rail Station
- By Rail
- CONTOURS AND TRAVERSE POINTS
- Traverse Point
- Spot Height
- Spot Height
- Leveling Point

Limits of Felling	
Kilometrage	Wide (m)
409+200/400	30
300	"
400	"
500	"
600	"
700	"
800	34
900	"
410+000	36
100	42
200	46
300	36
400	30
500	"
600	"
700	33
800	36
900	31
411+000	30
650	"
100	31.1
200	30
300	"
400	"
500	"

EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN LINE (LINES 20, 22)		
LIMIT OF FELLING (Sheet 11 of 12)		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No 28

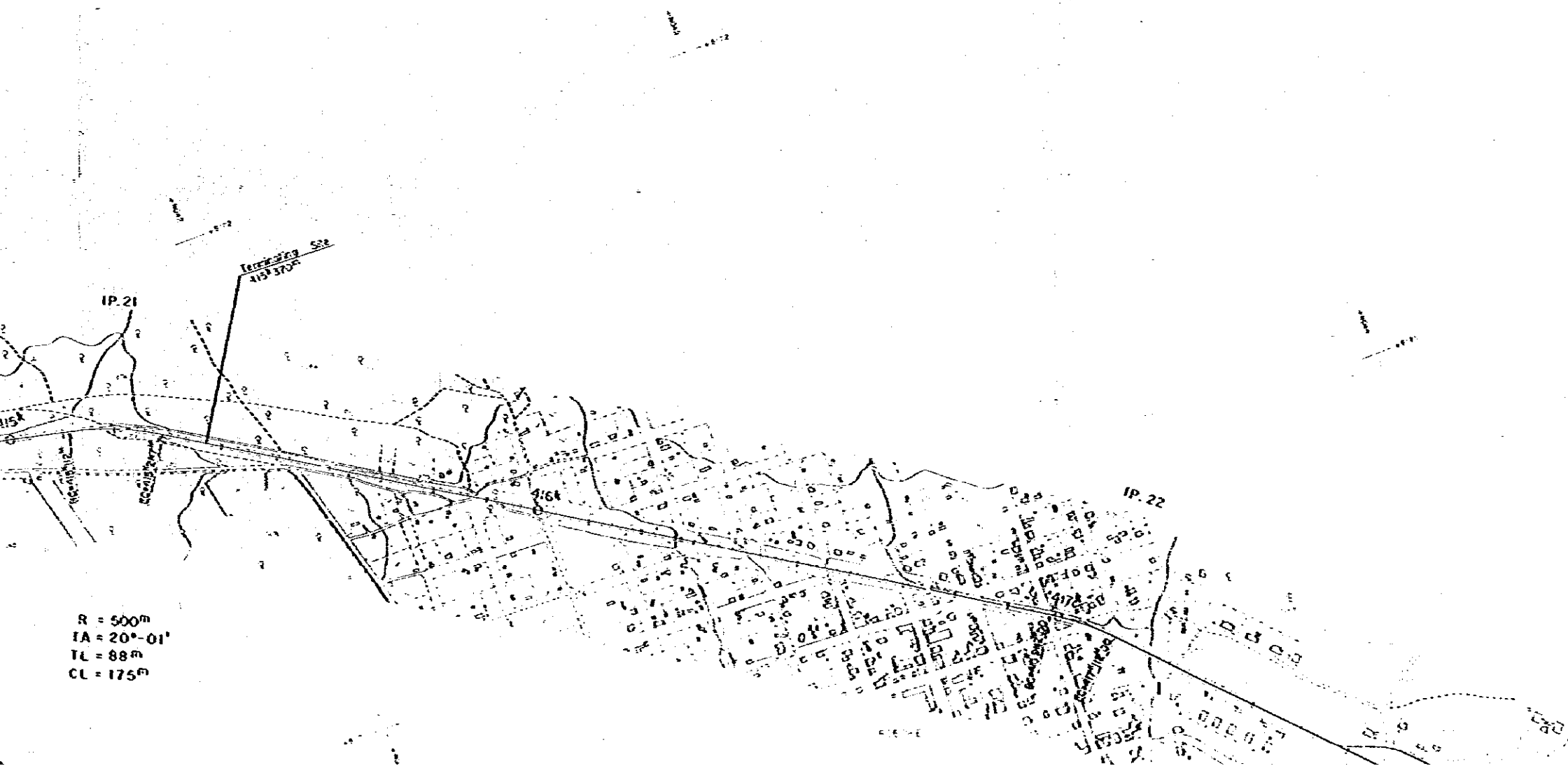
- 1. Photographic Photo June 1930
- 2. Control Point Survey June 1930
- 3. Detail Contouring October 1930
- 4. Detail Stationing LGM Pangelco Post
Via
LG M Leasing Post
LL 151 LL 153
LL 159 LL 151
LL 193 BS 27

1 : 5000
BOLIVIA

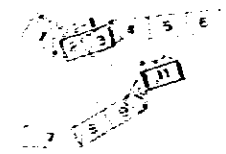
RAILWAY C



RAILWAY CONSTRUCTION PROJECT (TAPERAS - ROBORE)



NO. 11



LEGEND

ROADS TRAILS ETC.

- By
- Highway
- Trail path

PALAYS ETC.

- Salt flat
- Wet flat

VEGETATIONS

- Grass
- Open
- Timber
- Wet
- Forest
- And etc.

MISCELLANEOUS

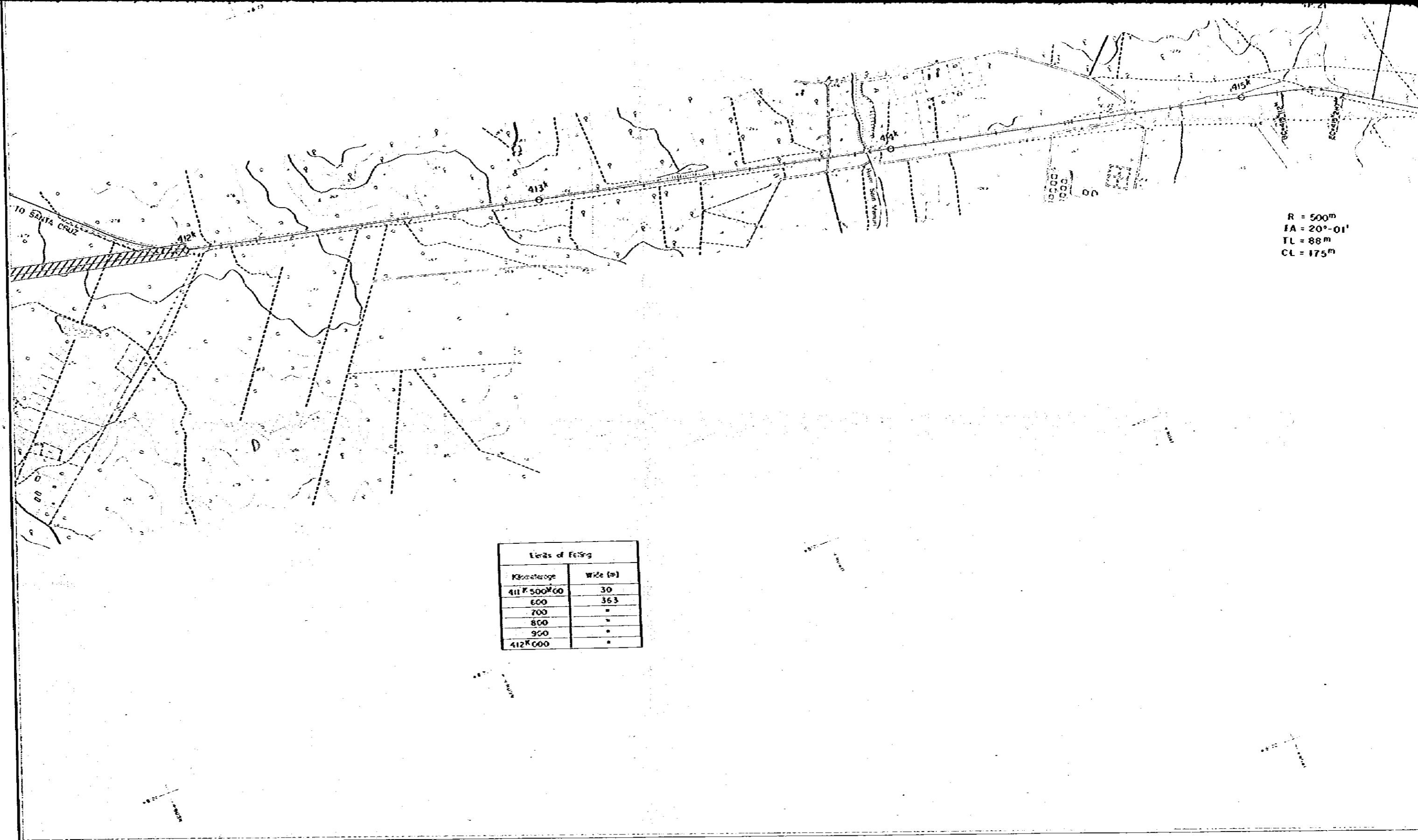
- Electric line
- Telegraph
- Railroad
- Other

HYDROGRAPHY

- Perennial flow
- Intermittent flow
- Dry flow

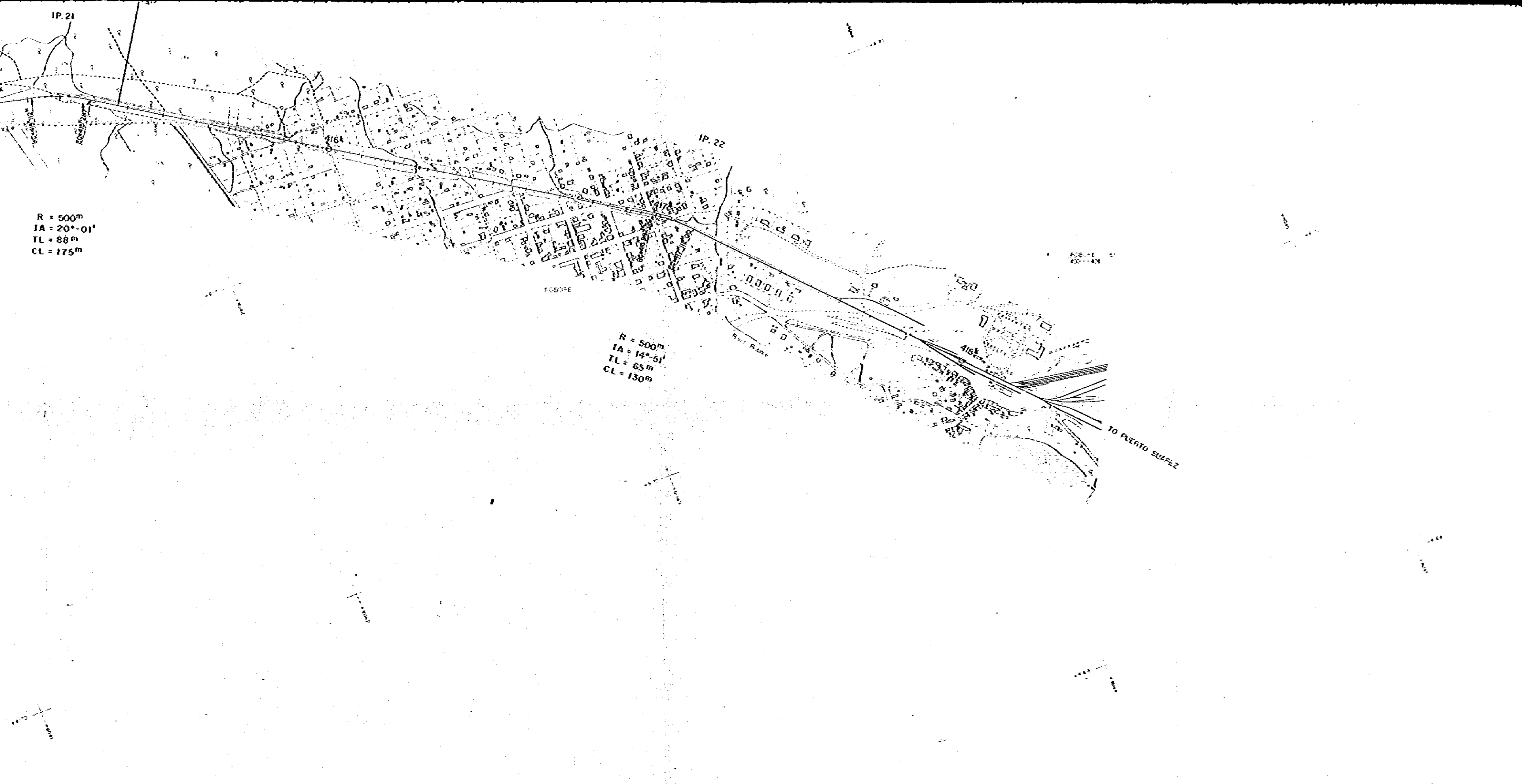
CONTOURS AND TRAVERSE POINTS

- Contour line
- Spot height
- Spot height 1000
- Spot height 1000 1000
- Spot height 1000 1000



R = 500m
 IA = 20°-01'
 TL = 88m
 CL = 175m

Kinds of Fe'ing	
Kilometerage	Wide (m)
411 R 500' 00	30
600	363
700	"
800	"
900	"
412 R 000	"



IP. 21

R = 500m
IA = 20°-01'
TL = 88m
CL = 175m

IP. 22

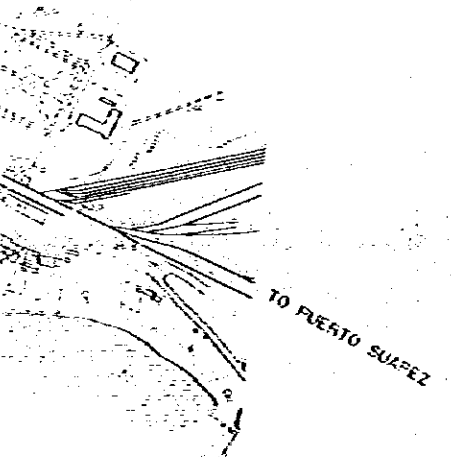
R = 500m
IA = 14°-51'
TL = 65m
CL = 130m

TO PUERTO SUPEZ

SCALE 1:5,000
METRES

MISCELLANEOUS
 Elevation
 Contour
 P.M.
 C.M.
 HYDROGRAPHY
 P.M.
 P.M.
 D.P.M.
 CONTOURS AND TRAVERSE POINTS
 S.E.P.M.
 S.P.M.
 L.M.P.

4000
 4000



EMPRESA NACIONAL DE FERROCARRILES
RAILWAY CONSTRUCTION PROJECT EASTERN LINE
 (TAPAS-RODAS)

LIMIT OF FELLING
 (Sheet 12 of 12)

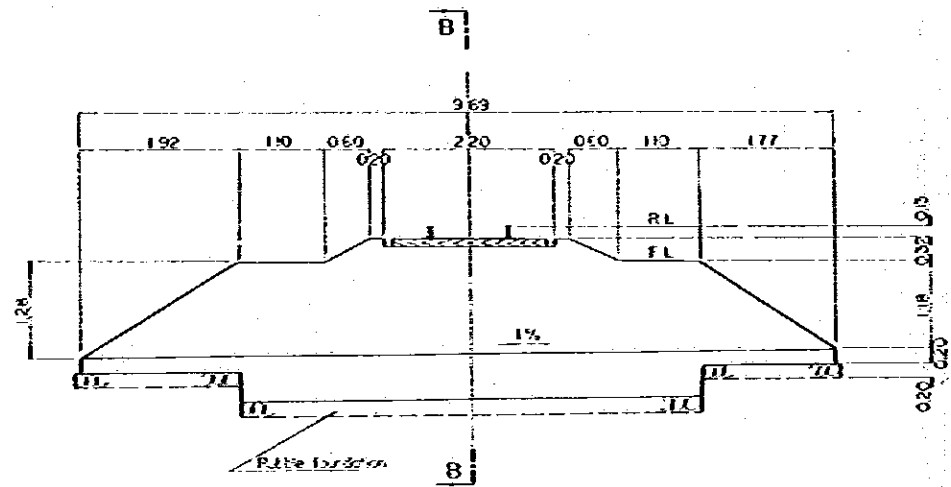
Executing Enterprise

Drawn by Date	Checked by Date	Approved by Date

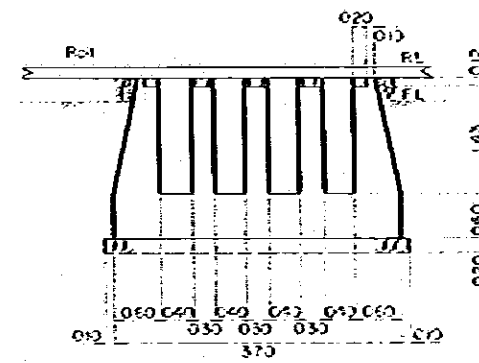
Contracting Enterprise

Checked by Date	Approved by Date	No. 29

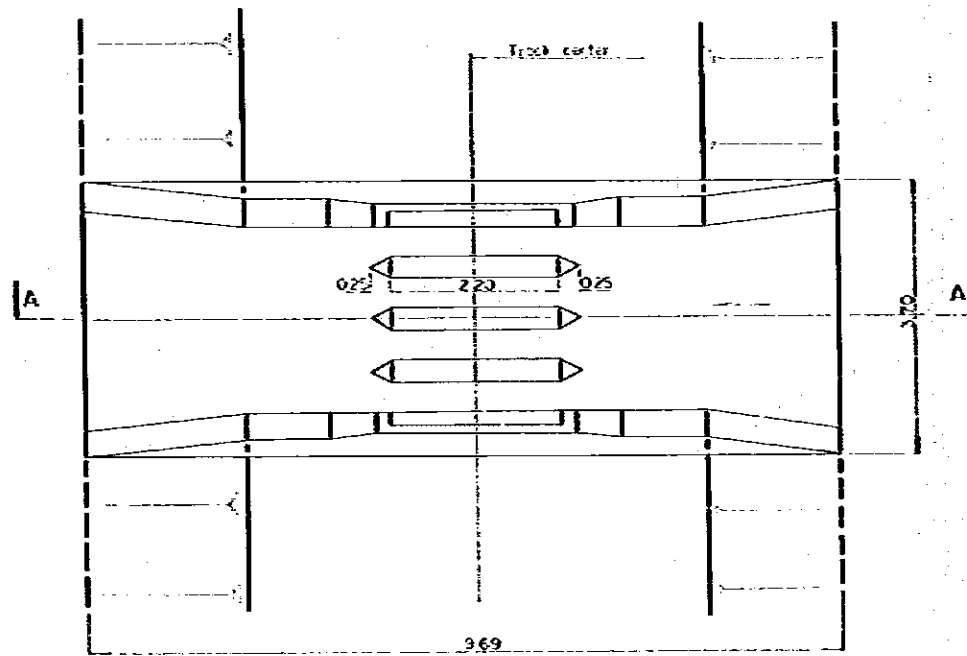
1. Photographic Photo—June 1980
2. Control Point Survey—June 1980
3. Detail Completion—October 1980
4. Detail Station—IGM Triangulation Point
 Via a
 IGM Levelling Point
 LL 151 LL 153
 LL 189 LL 191
 LL 153 BS 27



SECTION A - A S-1/50



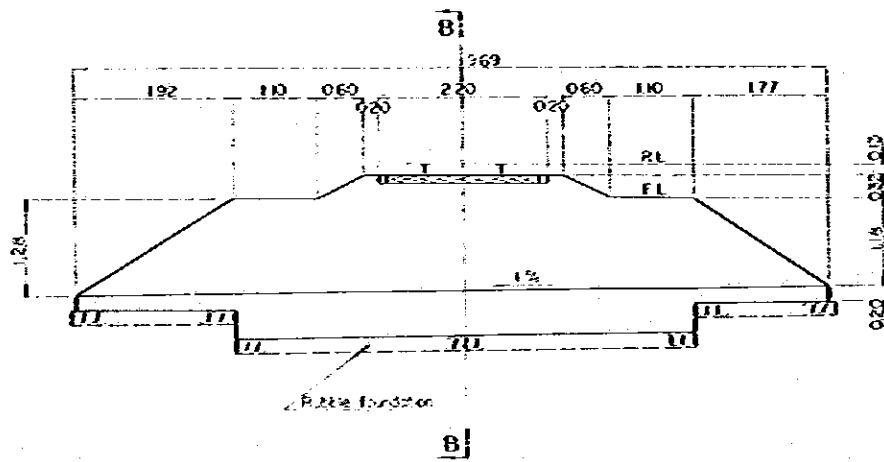
SECTION B - B S-1/50



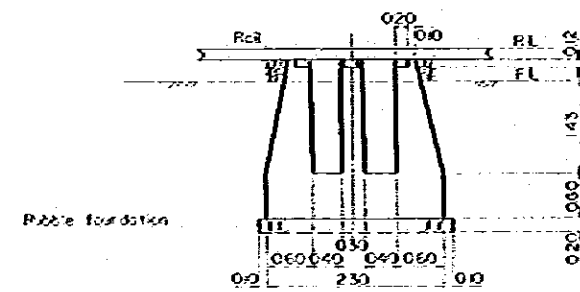
PLAN S-1/50

Note
Concrete: class B

INSTITUTO NACIONAL DE RECURSOS HÍDRICOS
 DEPARTAMENTO NACIONAL DE ENGENHARIA
 TÍPICO DE CFEM DRAJAG (Do 4)
 GENERAL VIEW
 31

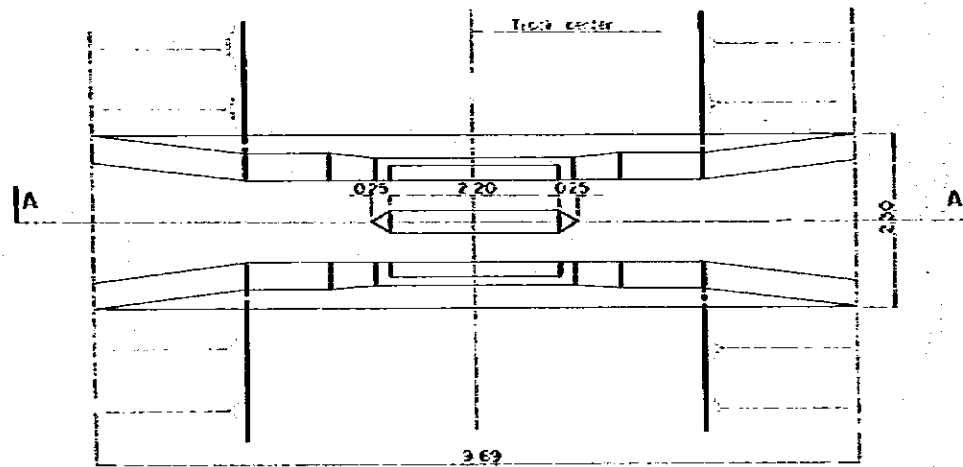


SECTION A - A S=1/50



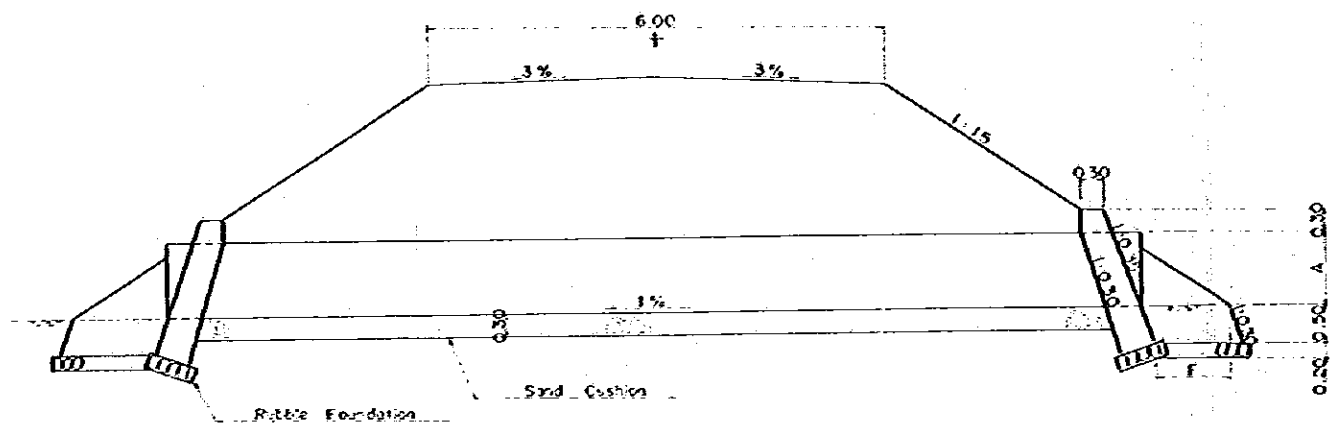
SECTION B - B S=1/50

Note
Concrete - class B

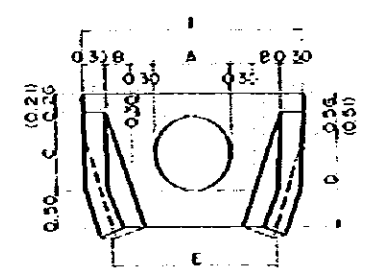


PLAN S=1/50

FEDERAL BUREAU OF INVESTIGATION
 SAC, NEW YORK
 TYPICAL OF OPEN DRAMAG (Do 2)
 GENERAL VIEW
 EXCISE
 CONTRACTOR
 32



TYPICAL SECTION S-1/50



Note
 (1) In case of embankment
 higher than 50m in height

FRONT VIEW S-1/50

TABLE OF DIMENSION (UNITE m)

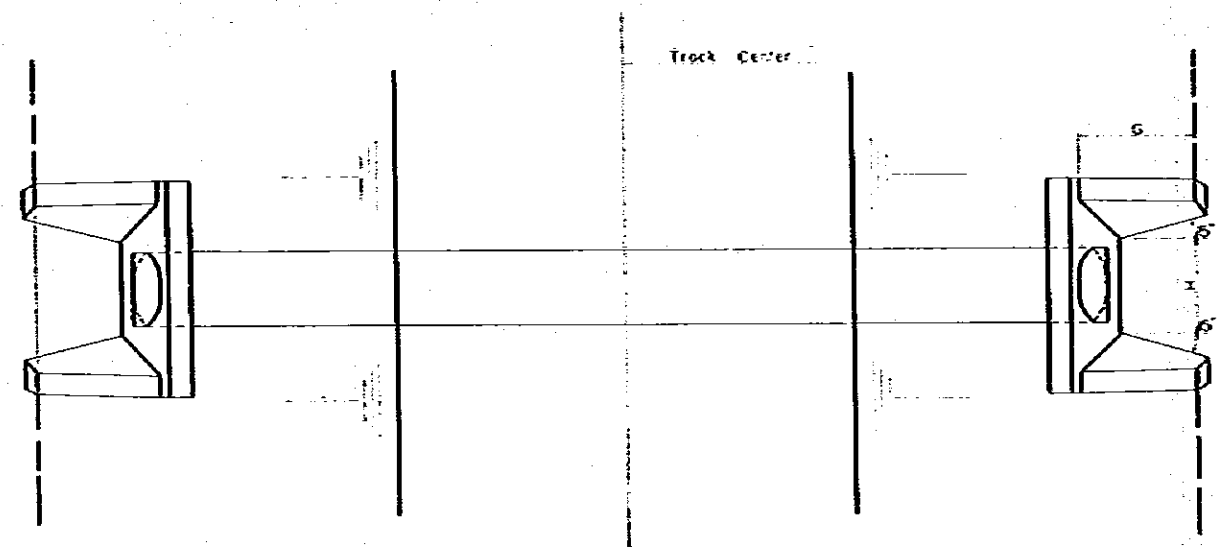
1. Embankment lower than 50m in height

A (P)	B	C	D	E	F	G	H	I
0.80 ^m	0.29	0.81	1.04	1.86	0.80	1.27	1.05	2.58
1.00	0.36	1.04	1.24	2.18	1.02	1.56	1.25	2.92
1.20	0.43	1.24	1.44	2.40	1.25	1.86	1.45	3.26

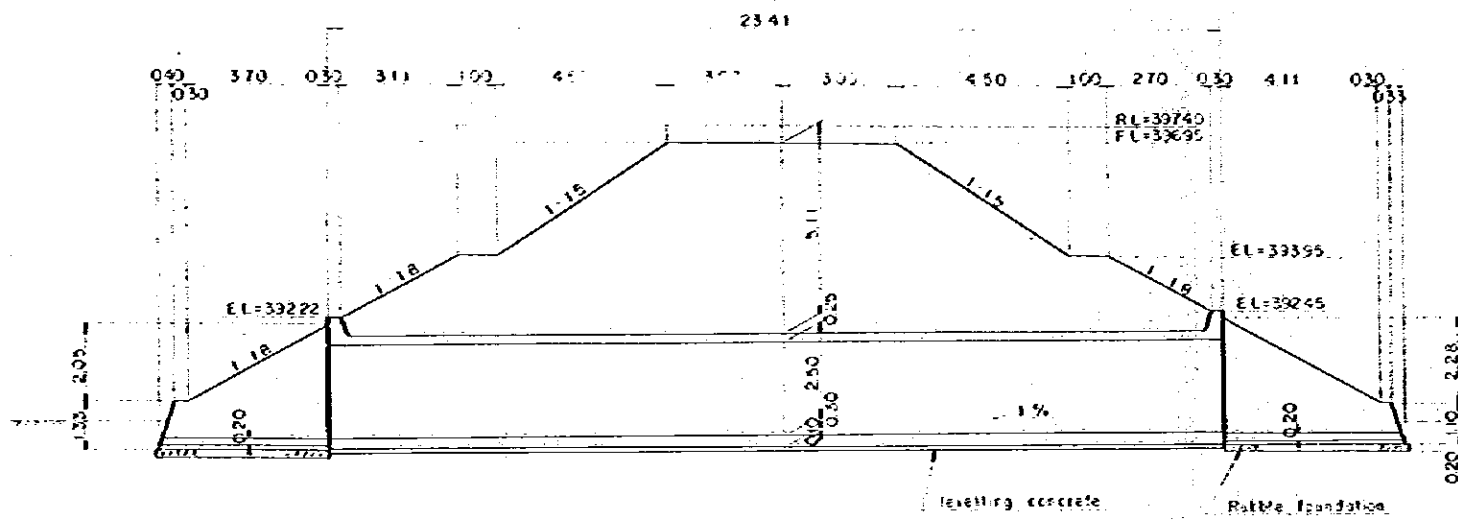
2. Embankment higher than 50m in height

A (P)	B	C	D	E	F	G	H	I
0.80 ^m	0.31	0.89	1.09	1.96	1.11	1.60	1.05	2.62
1.00	0.38	1.09	1.29	2.18	1.40	1.96	1.25	2.96
1.20	0.45	1.29	1.49	2.40	1.69	2.32	1.45	3.30

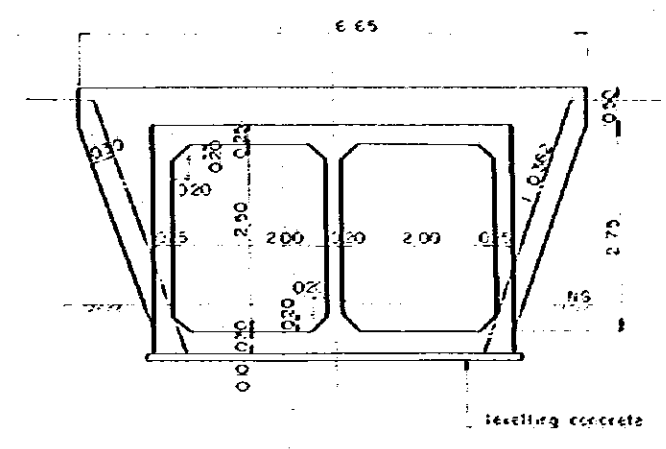
Note
 Concrete - Class C



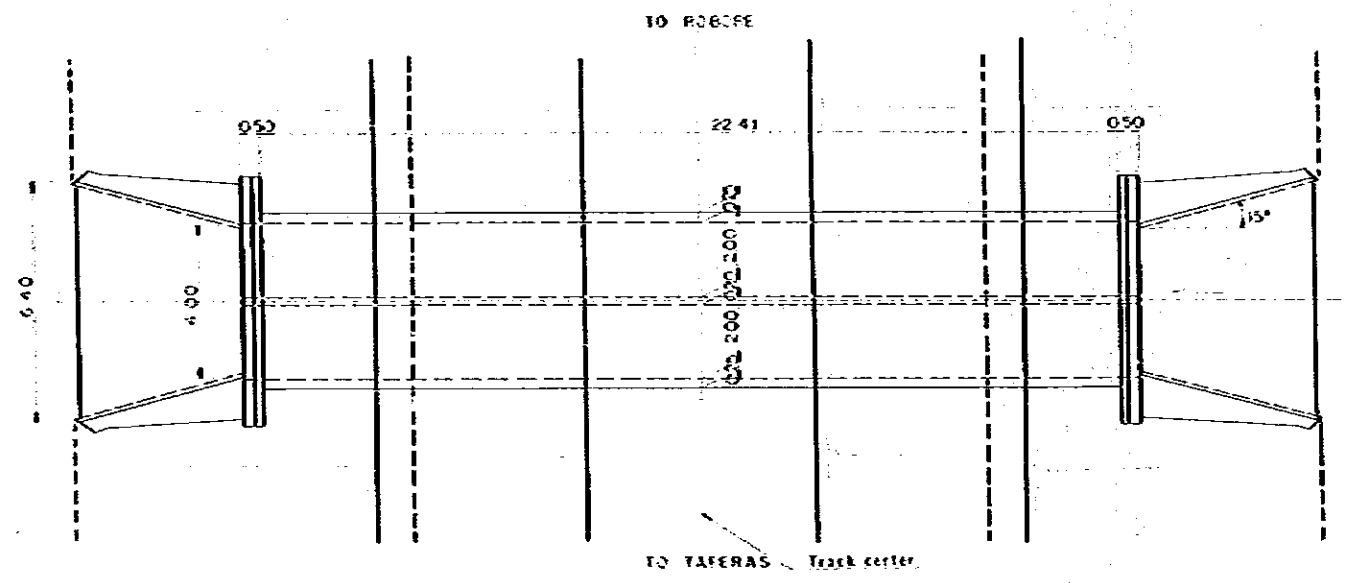
PLAN S-1/50



Section $s=1/100$

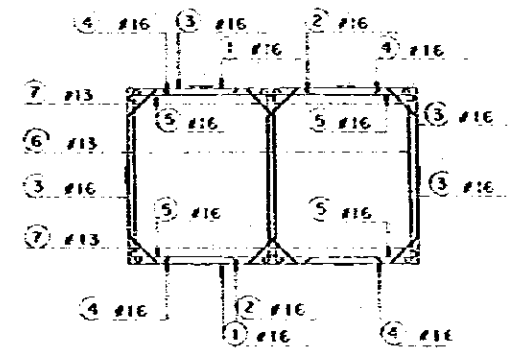


Front View $s=1/50$

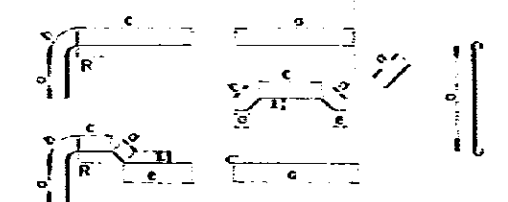


Plan $s=1/100$

Man for arrangement



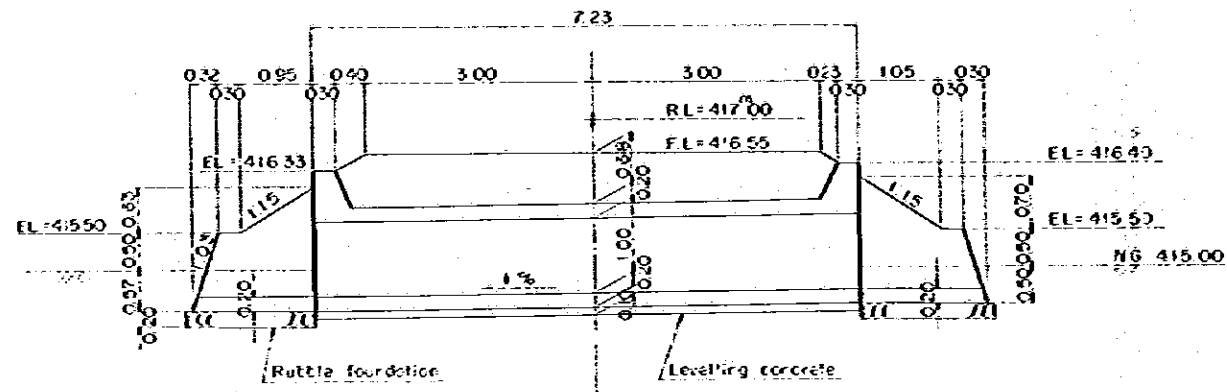
Bar schedule per 1 meter



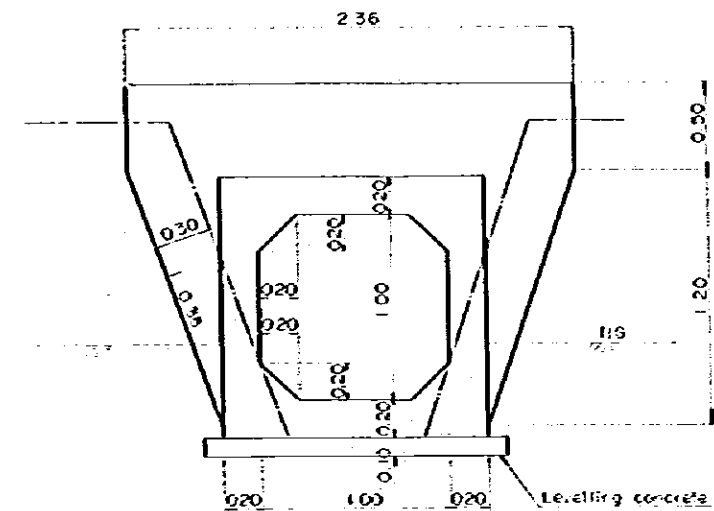
Note
 The class of concrete
 Box culvert class A
 Sheathing class C
 Leveling class C

Nº	Ø (S)	a	b	c	d	e	R	H	L	LONG (m)
1	#16	2650						80	8	2680
2	-	240	113	1000	113	240		80	8	1710
3	-	1460	267	1210			170	80	16	2910
4	-	1460	267	470	113	1800	170	80	16	4110
5	-	2400							16	2630
6	#13	2670							16	3070
7	-	600							32	600

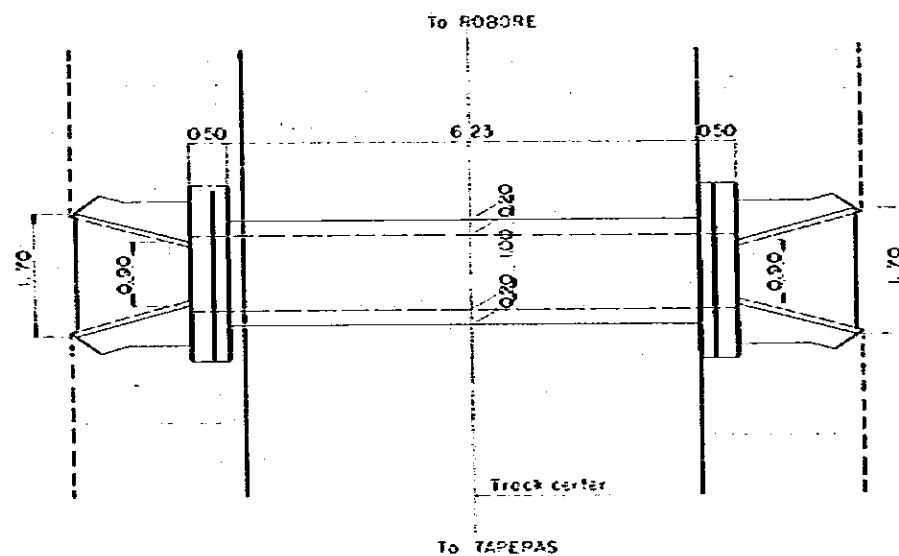
EMPRESA NACIONAL DE FERROVIARIAS
 DEPARTAMENTO DE CONSTRUCCIONES FERROVIARIAS
 312^M 740^M No 1 Cb
 BOX CULVERT
 GENERAL VIEW
 Escala: 1/50
 Centro de Estudios de Ingeniería y Construcción
 34



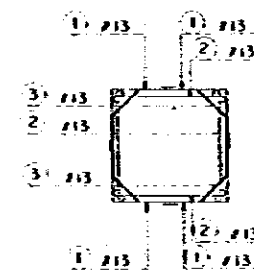
Section s=1/50



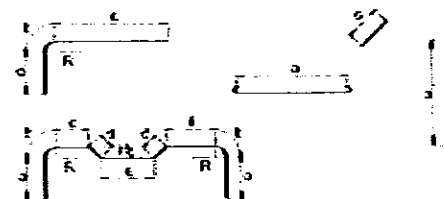
Front View s=1/20



Plan s=1/50



Main bar Arrangement



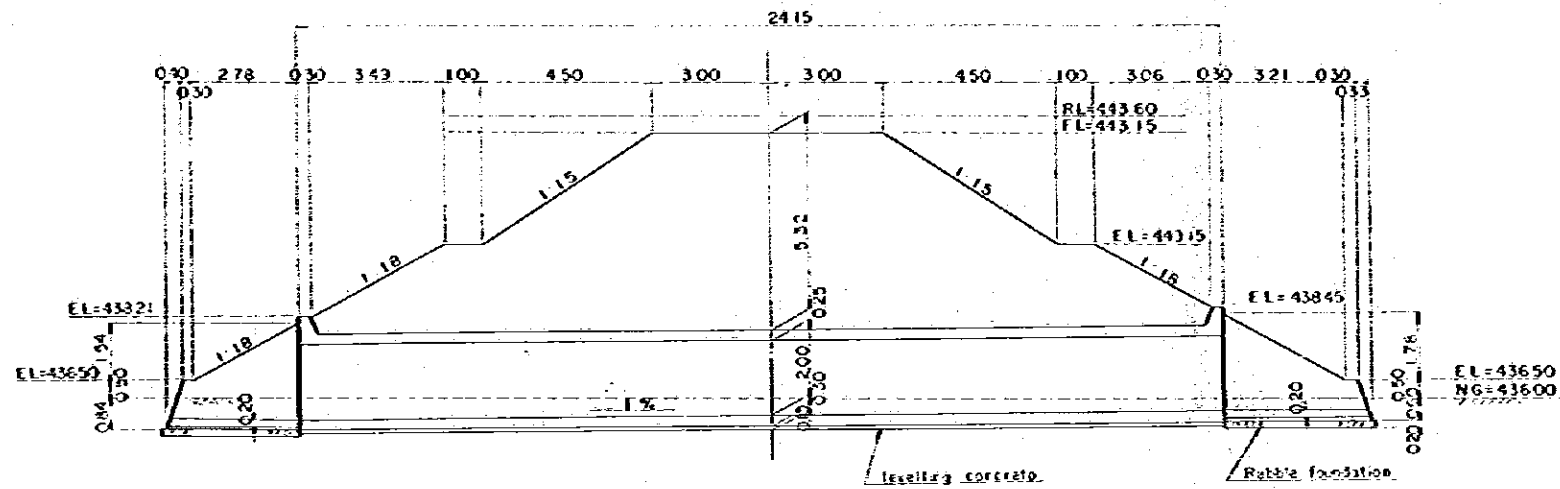
Bar schedule per 1 meter

No	CA	c	l	e	d	e	R	H	NO. OF BARS	LENGTH
1	#13	3-5	220	3-5			110	32	2	2110
2	#13							24	2	2070
3	#13							16	2	550

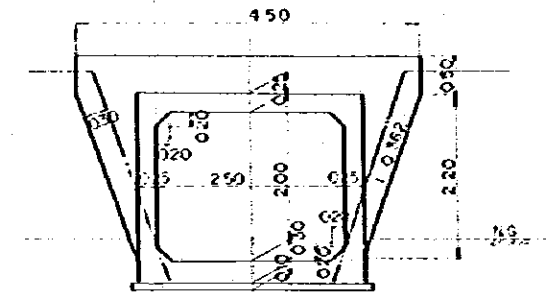
Note

- The class of concrete
- Box culvert: class A
- Shaping: class C
- Leveling: class D

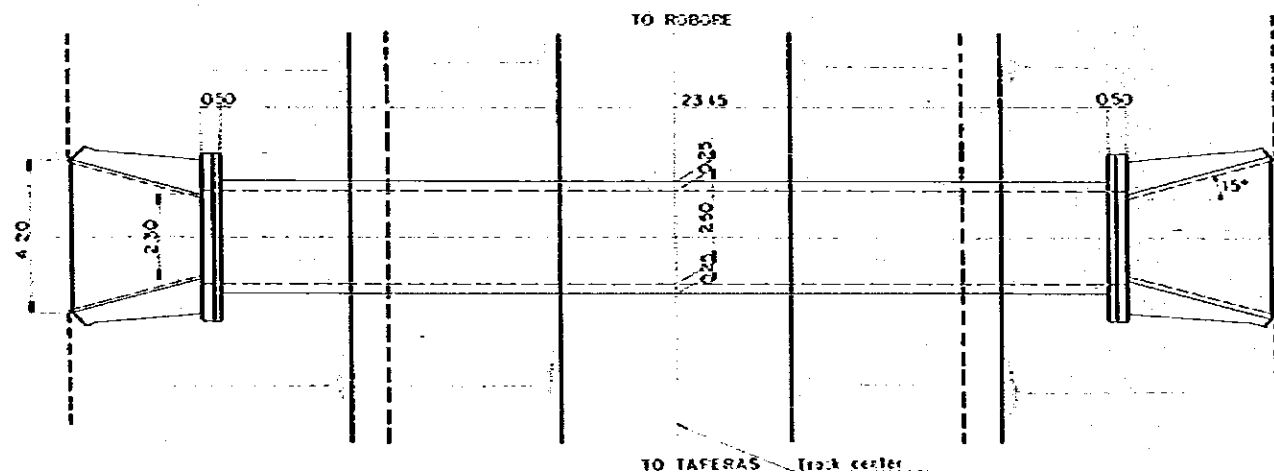
EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN LINE		
314 th 700 ^m NO 2 Cb		
BOX CULVERT		
GENERAL VIEW		
Executive Enterprise		
Drawn by Date:	Checked by Date:	Approved by Date:
Contracting Enterprise		No 35
Checked by Date:	Approved by Date:	



Section $s=1/100$

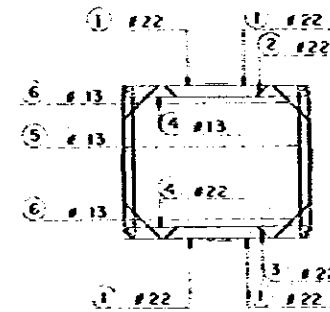


Front View $s=1/50$

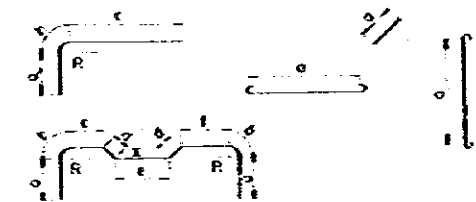


Plan $s=1/100$

Main bar Arrangement



Bar schedule per 1 meter



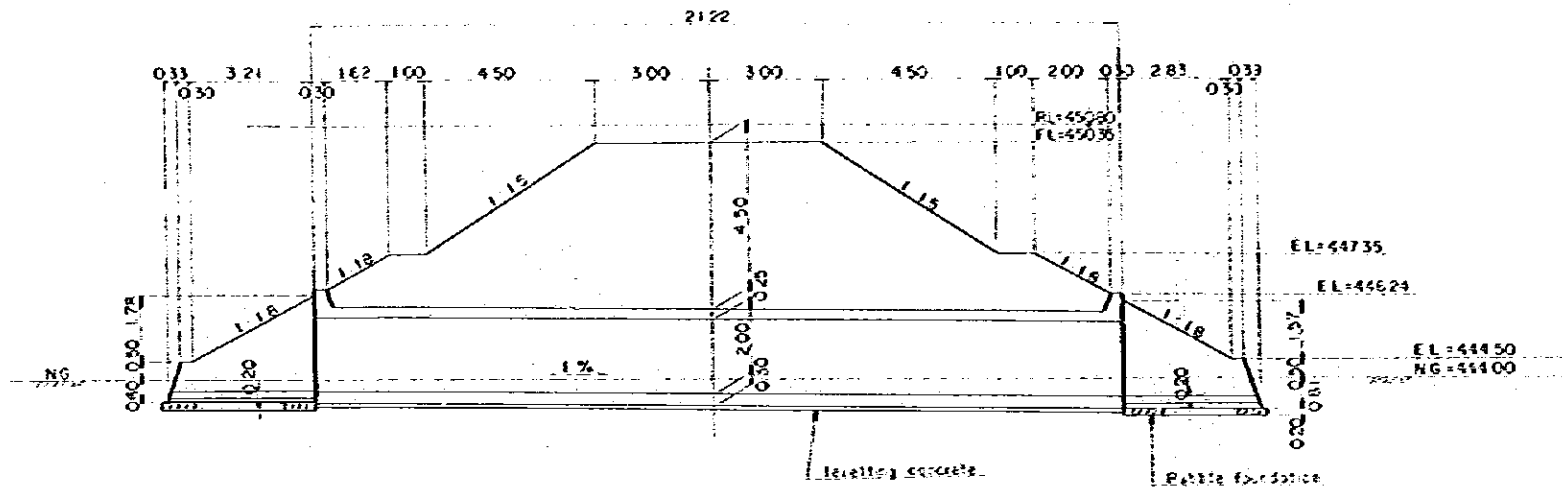
Nº	(C.A. / P.P.)	c	l	l	c	e	f	P	H	TOTAL LENGTH (M)
1	#22	1330	377	1530				240	16	3240
2	#22	1330	377	330	164	1360	330	240	130	5330
3	#22	1330	377	330	255	1260	330	240	150	5370
4	#13	2710								3310
5	#13	2320								2720
6	#13	800								600

Note

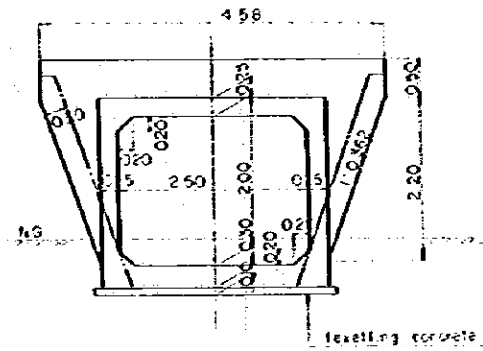
The class of concrete

- Box culvert : class A
- Stealing : class C
- Leaving : class D

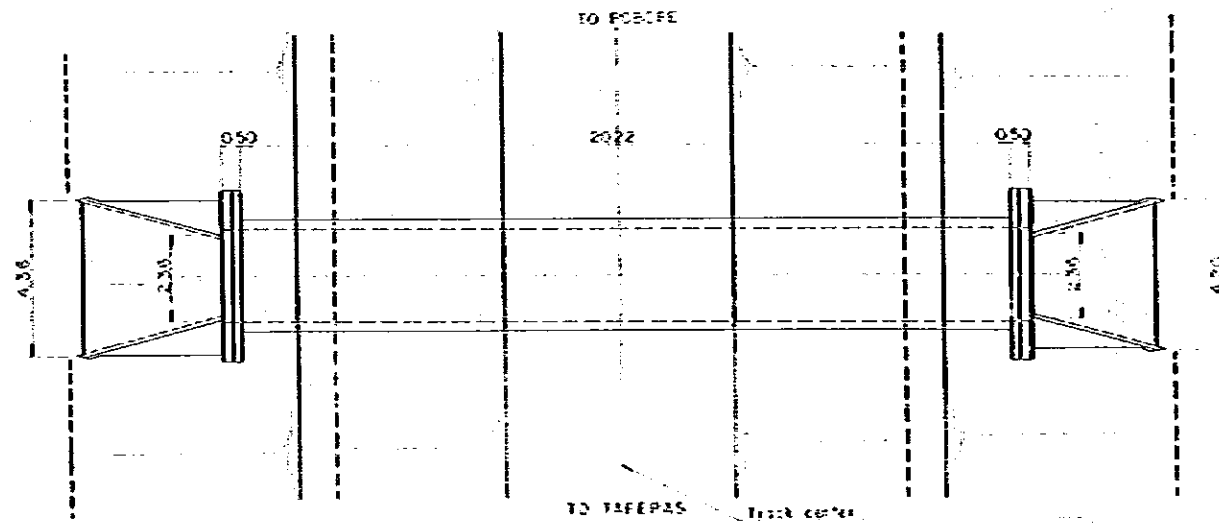
EMPRESA NACIONAL DE FERROVIARIOS
 P. O. BOX 10000, S. J. DE LOS RIOS, C. R.
317#360 No 3 Cb
BOX CULVERT
GENERAL VIEW
 Escala: 1/100
 Autor: Ing. Roberto A. Rodríguez
 Controlador: P. J. J. J.
 36



Sección s=1/100

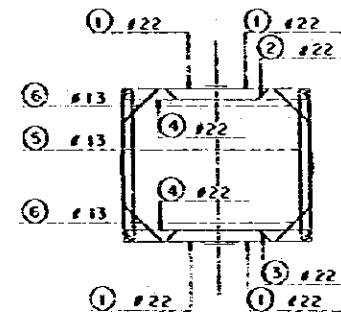


Front View

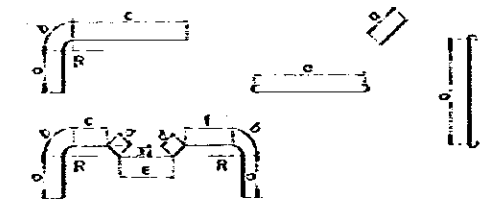


Plan s=1/100

Main bar Arrangement



Bar schedule per 1 meter



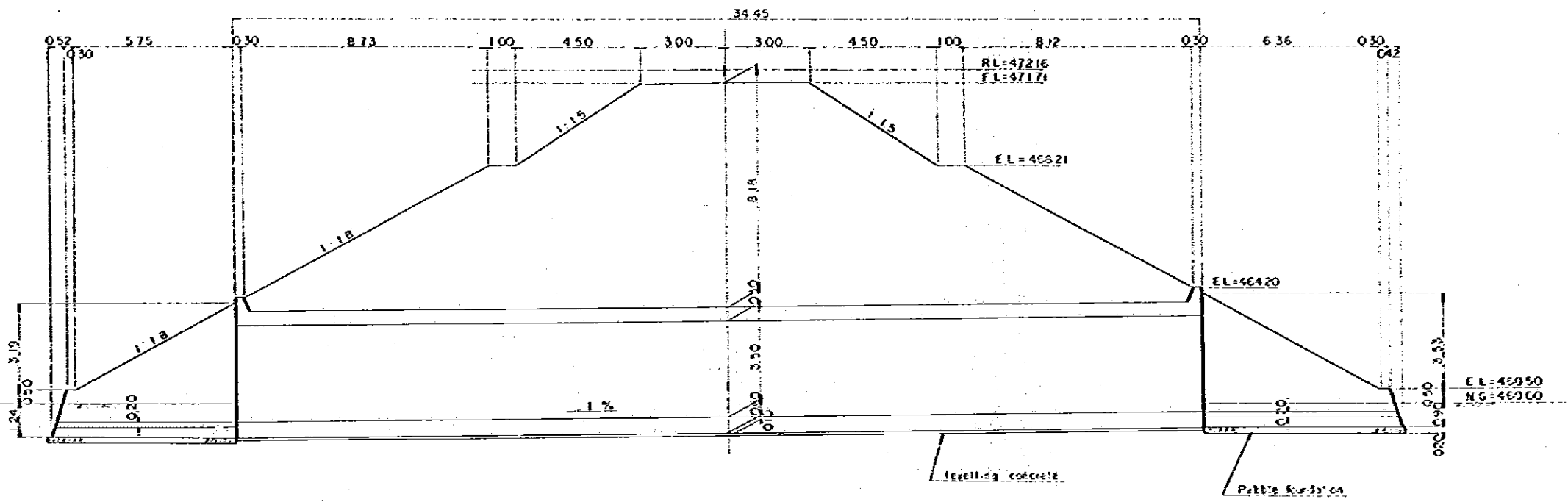
No	DIA (mm)	a	b	c	d	e	f	R	H	TOTAL NUMBER	LENGTH (m)
1	#22	1350	377	1530				240		16	3240
2	-	1350	377	390	184	1360	390	240	130	4	5933
3	-	1350	377	390	255	1260	390	240	180	4	5970
4	-									8	3310
5	#13	2300								8	2720
6	-	800								16	800

Note

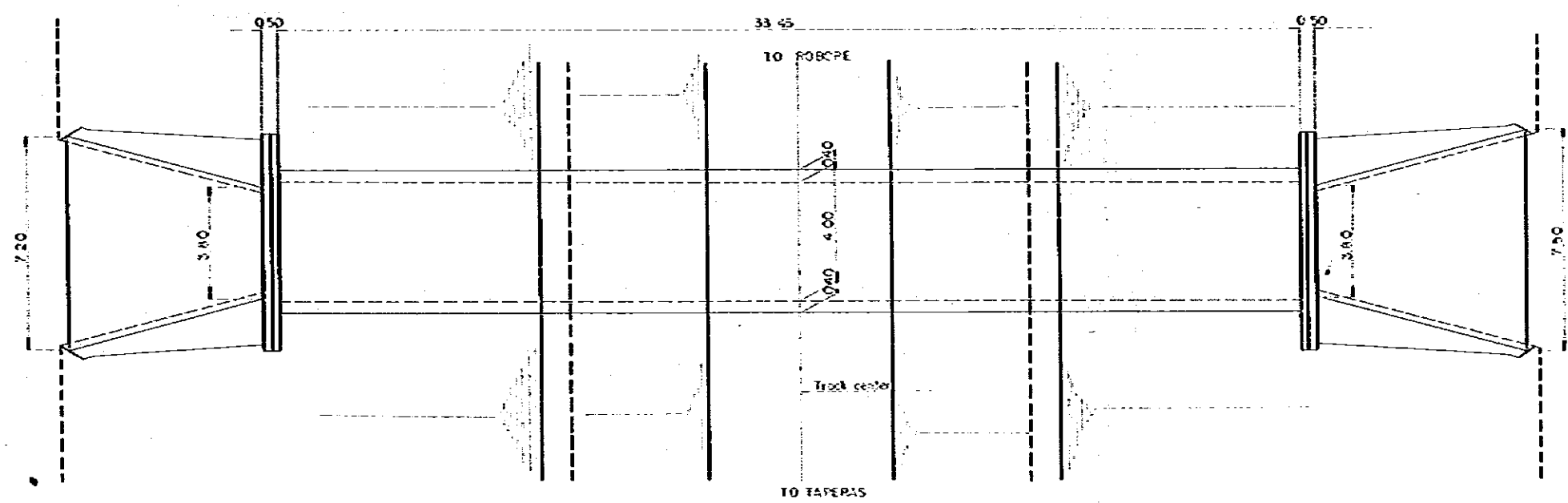
The class of concrete

- Box culvert class A
- stealing class C
- leveling class D

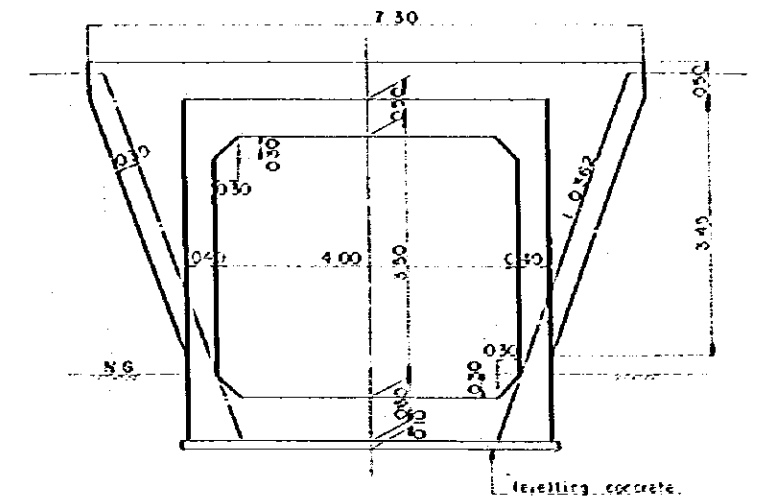
EMPRESA NACIONAL DE FERROCARRILES
 DIVISION DE CONSTRUCCION FERROVIARIA Y ENCLAVAMIENTO
324x400^M No 4 Cb
BOX CULVERT
GENERAL VIEW
 FILE NO. 75-000000
 No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



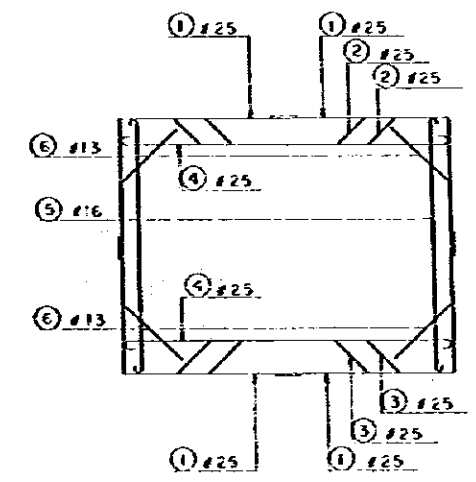
Section $s=1/100$



Plan $s=1/100$

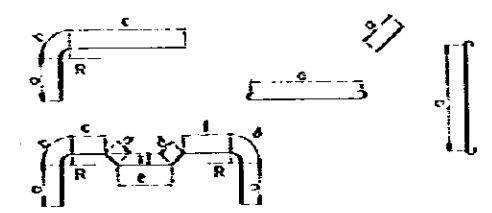


Front View $s=1/50$



Main Bar Arrangement

Bar schedule per 1 meter



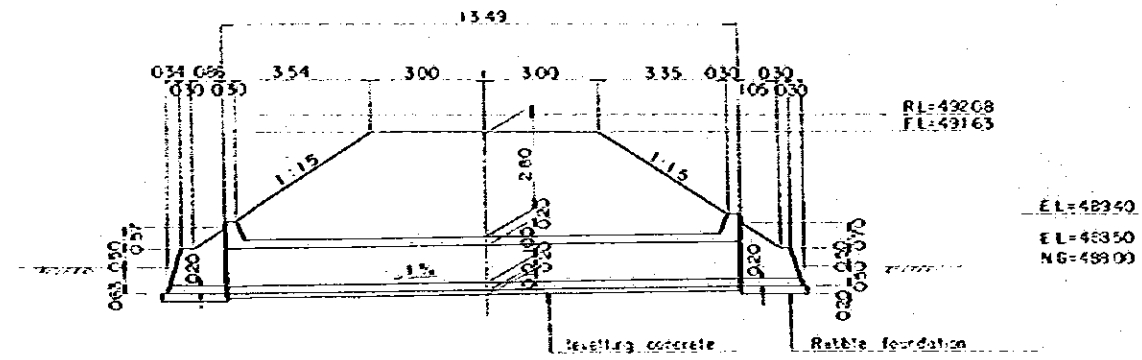
No.	Dia (cm)	a	b	c	d	e	f	R	H	TOTAL NUMBER	LENGTH (m)
(1)	#25	2155	424	2655				270	16	5320	
(2)	"	2155	424	600	608	2080	1100	270	430	4	10240
(3)	"	2155	424	600	750	1680	1100	270	530	4	10320
(4)	"	5000								8	5700
(5)	#16	4000								8	4450
(6)	#13	1200								16	1200

Note

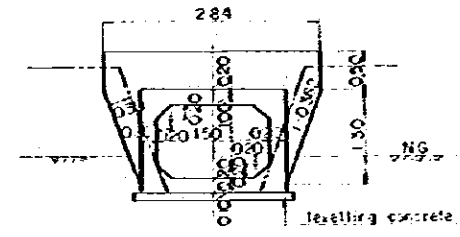
The class of concrete

- Pier culvert class A
- Stepping class C
- Leveling class D

EMPRESA NACIONAL DE FERROCARRILES
 RAILWAY GASTELUEN ENFERROVIA ENFERROVIA
326x180^m No 5 Co
BOX CULVERT
GENERAL VIEW
 Escala: 1/50
 Tercera Edición
 No 38

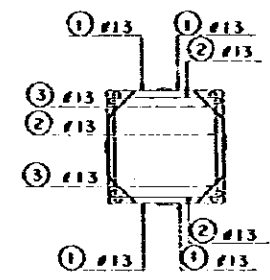


Section s=1/100



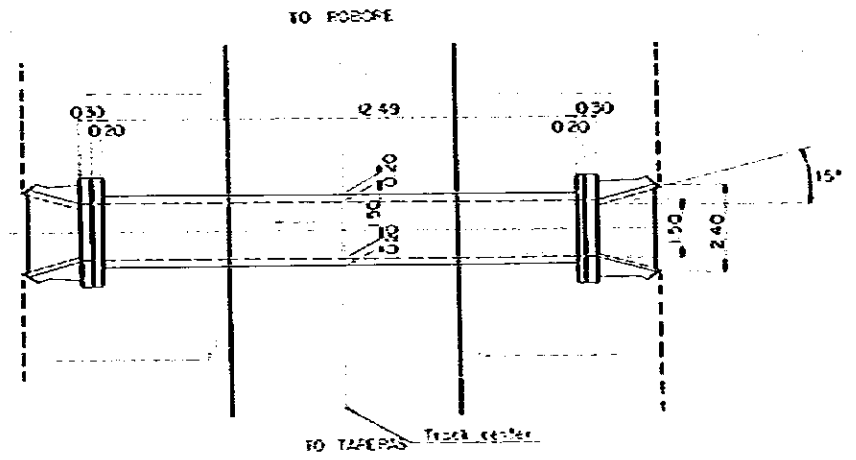
Front View s=1/50

Main bar Arrangement



Bar schedule per 1 meter

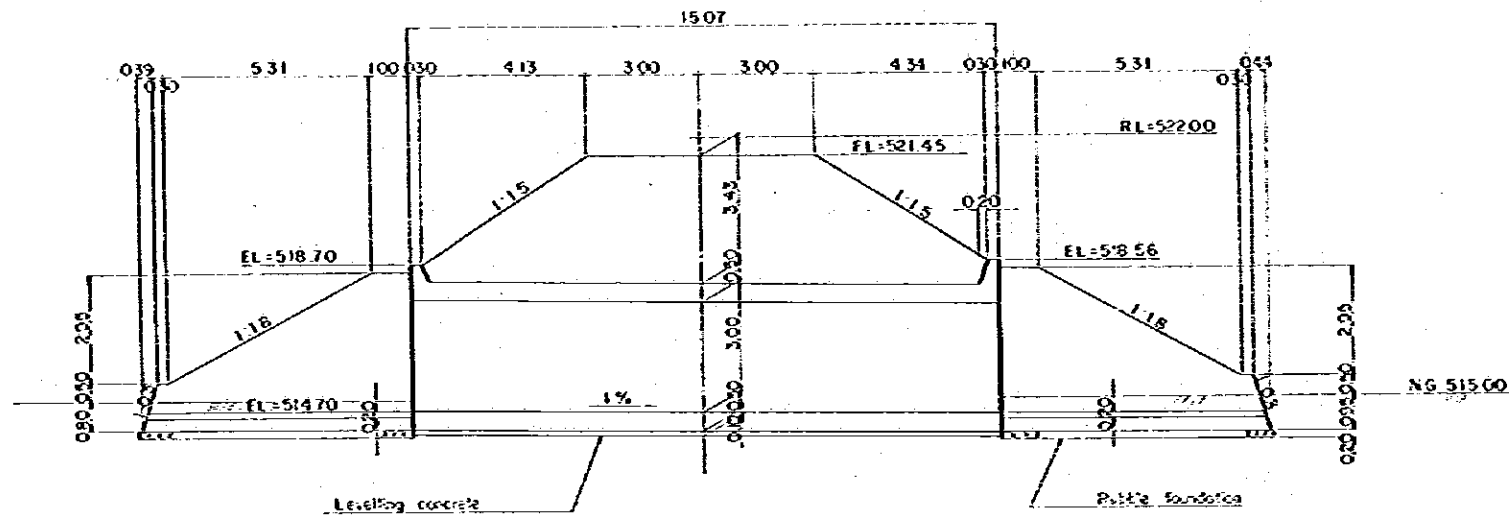
No	DIA	a	b	c	d	e	f	R	H	LENGTH
1	#13	345	220	345				740	32	2110
2	-	1670							24	2070
3	-	550							16	550



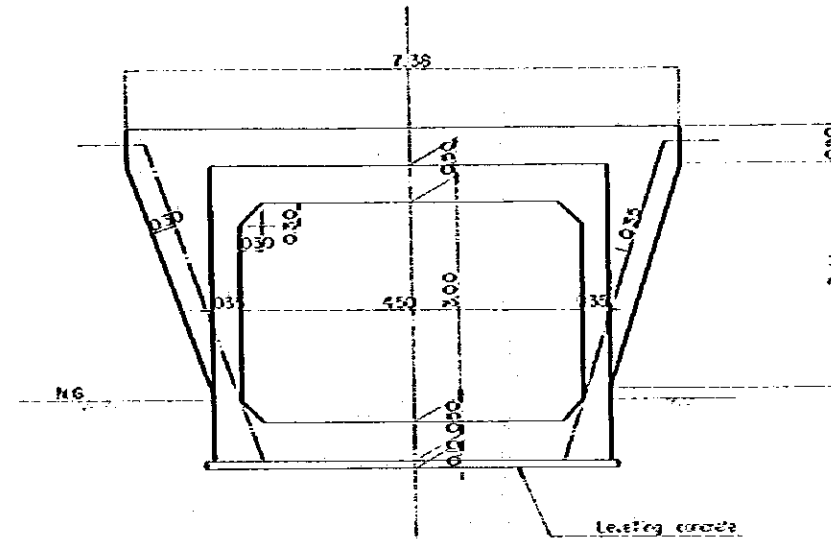
Plan s=1/100

- Note
- The class of concrete
 - Box culvert : class A
 - Stealing : class C
 - Leveling : class D

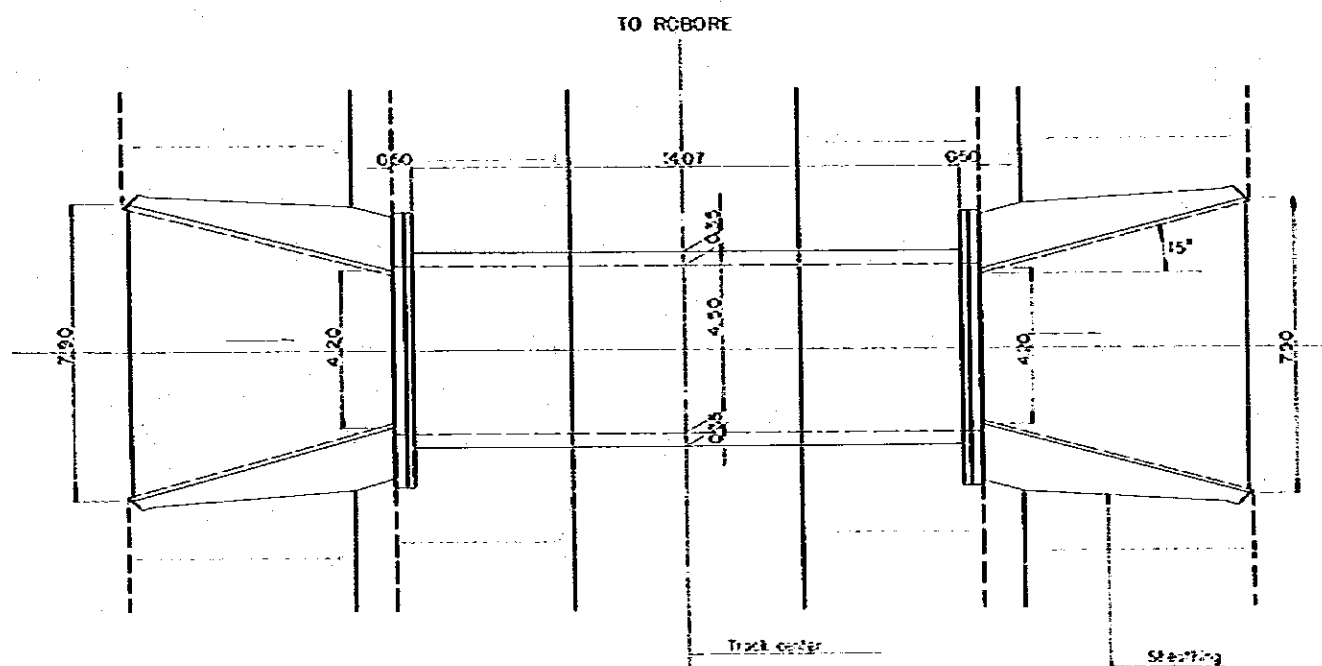
EMPRESA NACIONAL DE FERROCARRILES
 RAILWAY CONSTRUCTION IN THE EASTERN LINE
 327^M 840^M No 6 Cb
 BOX CULVERT
 GENERAL VIEW
 Escala: 1/100
 Drawn by: [Name] Checked by: [Name] Approved by: [Name]
 39



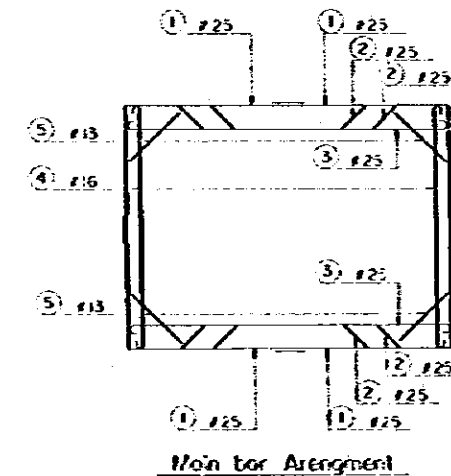
Section s=1/100



Front View s=1/50

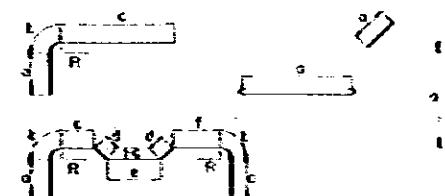


Plan s=1/100



Main bar Arrangement

Note
 The class of concrete
 ① Box culvert : class A
 ② Sheeting : class C
 ③ Leveling : class D



Bar schedule per 1 meter

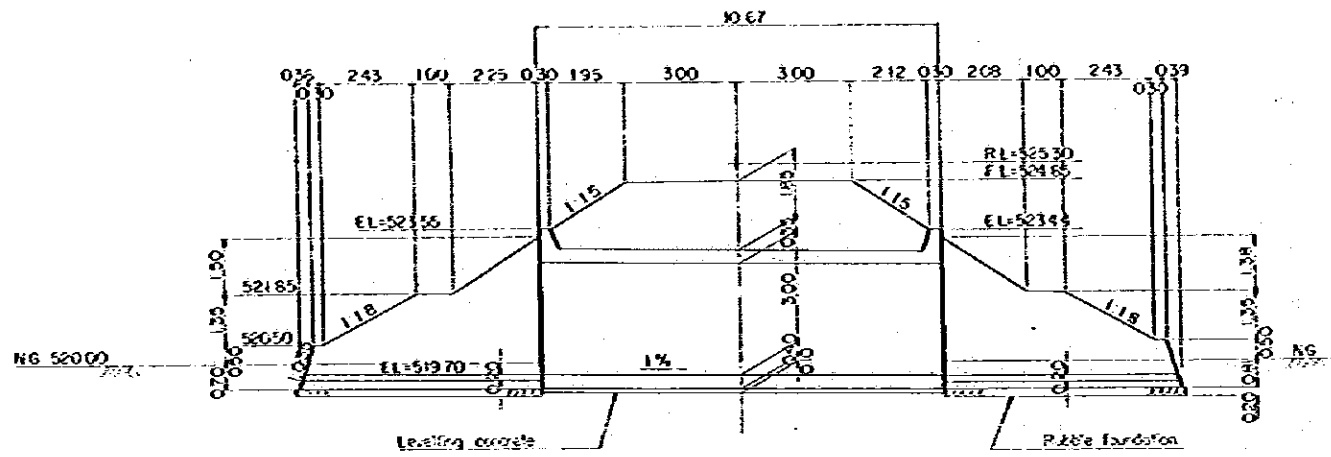
No	Ø	s	l	c	d	e	f	R	H	LENGTH
1	#25	2645	424	2645				270	15	5120
2	#25	2645	424	660	537	2050	1100	270	8	3600
3	#16	4880							3	5520
4	#16	3750							2	4210
5	#13	1200							15	1200

EMPRESA NACIONAL DE FERROVIARIAS
 SUBRAY CONSTRUCTION ENTERPRISE GENERAL LINE
 TRANSPORTS

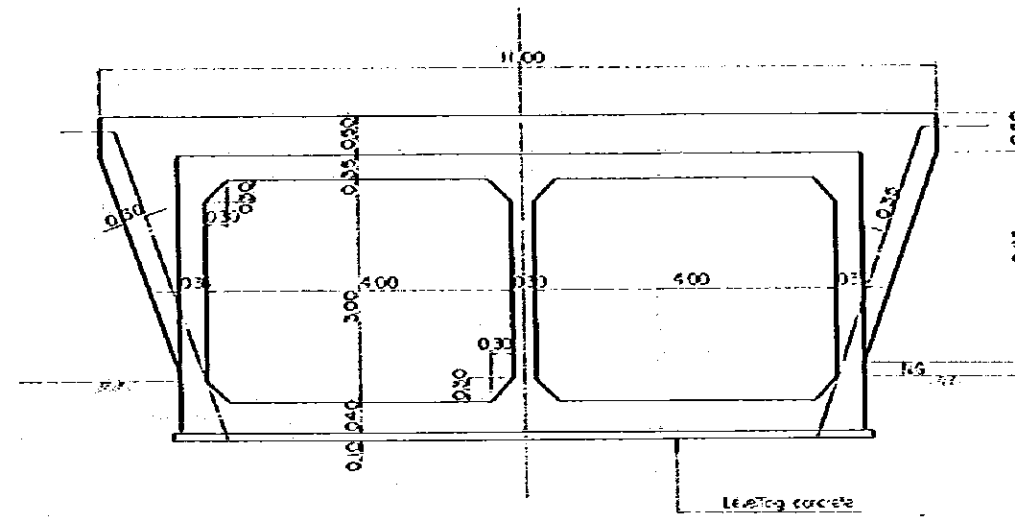
363x900 NO 7 Cb
BOX CULVERT
GENERAL VIEW
 Executing Enterprise

Date: / / Checked by: / / Approved by: / /
 Contracting Enterprise

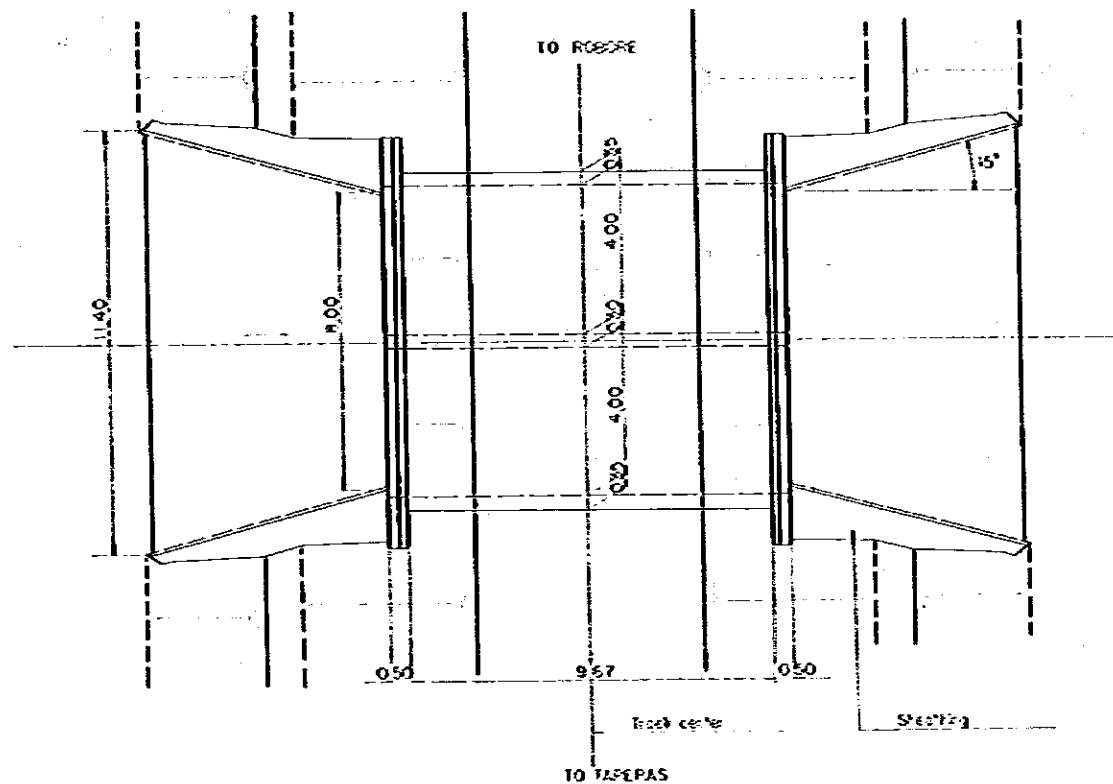
40



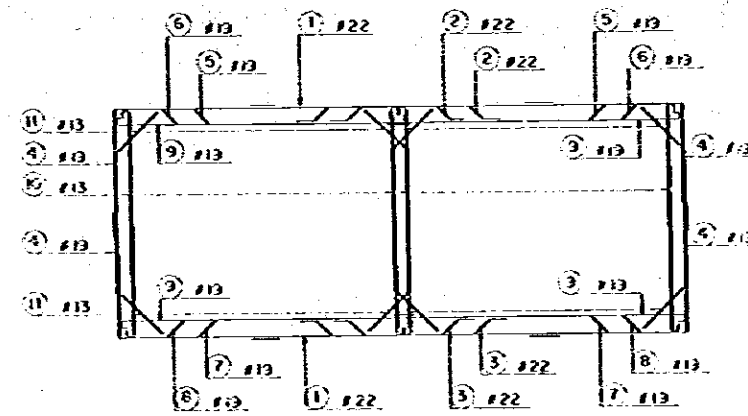
Section s=1/100



Front View s=1/50



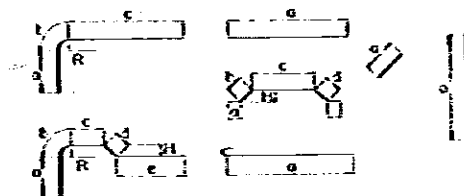
Plan s=1/100



Main bar Arrangement

Note:
Bar interval 125mm

Note:
The class of concrete
a) Box culvert: Class A
b) Slabbing: Class C
c) Leaving: Class D



Bar schedule per 1 meter

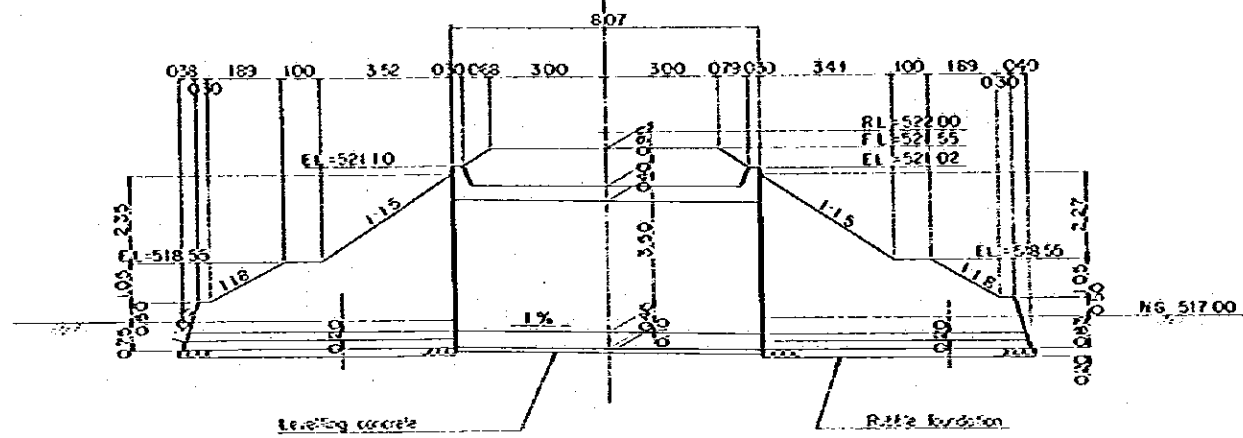
No	ØA (mm)	a	l	c	s	e	R	H	NUMBER	LENGTH
1	#22	4870						8	8	4870
2	"	330	325	1700	325	330		250	4	3010
3	"	330	336	1700	336	330		250	4	3160
4	#13	1925	314	2375			200		16	4820
5	"	1925	314	1050	325	3200	200	230	4	6820
6	"	1925	314	550	325	3700	200	230	4	6820
7	"	1925	314	1050	336	3150	200	250	4	6840
8	"	1925	314	550	336	3650	200	250	4	6840
9	"	4870							16	4870
10	#13	3520							16	3520
11	"	1000							32	1000

EMPRESA NACIONAL DE FERROVIARIAS
SARAY CONSTRUCTION PROJECT EASTERN LINE
SARAY CONSTRUCTION PROJECT EASTERN LINE

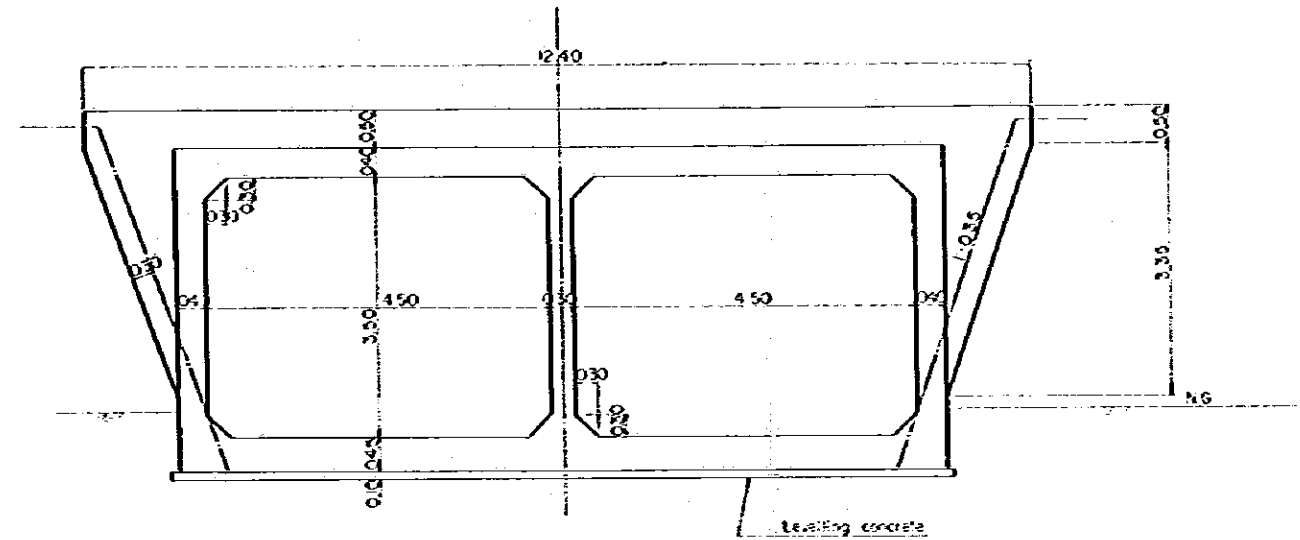
364x860mm NO.8 Cb
BOX CULVERT
GENERAL VIEW
Freezing

Drawn by: [] Checked by: [] Approved by: []
Cooperating Enterprise

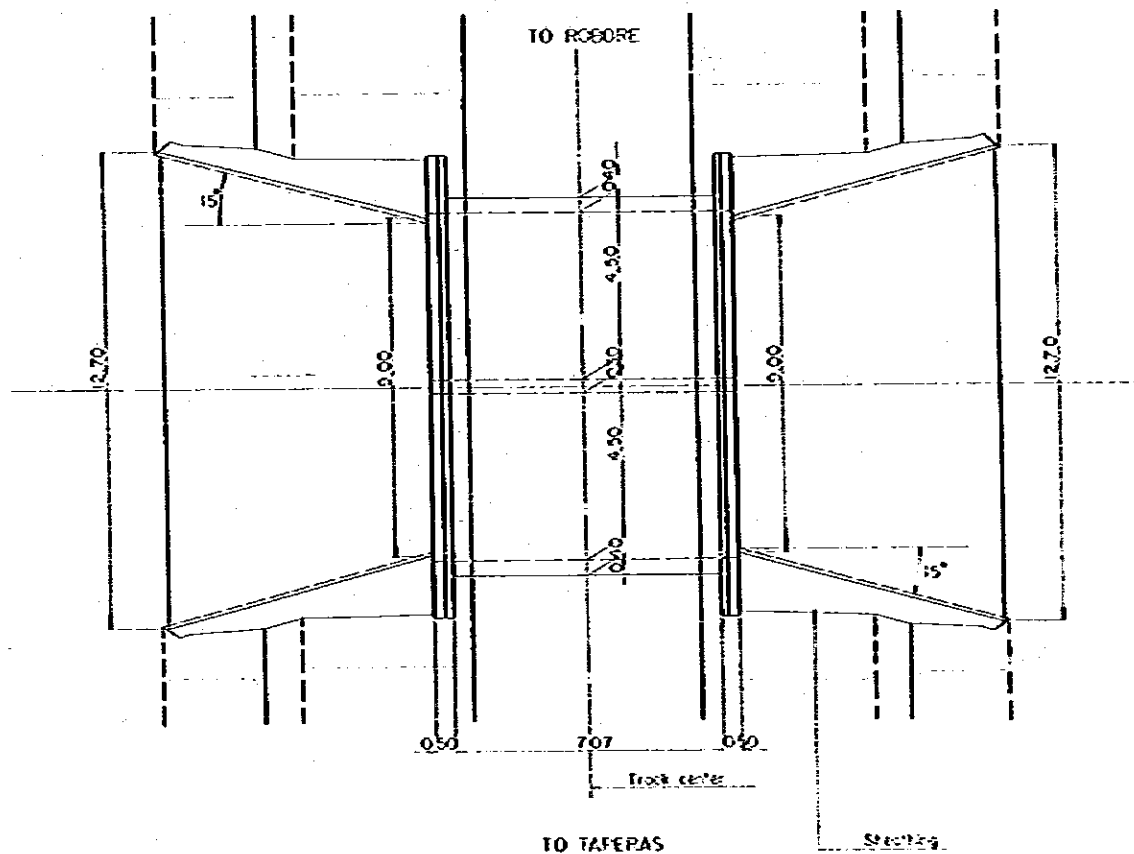
41



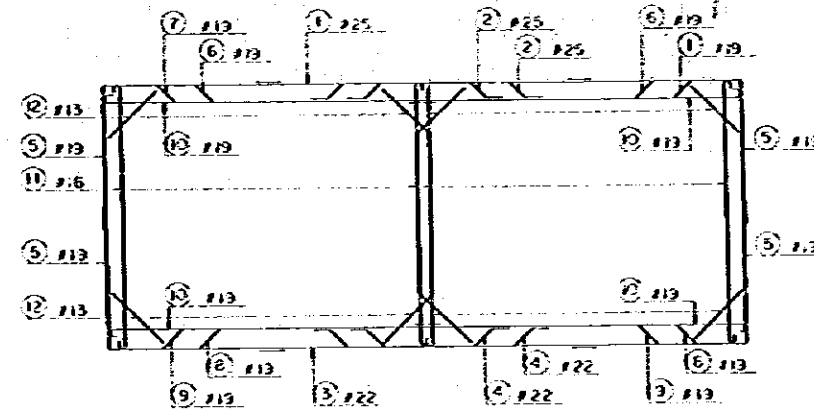
Section $s=1/100$



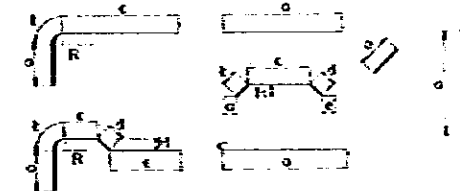
Front View $s=1/50$



Plan $s=1/100$



Main bar Arrangement



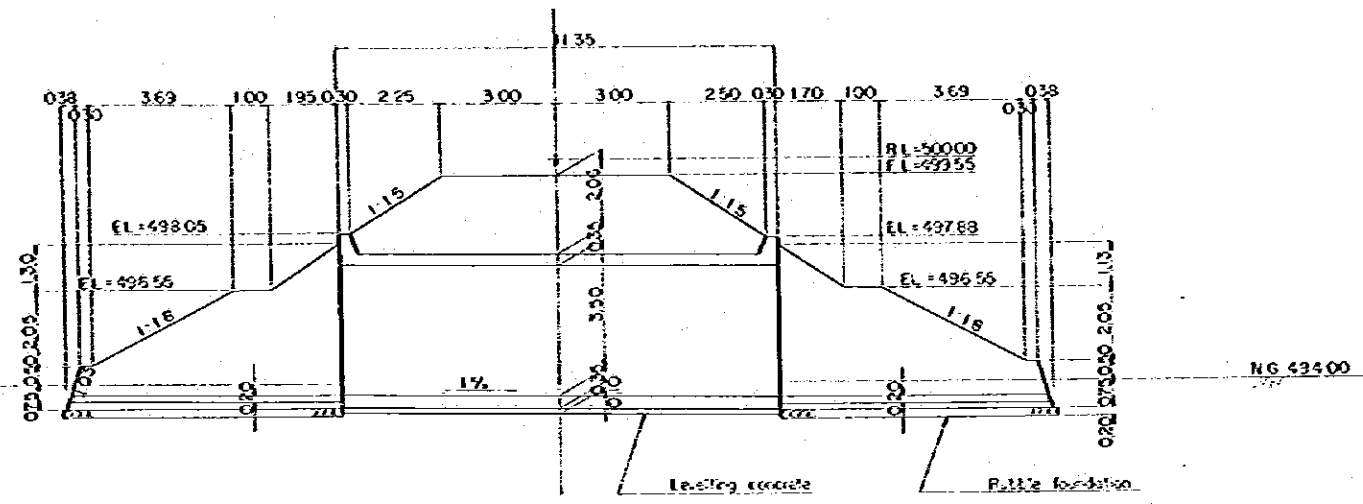
Bar schedule per 1 meter

No	Bar	c	t	c	g	e	r	h	1/100	1/50	1/20	1/10
1	#25	5550							4	5550		
2	#25	375	336	2000	336	375		200	4	3550		
3	#22	5460							4	5460		
4	#22	330	457	2000	457	330		330	4	3600		
5	#13	2165	314	2765				200	16	5130		
6	#13	2165	314	1250	336	3500	200	200	4	7630		
7	#13	2165	314	650	336	4100	200	230	4	7630		
8	#13	2165	314	1250	467	3450	200	330	4	7650		
9	#13	2165	314	650	467	4050	200	330	4	7650		
10	#13	5150							16	5420		
11	#16	4100							16	4560		
12	#13	1160							32	1100		

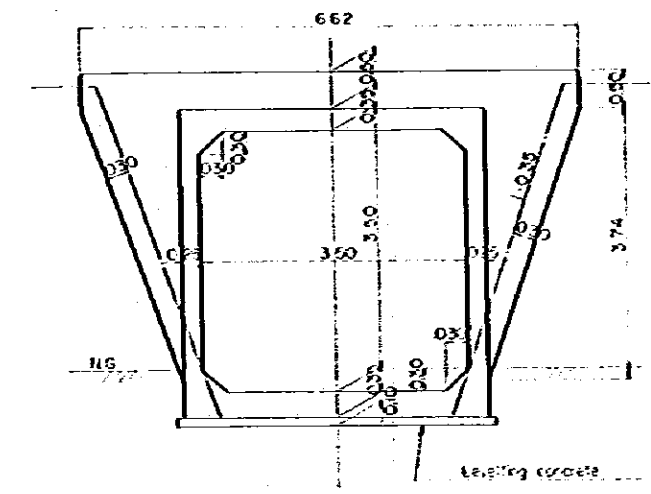
- Note
- The class of concrete
 - ⓐ Box culvert : class A
 - ⓑ Sheeting : class C
 - ⓒ Leveling : class D

EMPRESA NACIONAL DE FERROCARRILES
 P.A. 11: OBRAS DE CONSTRUCCION PROYECTO EASTERN LINE
 368°930' NO. 9 CD
 BOX CULVERT
 GENERAL VIEW
 Empresa Enterprise

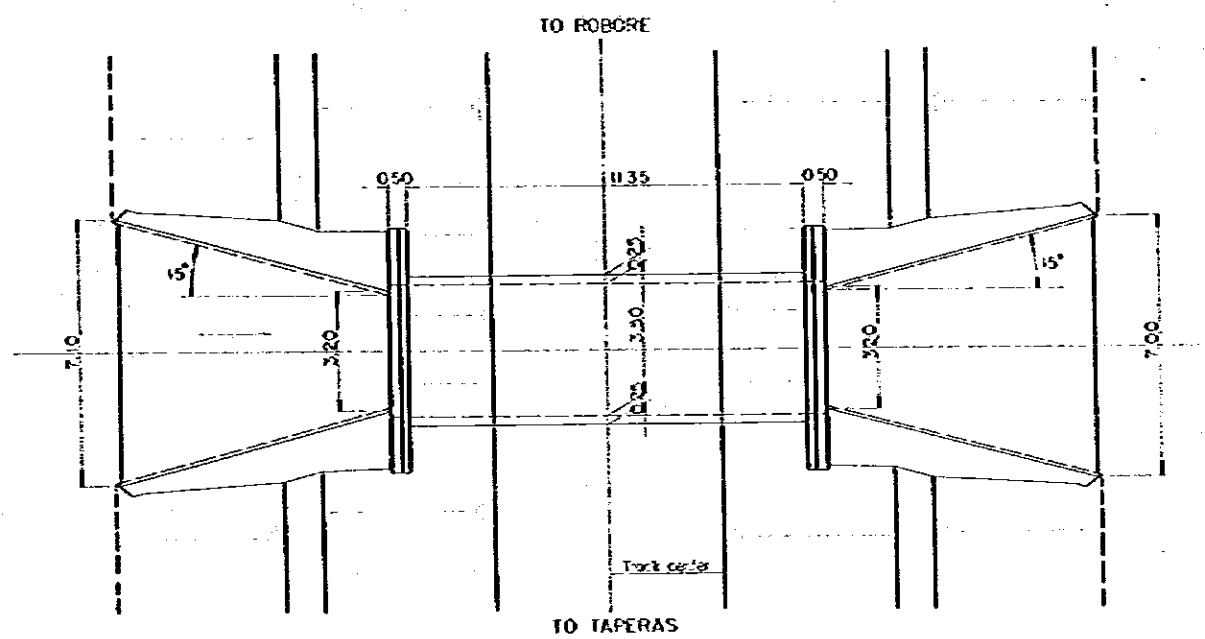
Drawn by: [] Checked by: [] Approved by: []
 Company: []
 No. 42



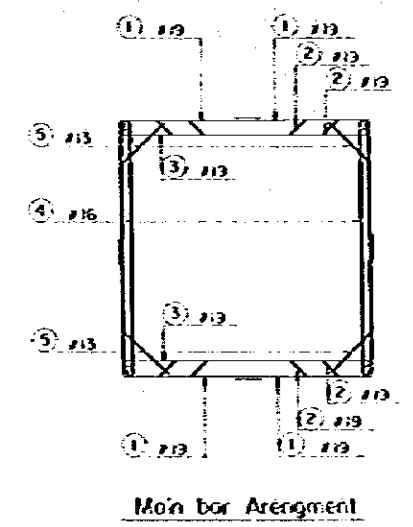
Section S=1/100



Front View S=1/50

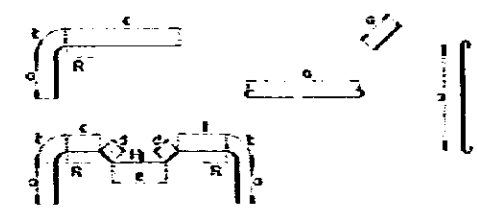


Plan S=1/100



Main bar Arrangement

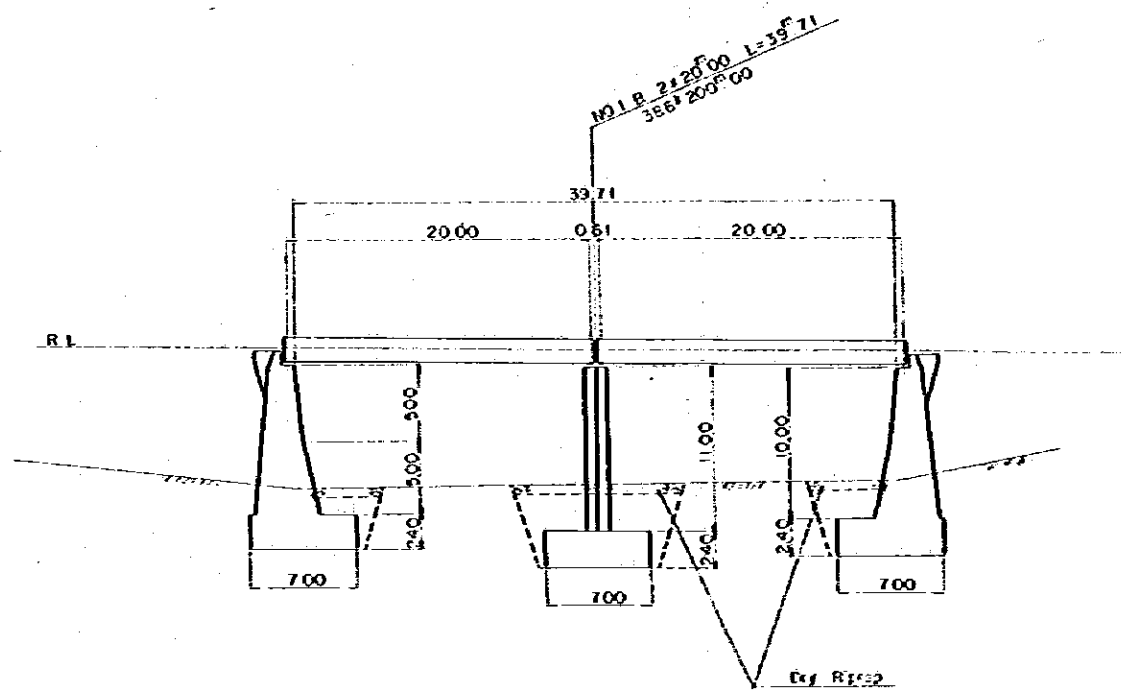
- Note
- 1) The class of concrete
 - 2) Box culvert : class A
 - 3) Sheeting : class C
 - 4) Leveling : class D



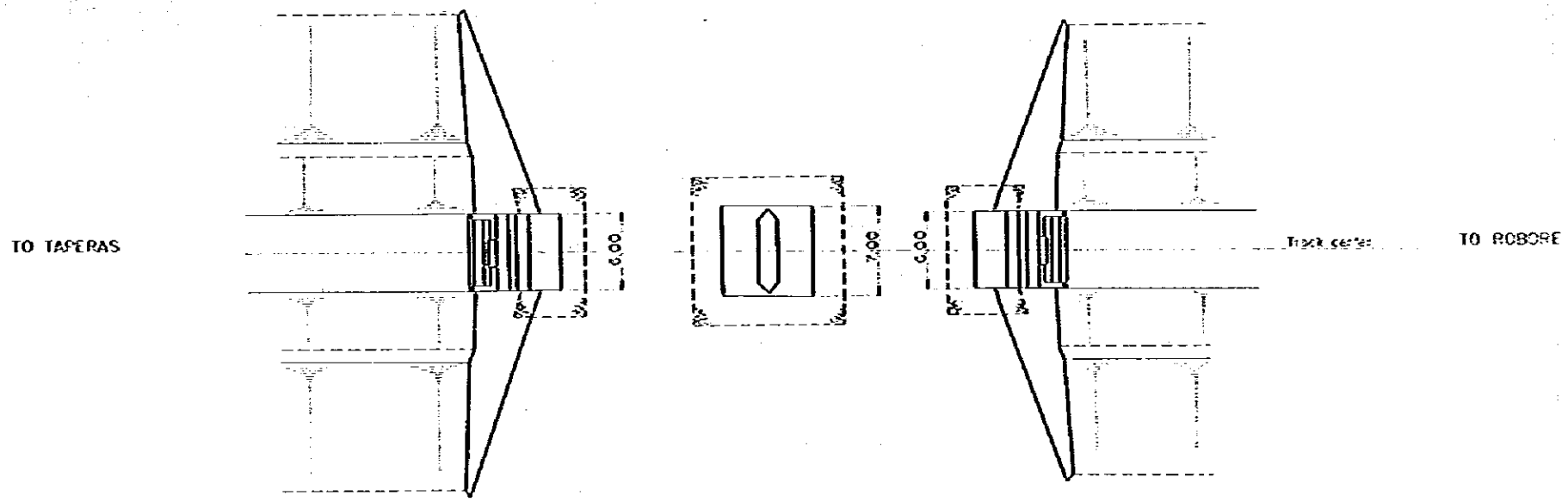
Bar schedule per 1 meter

No	PA	s	l	c	d	e	f	R	H	REINER	LEZ/SH (FF)
1	#19	2125	314	2025				200		10	4470
2	#19	2125	314	350	325	1820	650	200	230	8	6550
3	#19									8	4270
4	#16	3550								5	4410
5	#13	1300								10	1000

EMPRESA NACIONAL DE FERROCARRILES
RAILWAY CONSTRUCTION PROJECT EASTERN LINE
 376^M 700^M NO. 10 CB
BOX CULVERT
GENERAL VIEW
 Executing Enterprise
 Drawn by Date: _____ Checked by Date: _____ Approved by Date: _____
 Contracting Enterprise
 Approved by Date: _____ No. 43

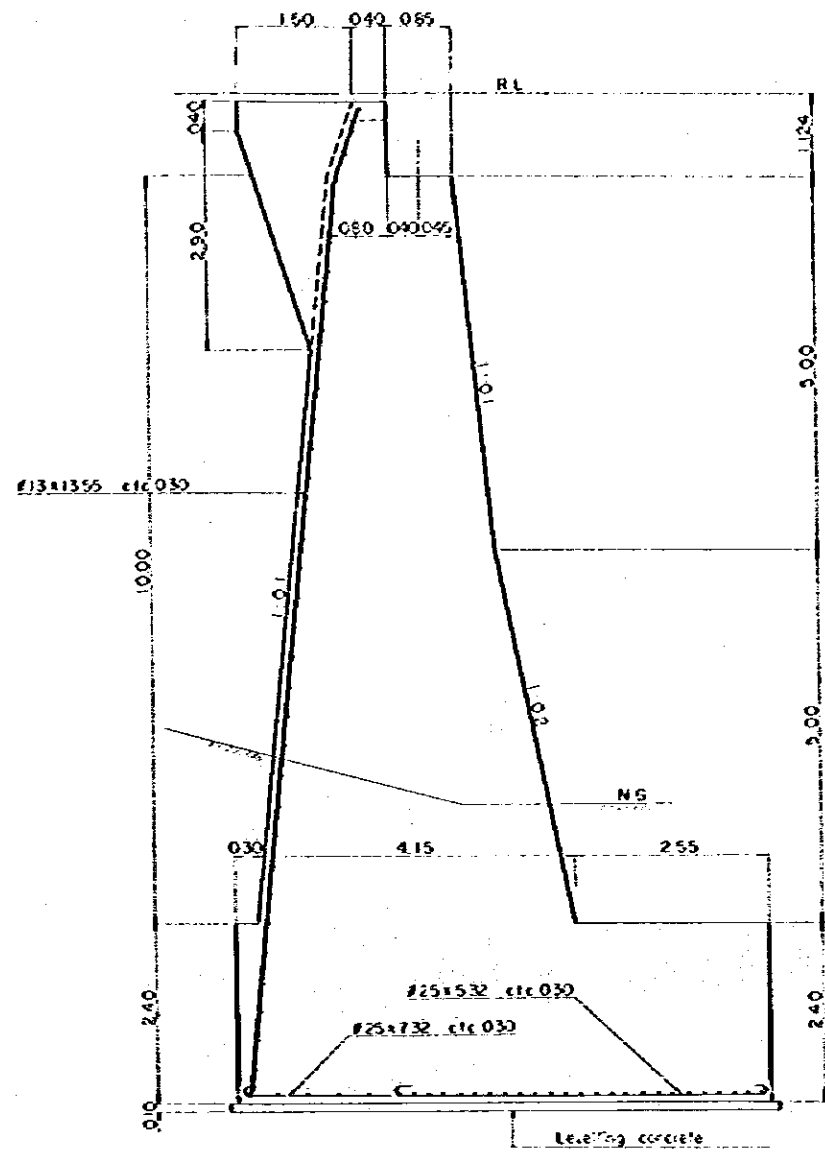


longitudinal section

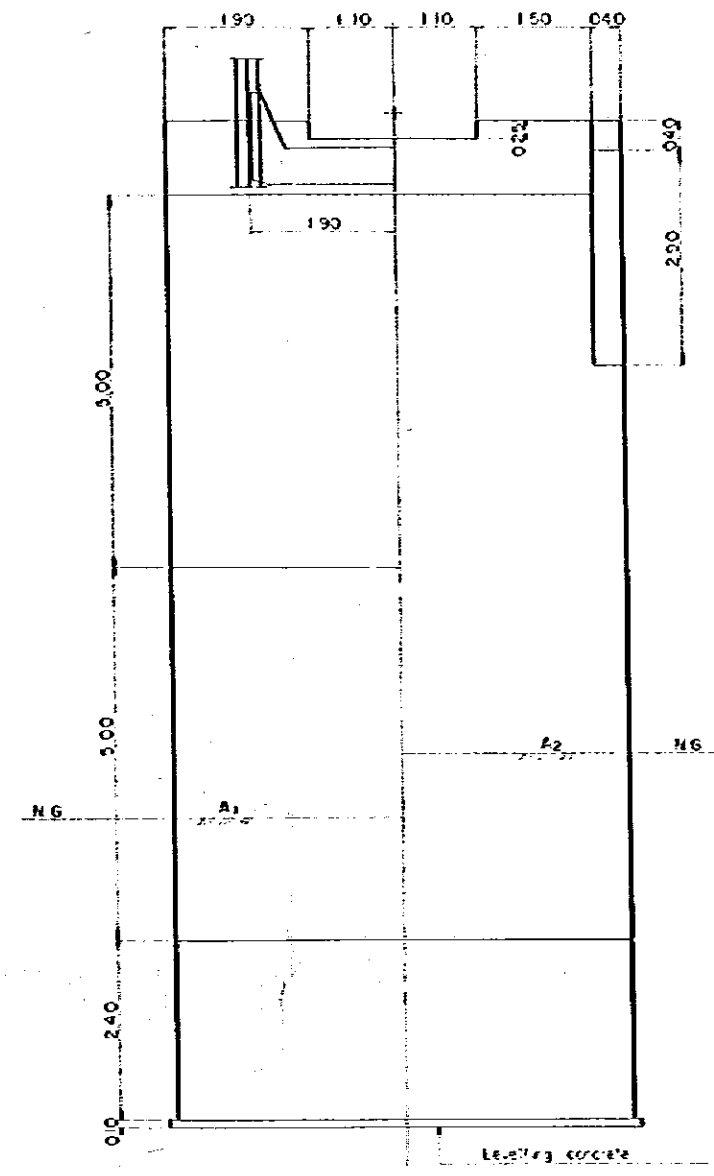
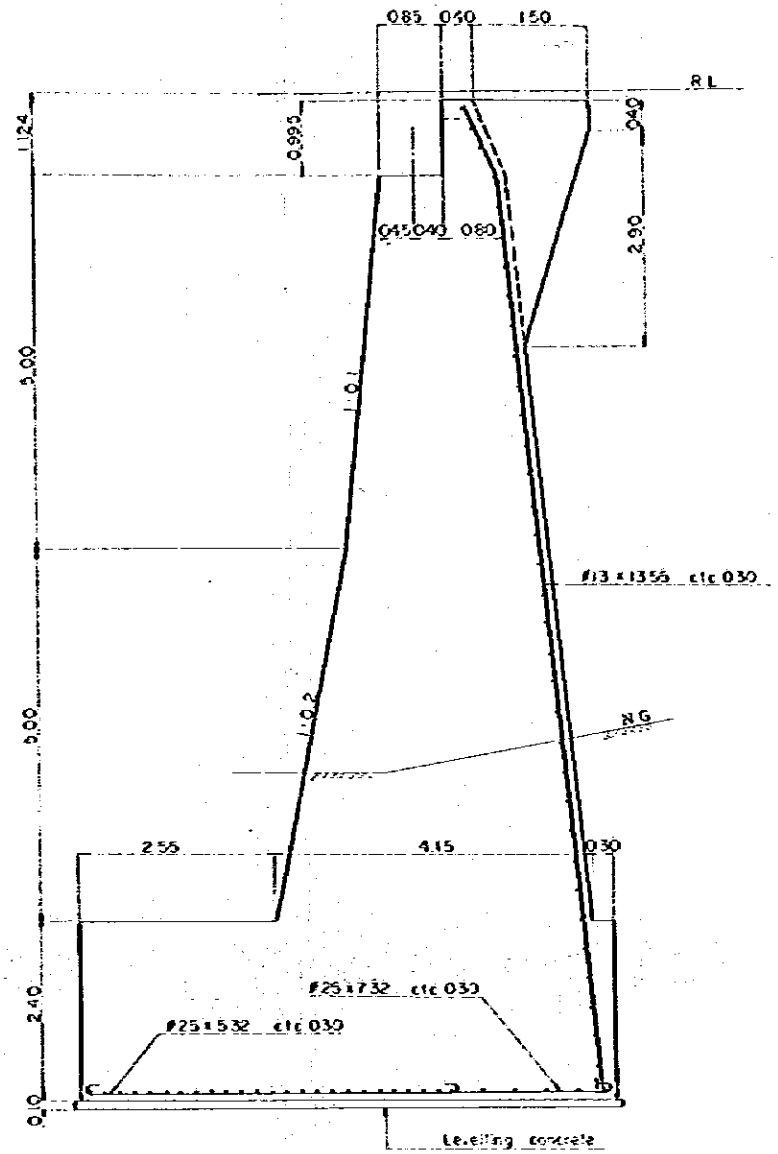


Plan s=1/250

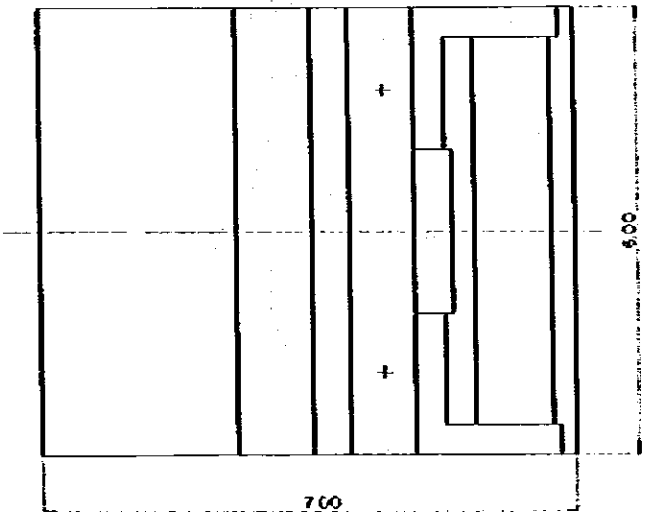
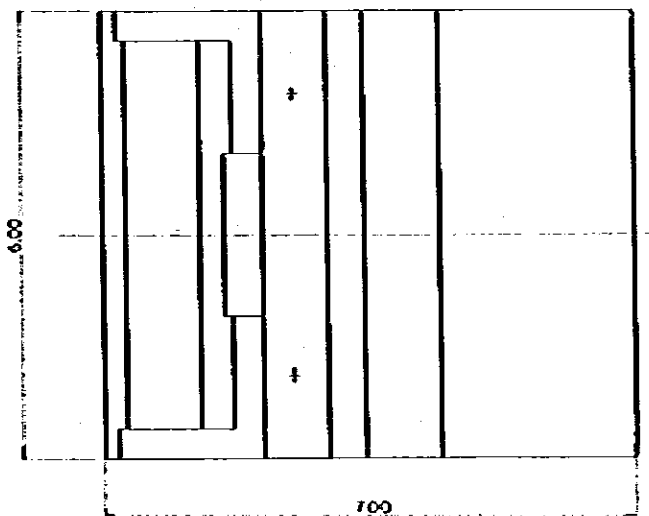
EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN AND		
GENERAL VIEW		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	45



Side View s=1/100



(A1) Abutment side (A2) Abutment side
Front View Back View



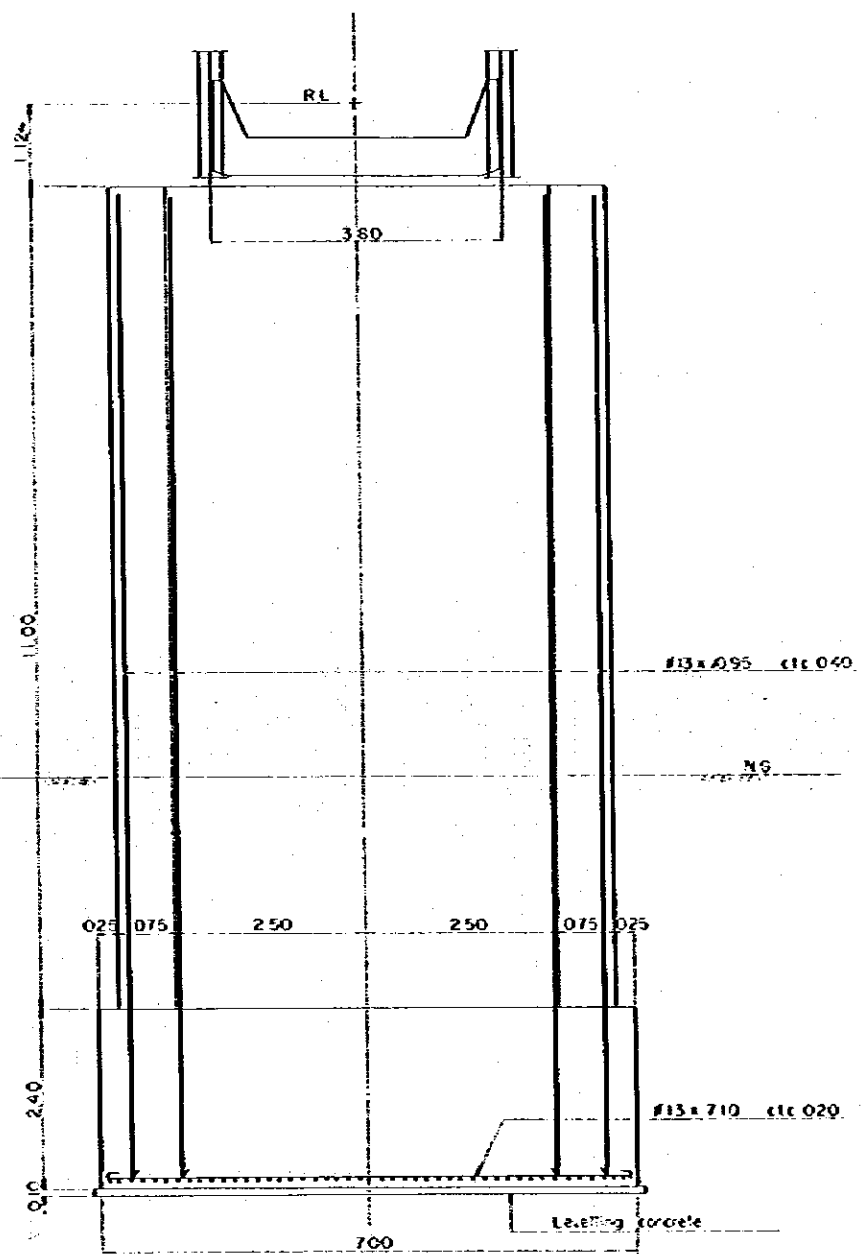
Plan s=1/100

TO TAPERAS

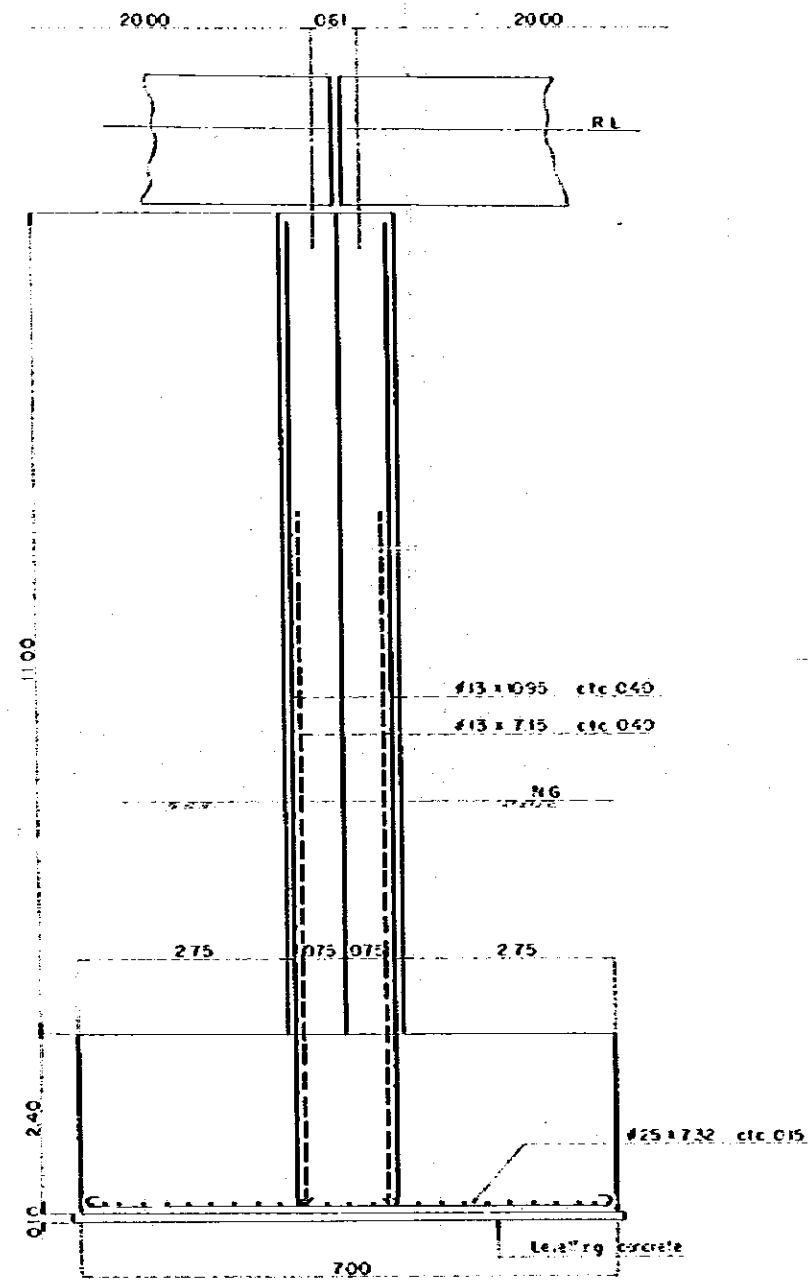
TO ROCCRE

Note
Structure concrete class B
Leveling concrete class D

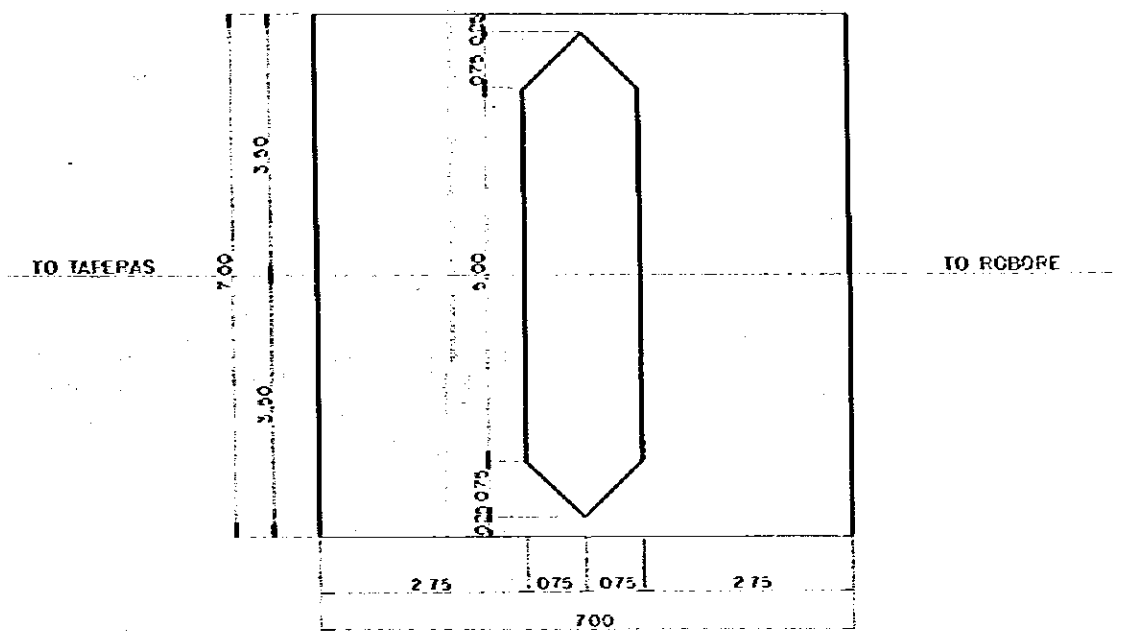
EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN LINE		
ITC 10015 1957		
NO 1 BRIDGE		
(A1) (A2) ABUTMENT		
GENERAL VIEW		
Ejecutor: []		
Drawn By Date	Checked By Date	Approved By Date
[]	[]	[]
[]		No 46



Front View



Side View

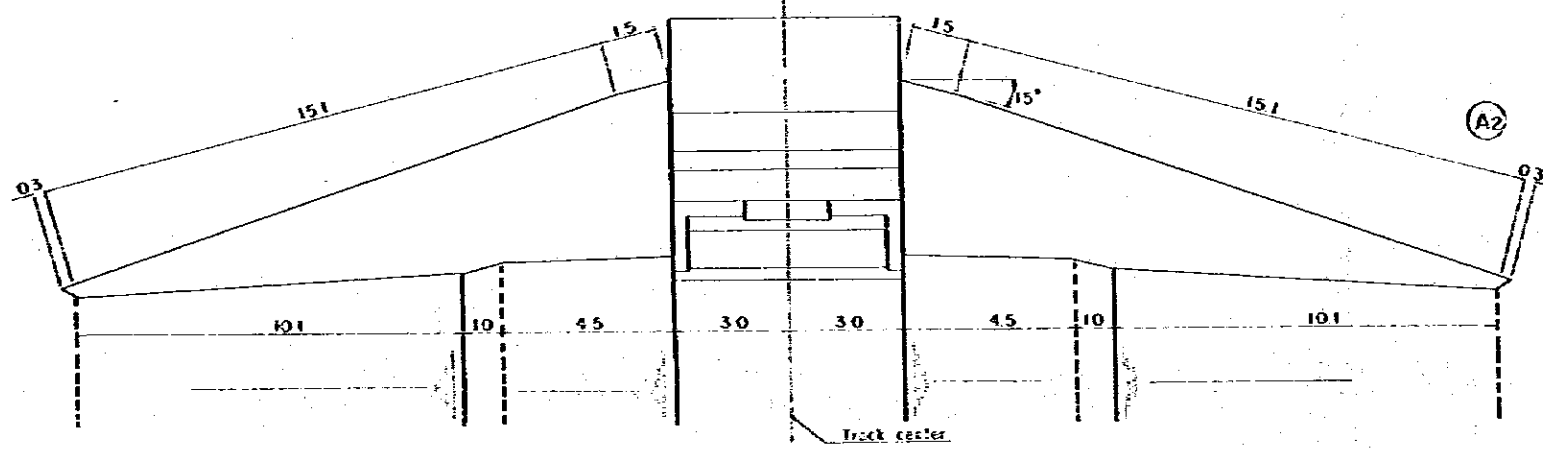
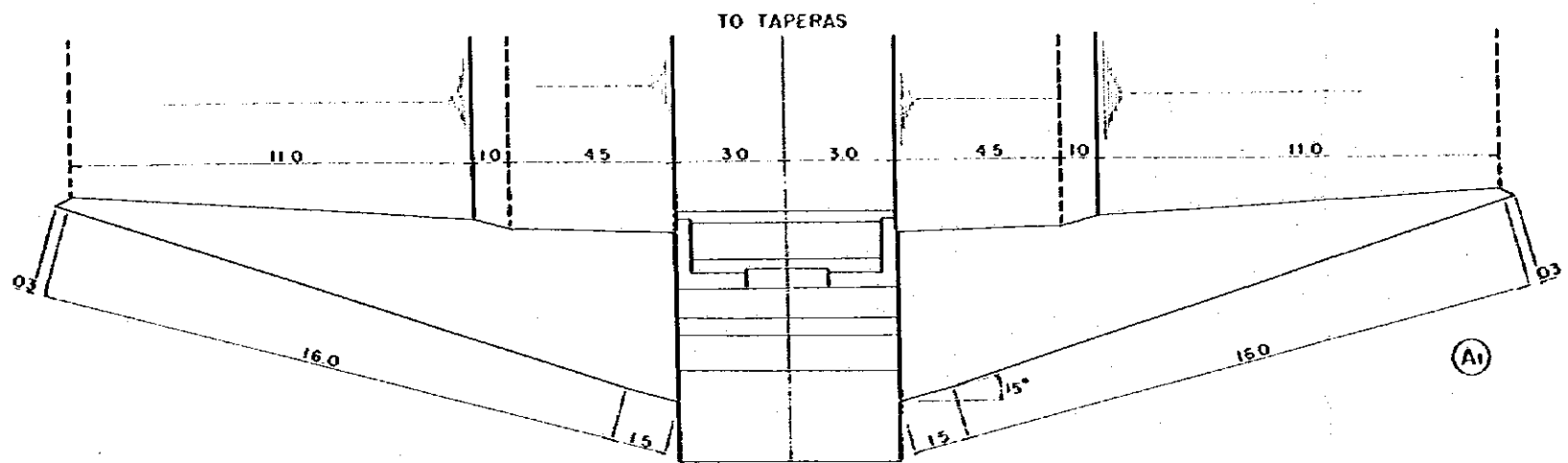


Plan

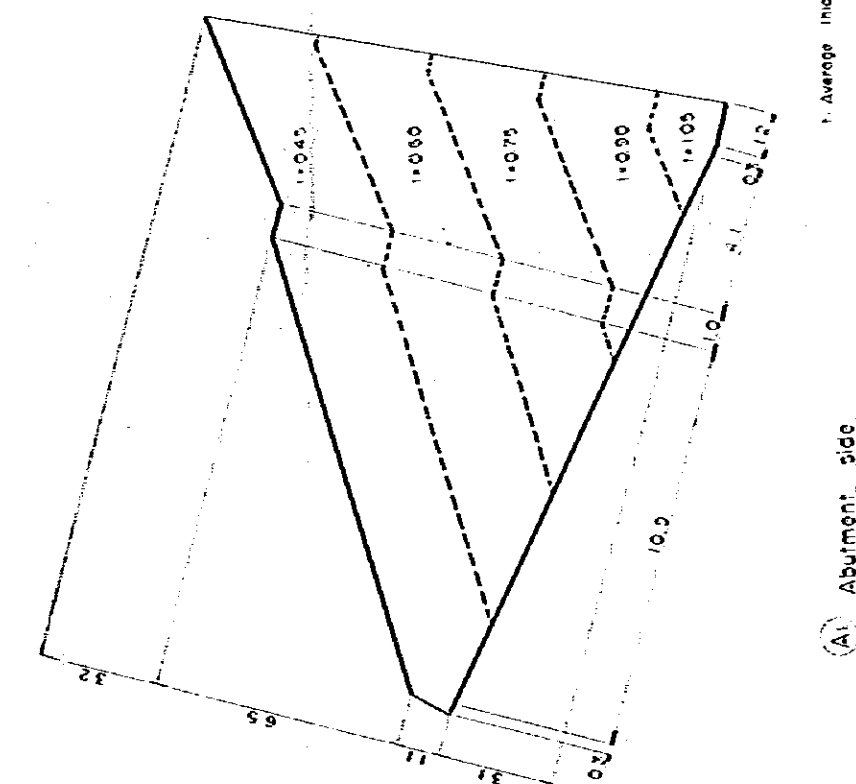
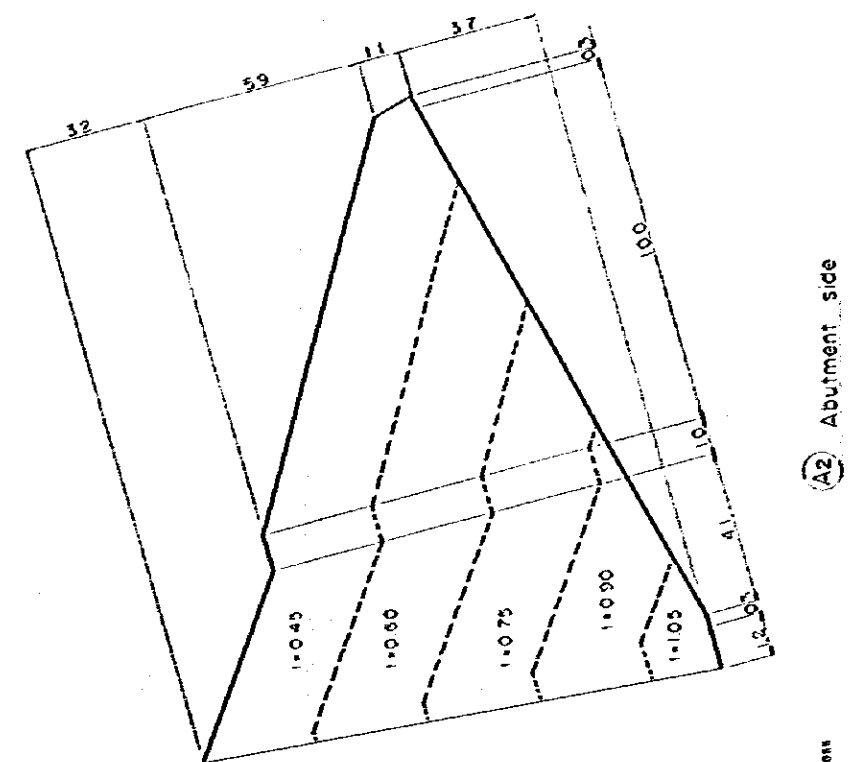
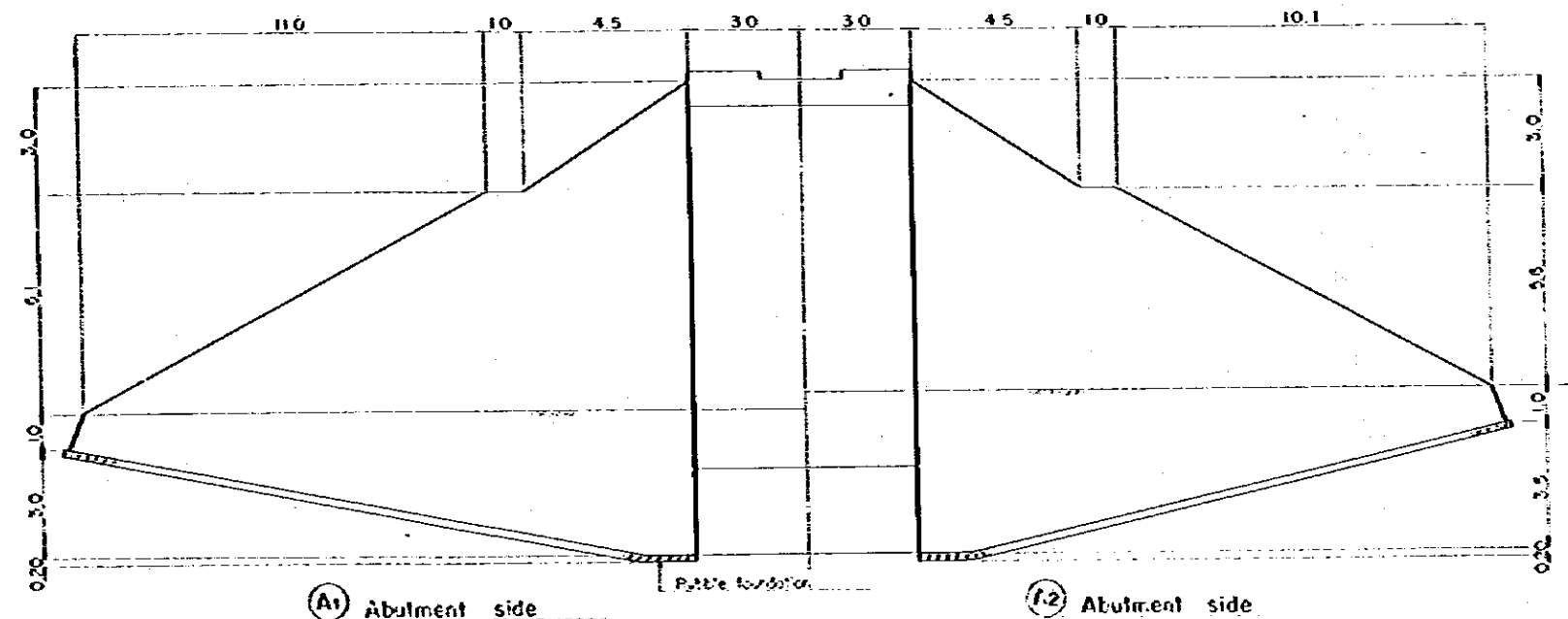
Note

- Structure concrete : class B
- Leaving concrete : class D

EMPRESA NACIONAL DE FERROCARRILES		
FEDERAL GOVERNMENT OF EASTERN ILLINOIS		
NO. 1 BRIDGE		
PIER		
GENERAL VIEW		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No 47



Plan s=1/100



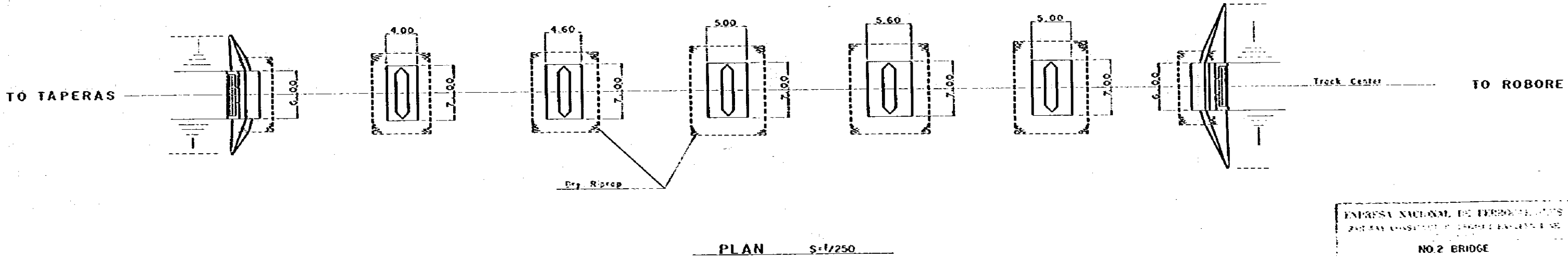
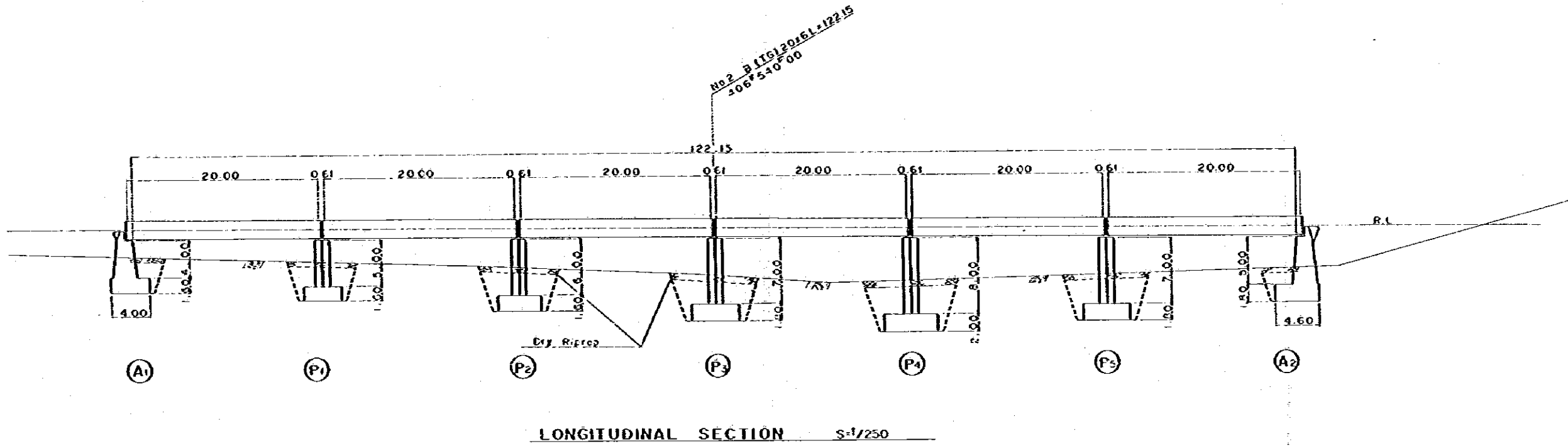
(A2) Abutment side

(A1) Abutment side

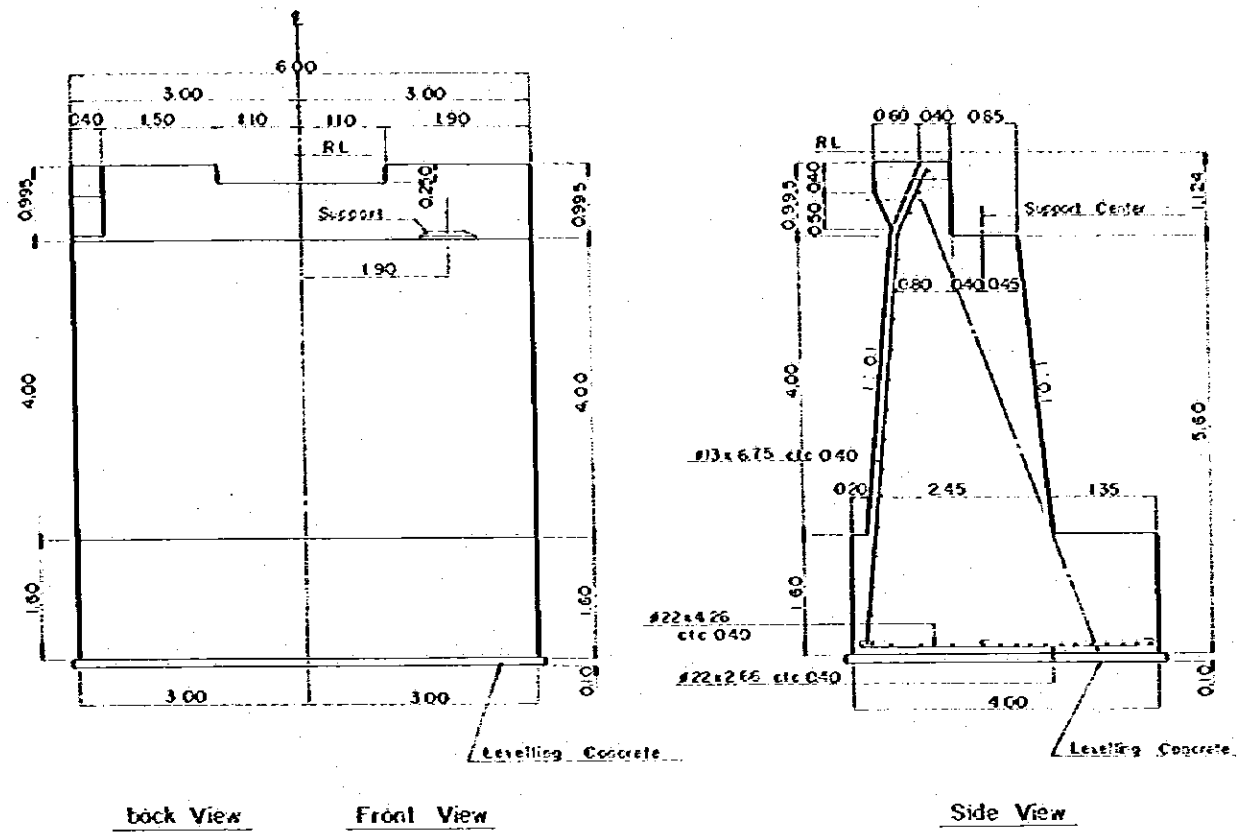
1: Average thickness

Development s=1/100

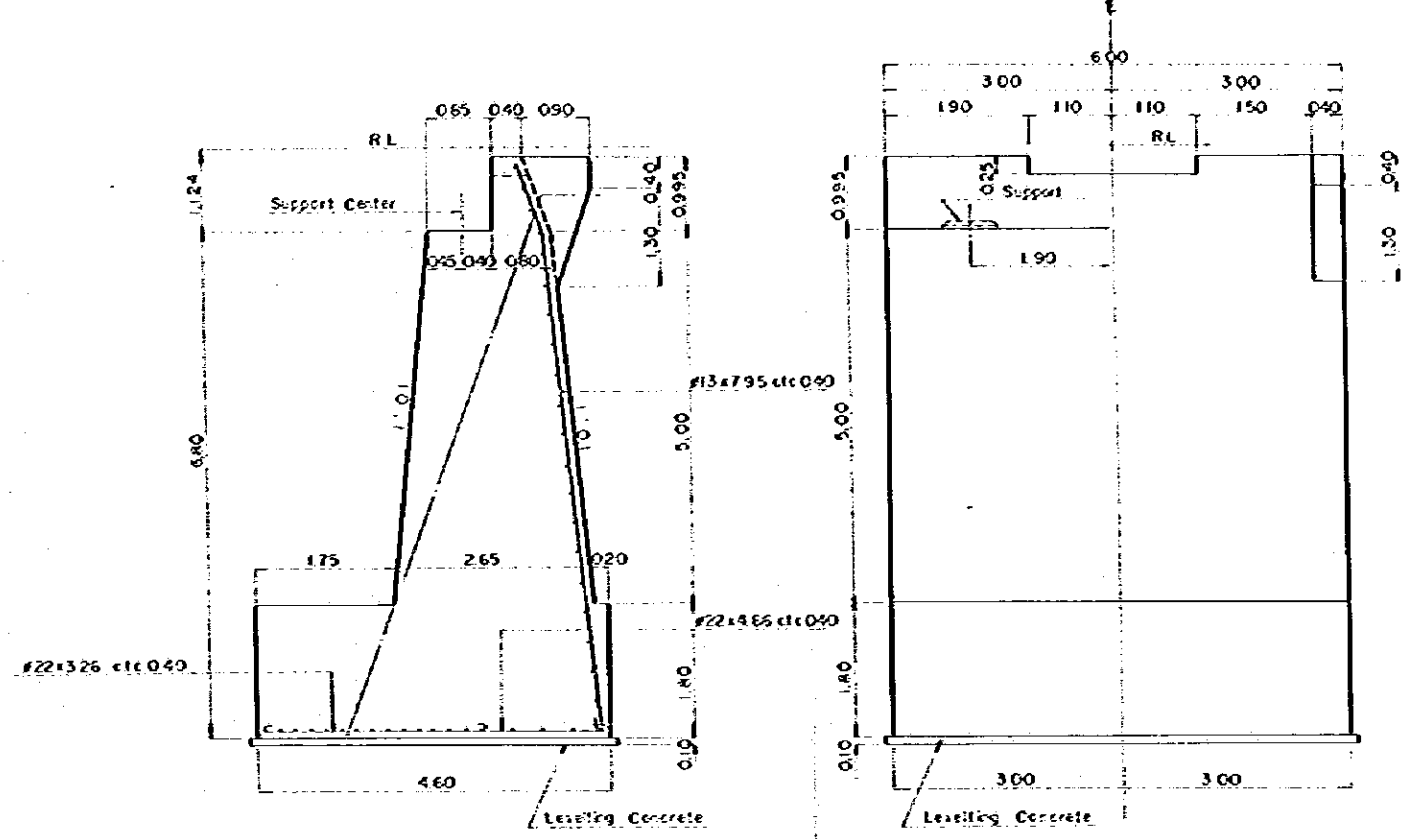
EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN LINES		
TRONCAL 2.4.1.5		
NO. 1 BRIDGE		
SHEATHING WALL		
GENERAL VIEW		
Escuela de Ingeniería		
Drawn by Date	Checked by Date	Approved by Date
		Contracting Enterprise
Checked by Date	Approved by Date	No. 48



EMPRESA NACIONAL DE FERROVIARIAS
 2da. DIVISION DE INGENIERIA EN FERROVIAS
NO. 2 BRIDGE
GENERAL VIEW
 Ejecutado por: ...
 Revisado por: ...
 Control de Integridad: ...
 49

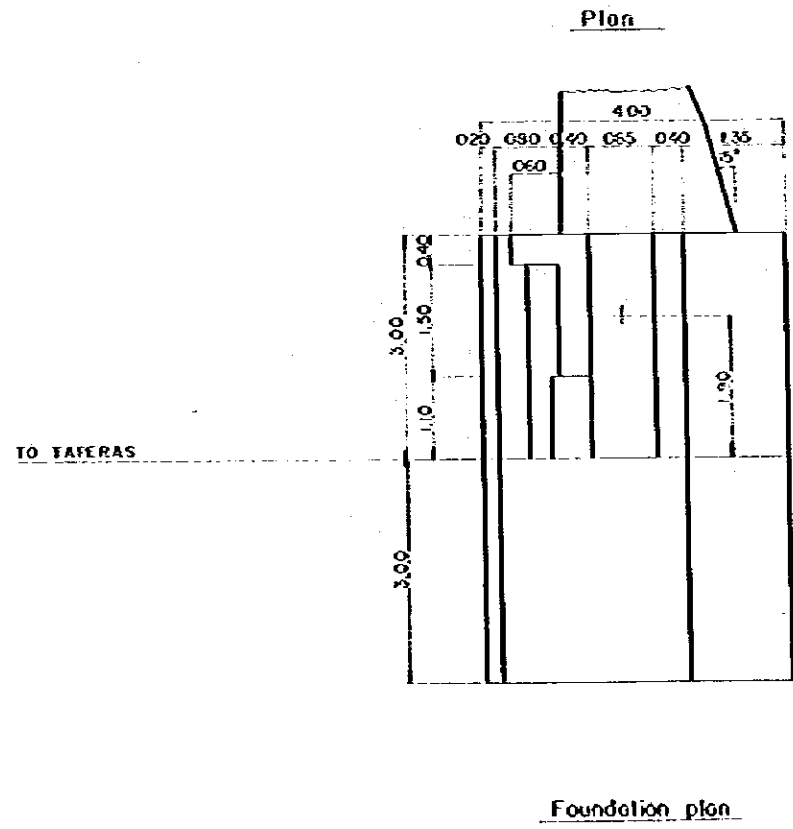


(A1) Abutment S=1/50

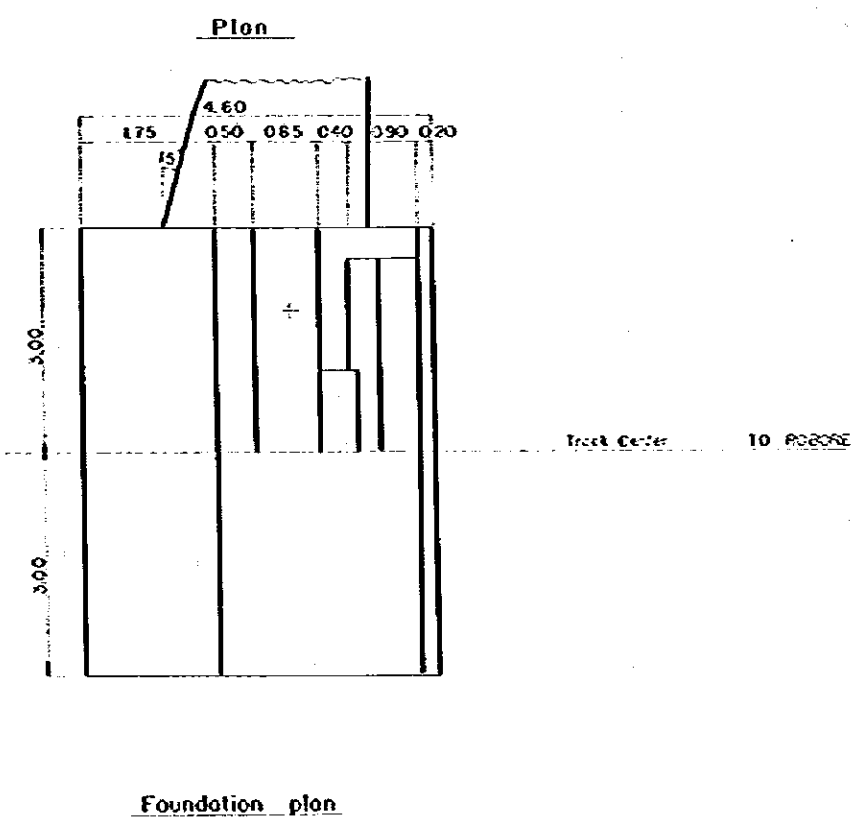


(A2) Abutment S=1/50

Note:
 Structure Concrete : Class B
 Levelling Concrete : Class D



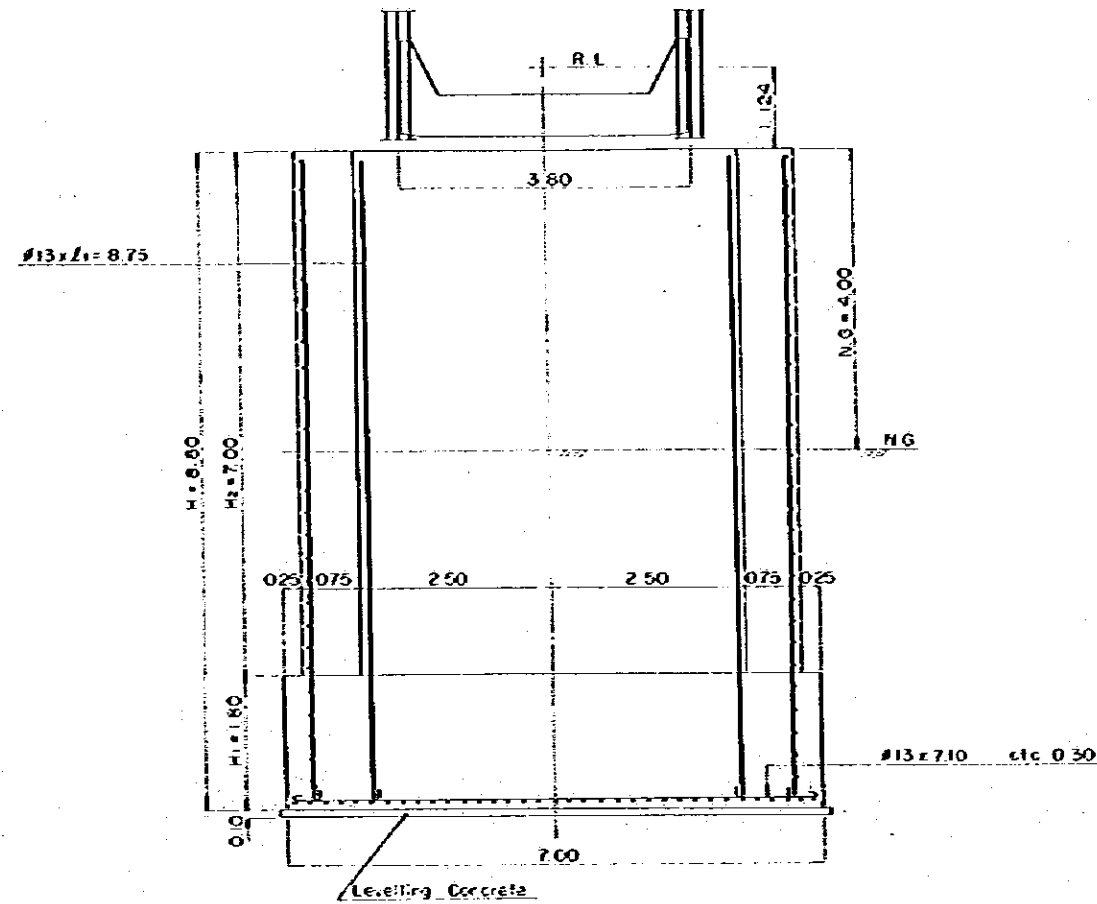
Foundation plan



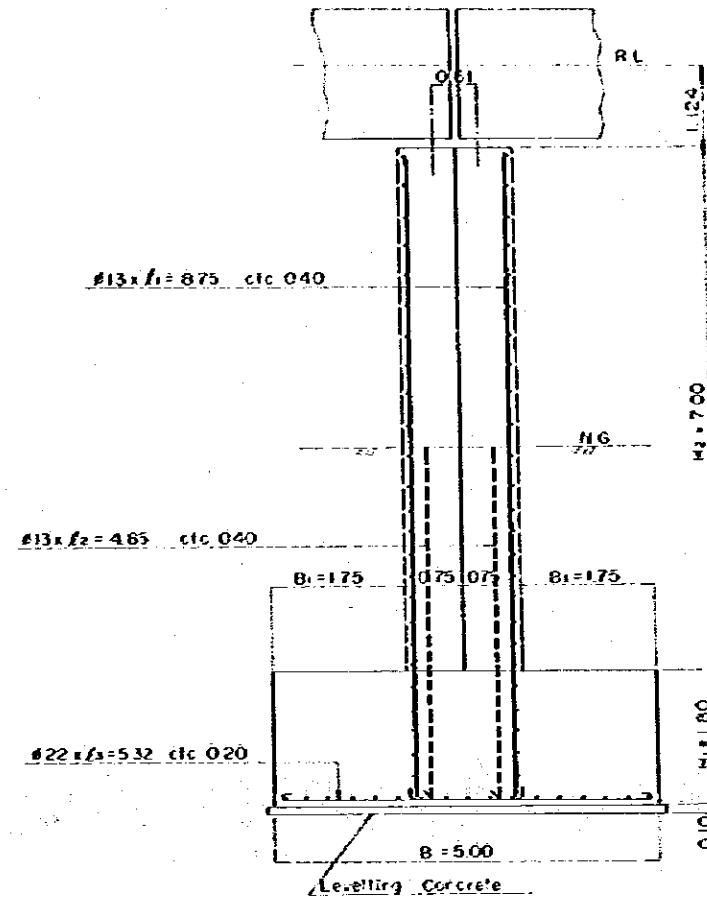
Foundation plan

ENTRESA NACIONAL DE FERROCARRILES
 RAILWAY GENERAL ENGINEERING DIVISION
 NO 2 BRIDGE
 (A1) (A2) ABUTMENT
 GENERAL VIEW
 Project Engineer
 Drawn by: Checked by: Approved by: Date
 50

③ ⑤ Pier s=1/50



Front View



Side View

Note

Structure concrete : Class B

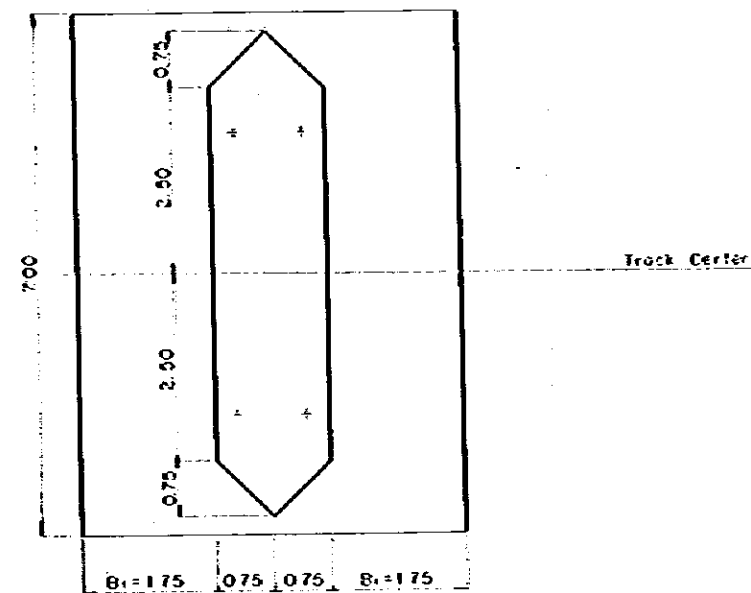
Levelling concrete : Class D

Dimension of each pier

Pier number	H	H ₁	H ₂	B	B ₁	H.G.
①	6.60	1.60	5.00	4.00	1.25	2.50
②	7.60	1.60	6.00	4.60	1.55	3.00
③	8.80	1.60	7.00	5.00	1.75	4.00
④	10.00	2.00	8.00	5.60	2.05	4.50
⑤	8.80	1.80	7.00	5.00	1.75	3.50

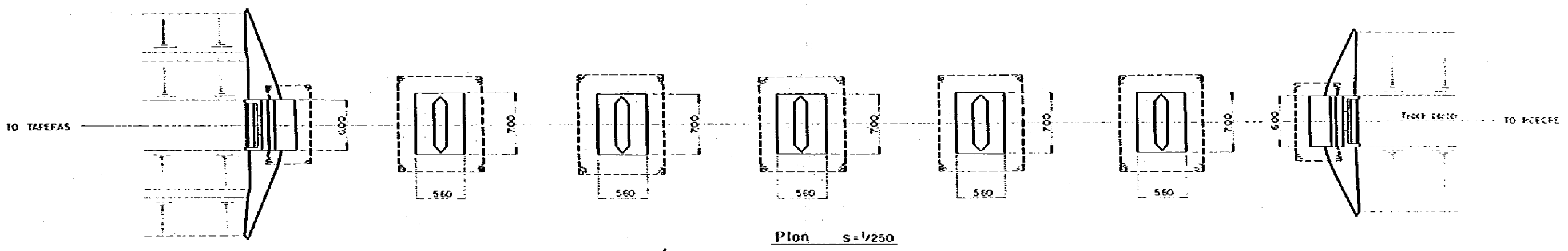
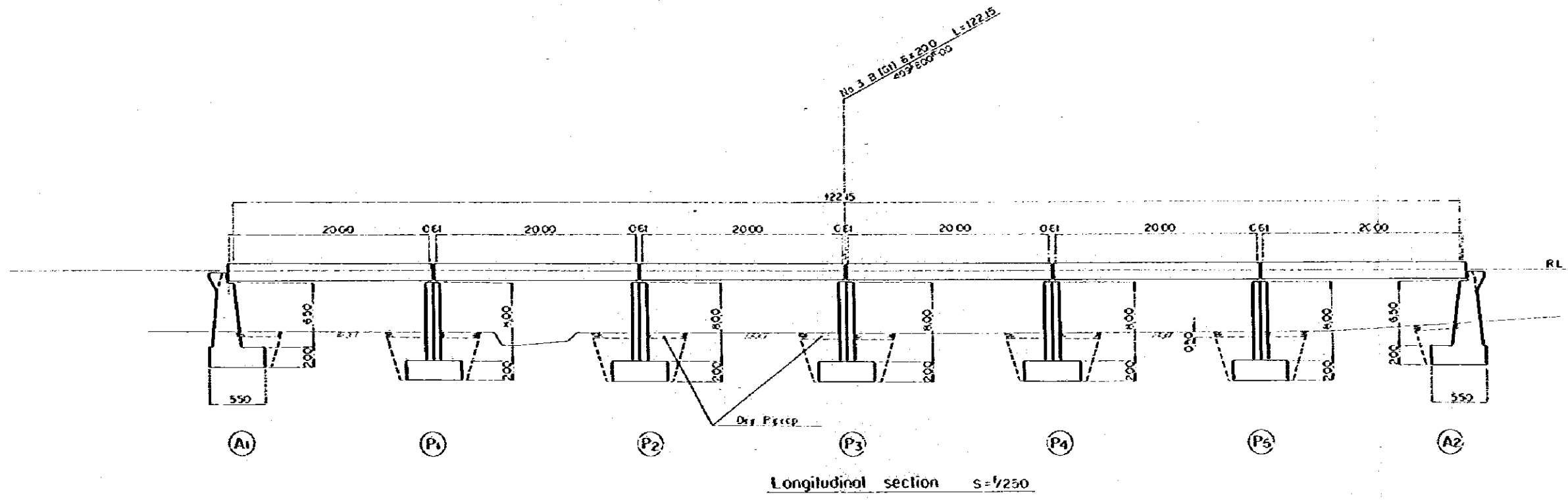
Bars length of each pier

Pier number	l ₁	l ₂	l ₃
①	6.55	2.65	4.32
②	7.55	3.65	4.92
③	8.75	4.65	5.32
④	9.95	6.05	5.92
⑤	8.75	4.65	5.32



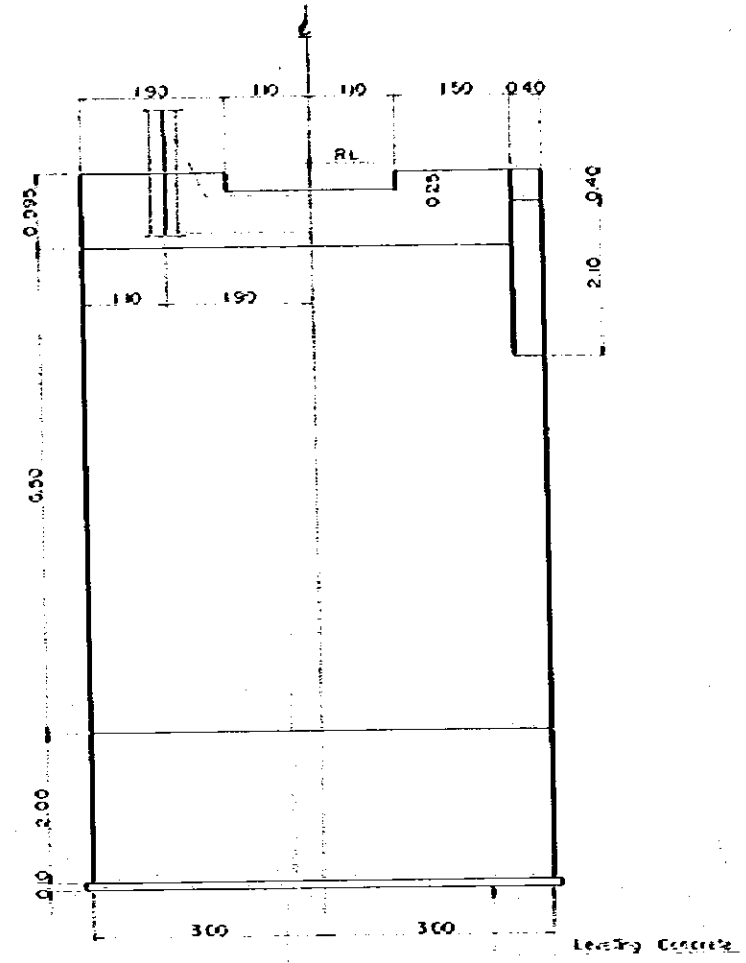
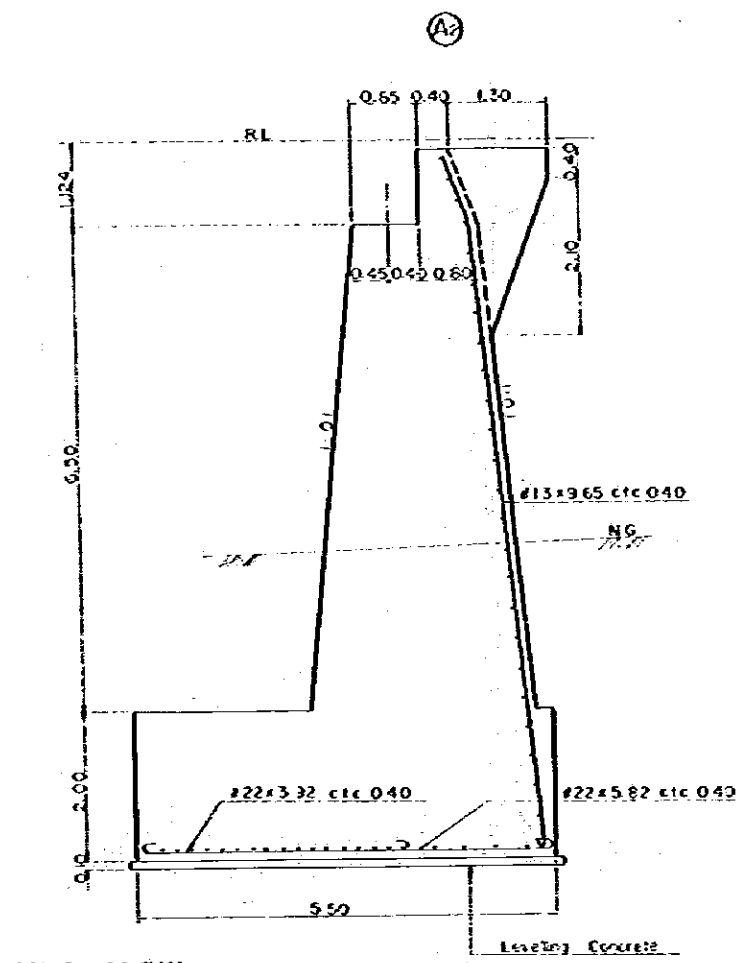
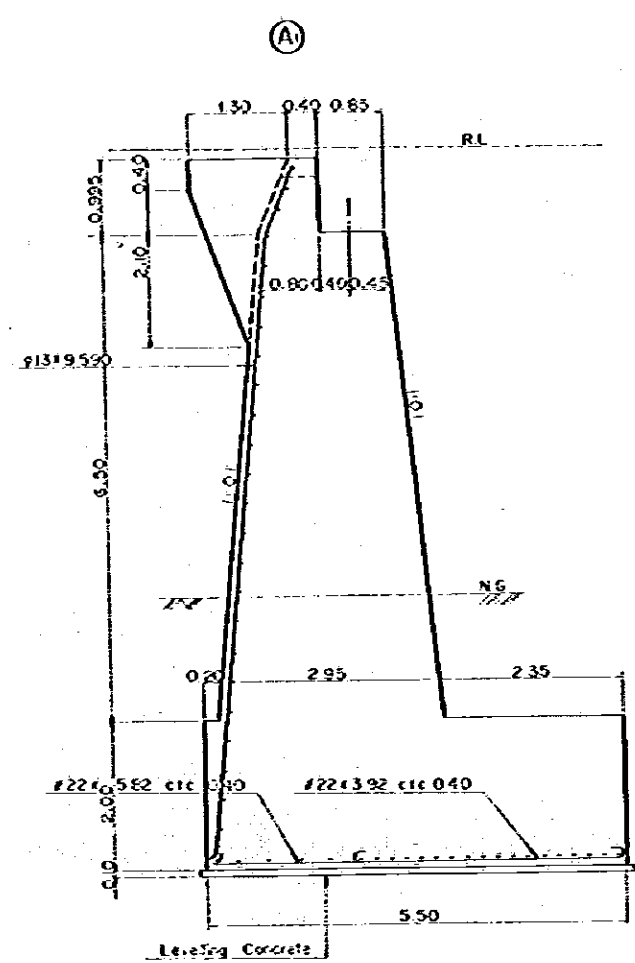
Plan

EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION DEPARTMENT EASTERN LINE		
NO 2 BRIDGE		
PER		
GENERAL VIEW		
Executive Enterprise		
Drawn by	Checked by	Approved by
Contracting Enterprise		
Checked by	Drawn by	No 51



EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PROJECT EASTERN LINES (E-PLAS F.C.O.S.)		
NO. 3 BRIDGE GENERAL VIEW		
Executing Enterprise		
Drawn by Dse	Checked by Dse	Agreed by Dse
Contracting Enterprise		
Scale: 1:250	Sheet No.	No. 53

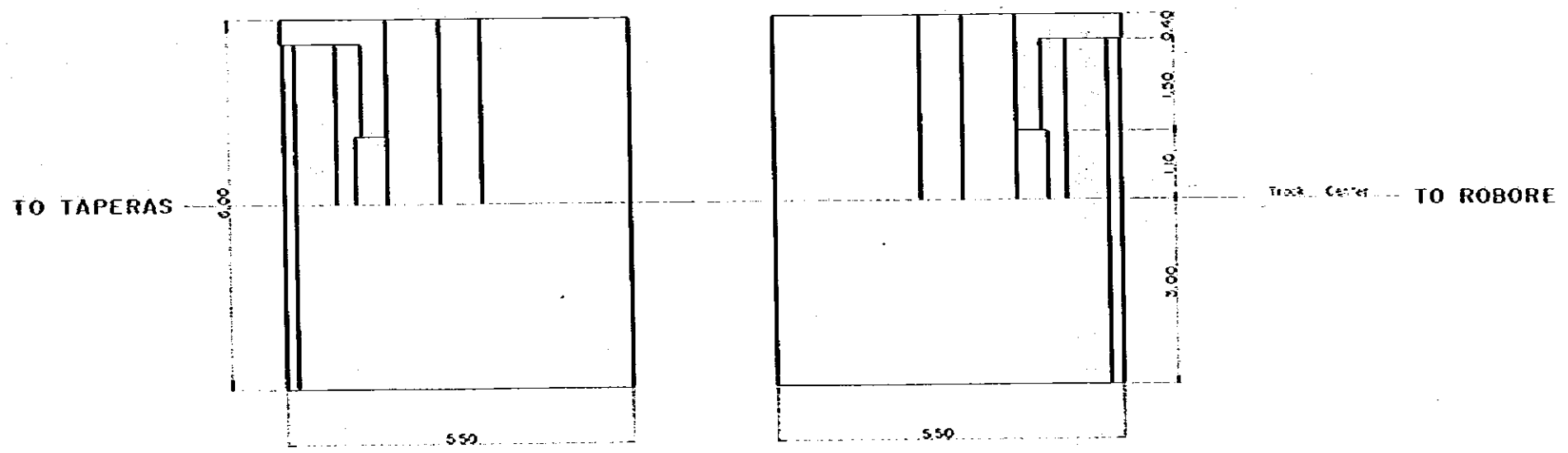
(A) (A2) ABUTMENT S-1/50



SIDE VIEW

FRONT VIEW BACK VIEW

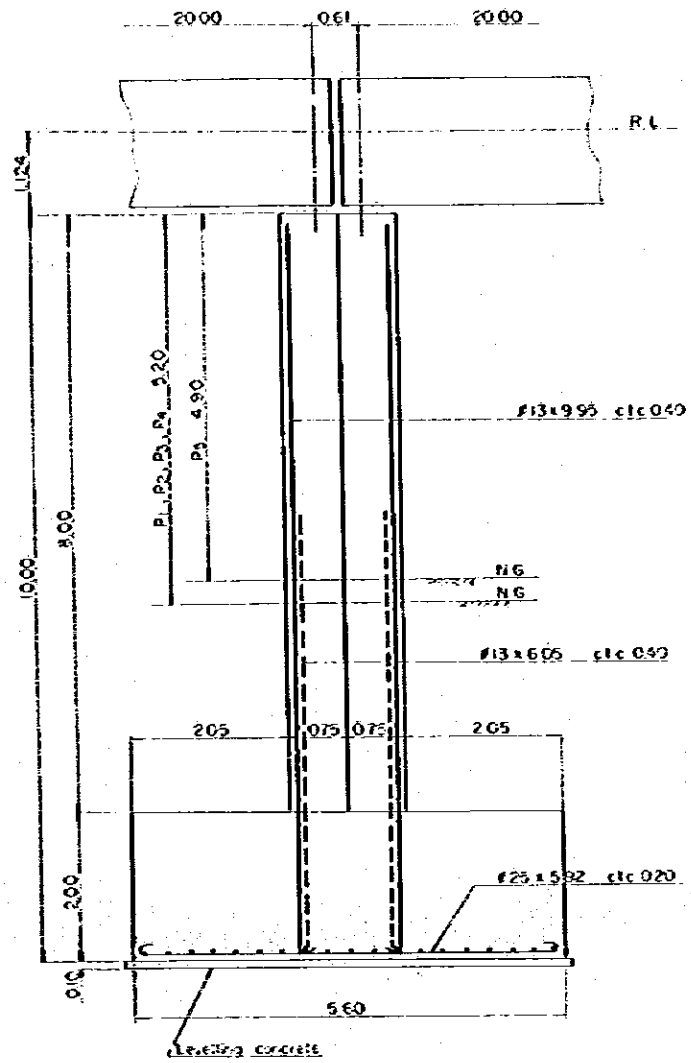
PLAN



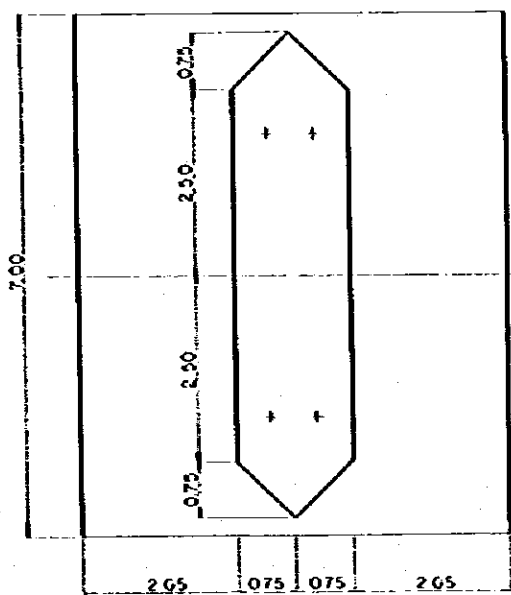
FOUNDATION PLAN

Note:
 Structure Concrete = Class B
 Leasing Concrete = Class D

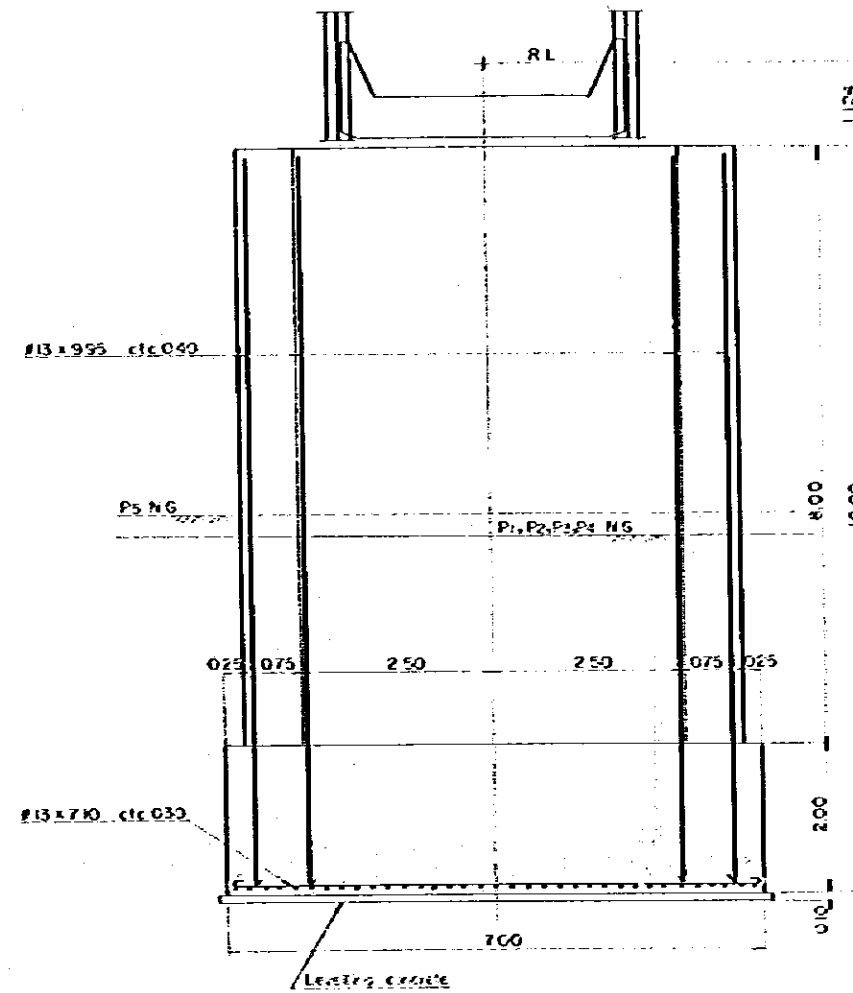
EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PROJECT EASTERN LINE (11-19-1952)		
NO 3 BRIDGE (A) (A2) ABUTMENT GENERAL VIEW Escalera, E. J.		
Drawn by Escalera, E. J.	Checked by Escalera, E. J.	Approved by Escalera, E. J.
Checked by Escalera, E. J.	Approved by Escalera, E. J.	No 54



Side View s=1/50



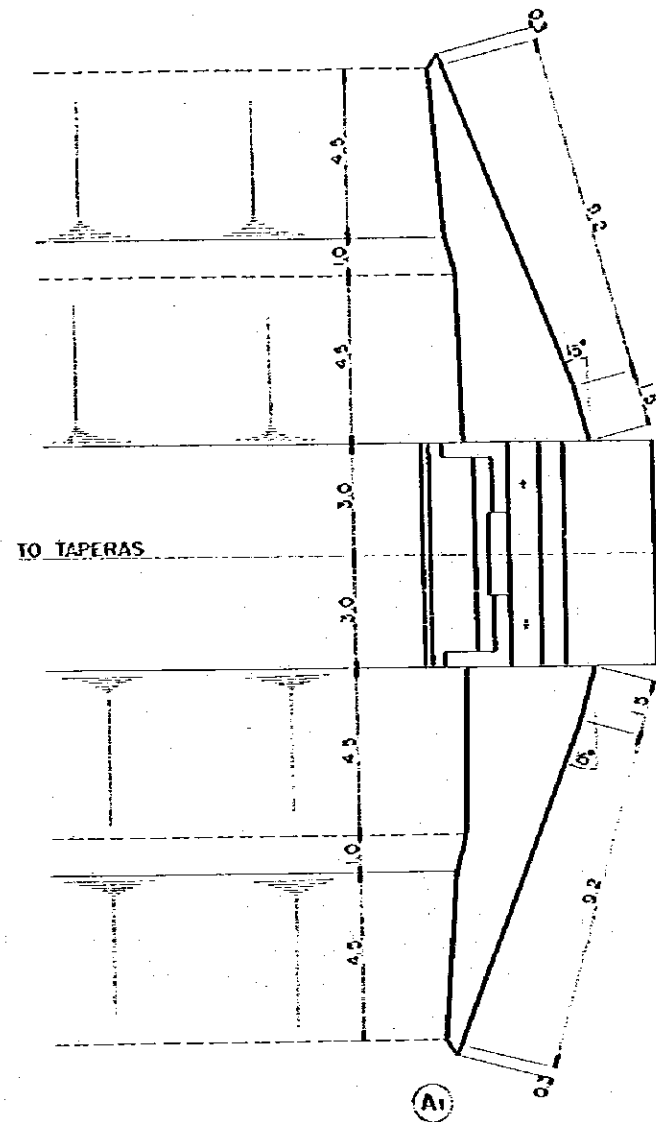
Plan s=1/50



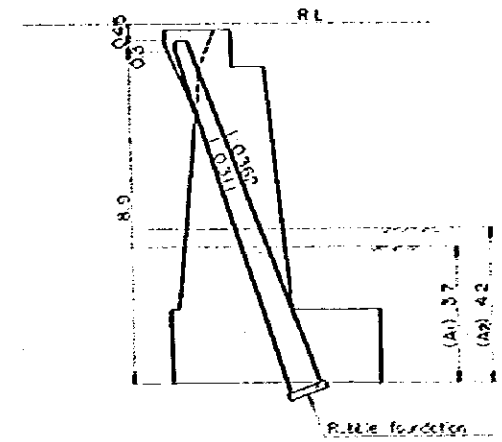
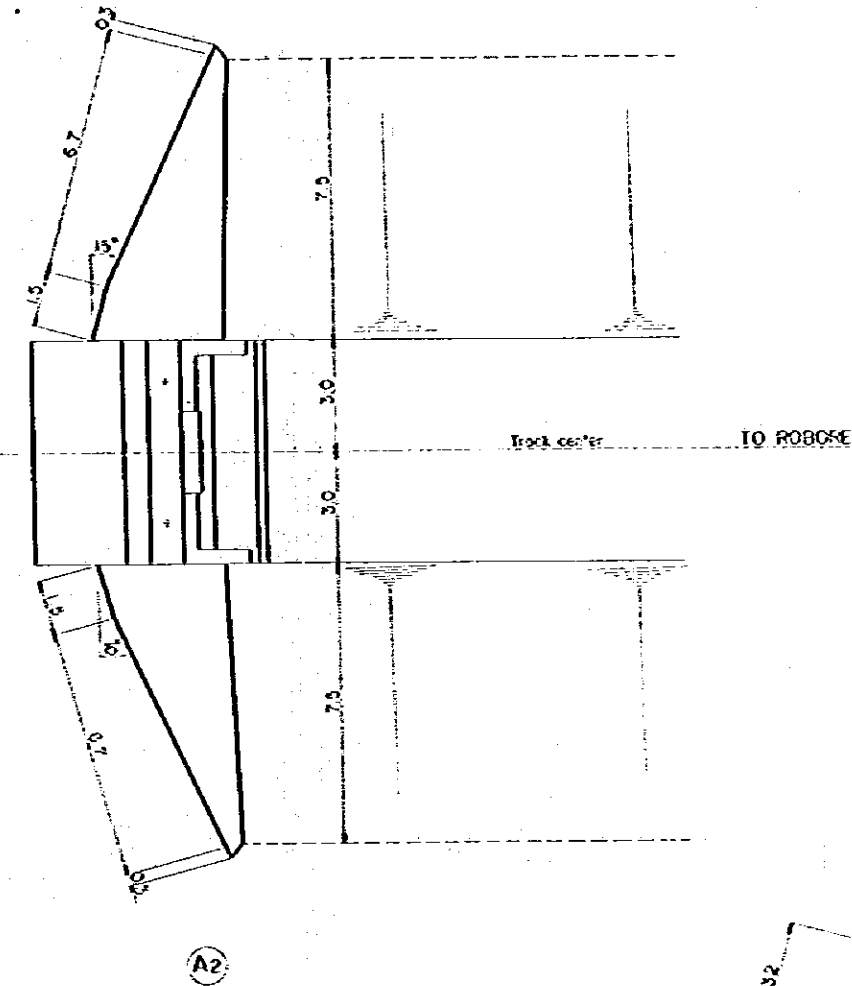
Front View s=1/50

NOTE:
 Structure concrete - Class B
 Leveling concrete - Class D

EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN LINE		
COTOPACAS RAILROAD		
NO. 3 BRIDGE		
PIER		
GENERAL VIEW		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No. 55

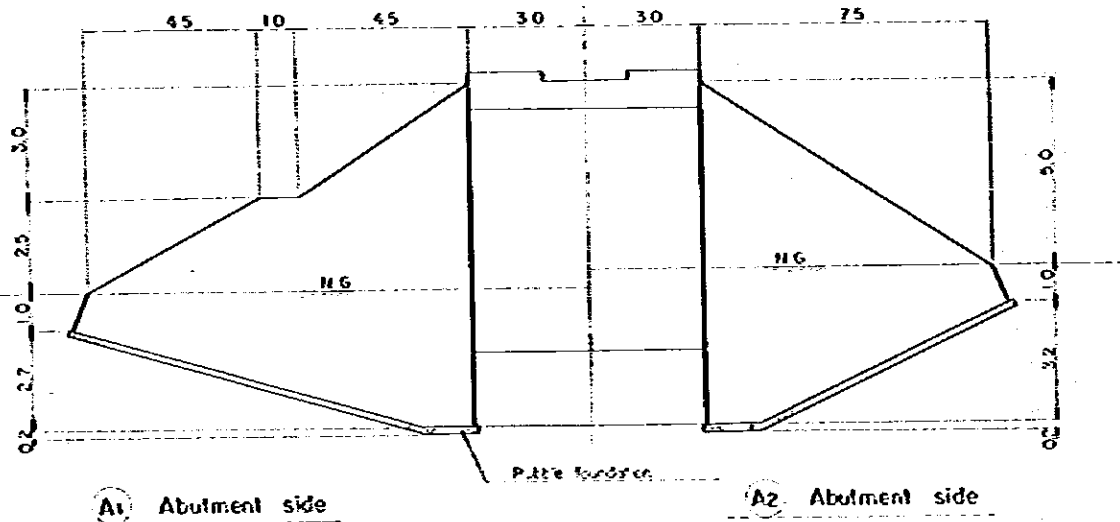


Plan $s=1/100$

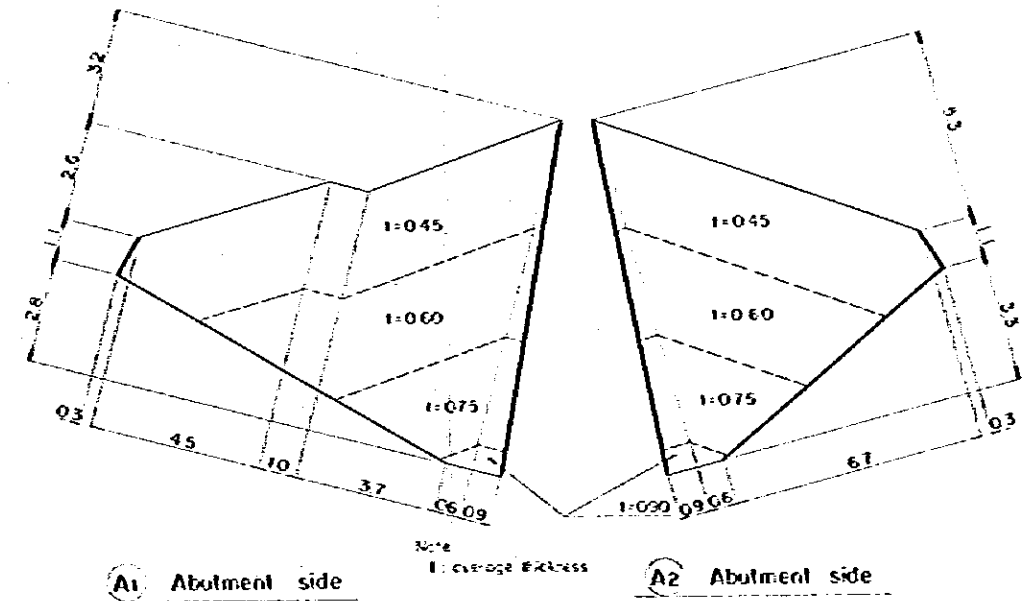


Typical section $s=1/100$

Note:
The class of concrete
class C



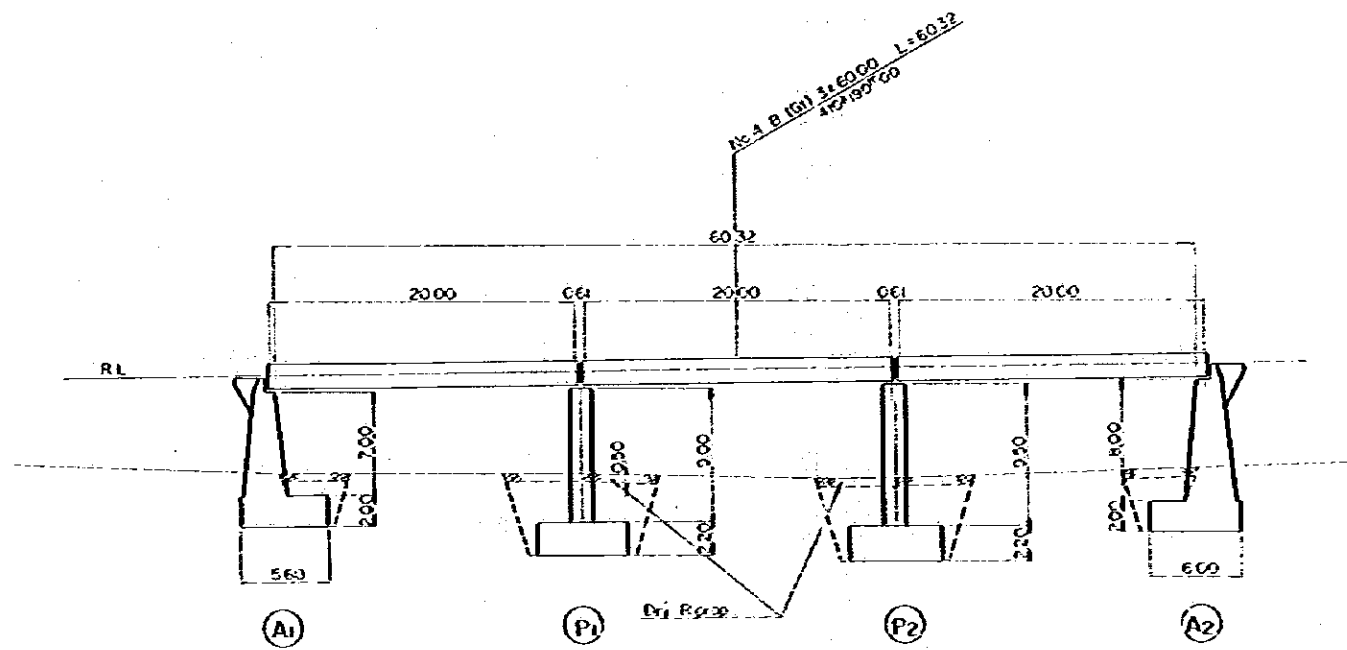
Front View $s=1/100$



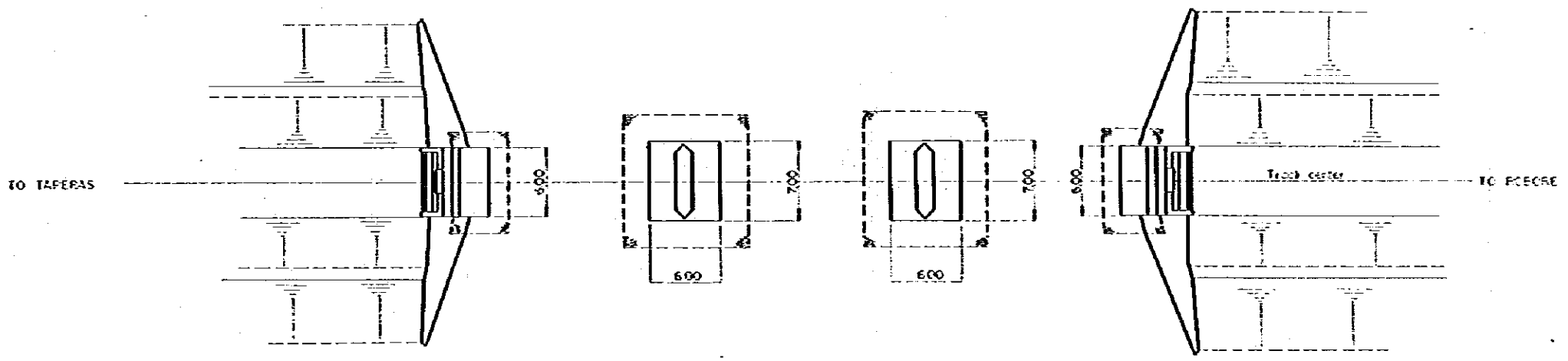
Note:
1: average thickness

Development $s=1/100$

EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT LASTEYAN LINE		
(MEXICO)		
NO. 3 BRIDGE		
SHEATHING WALL		
GENERAL VIEW		
Escala: 1:100		
Drawn by:	Checked by:	Approved by:
Contractor:	Engineer:	
Checked by:	Approved by:	56

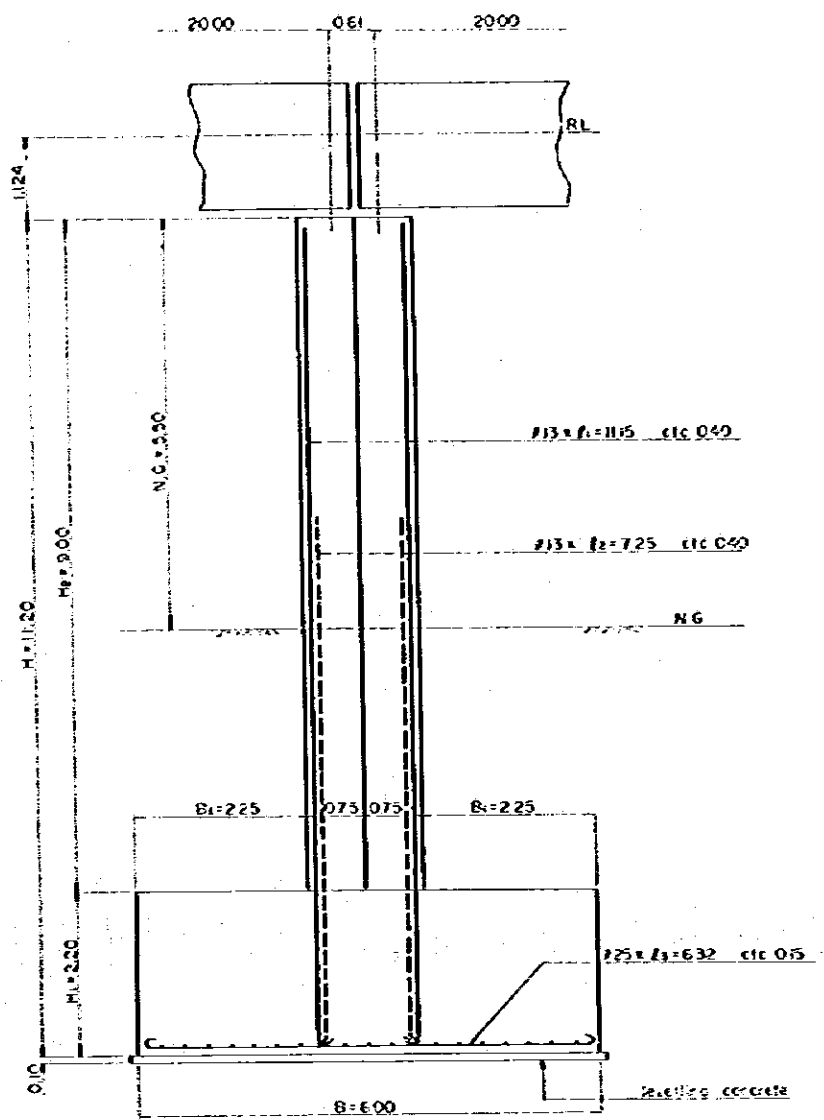


Longitudinal section s=1/250

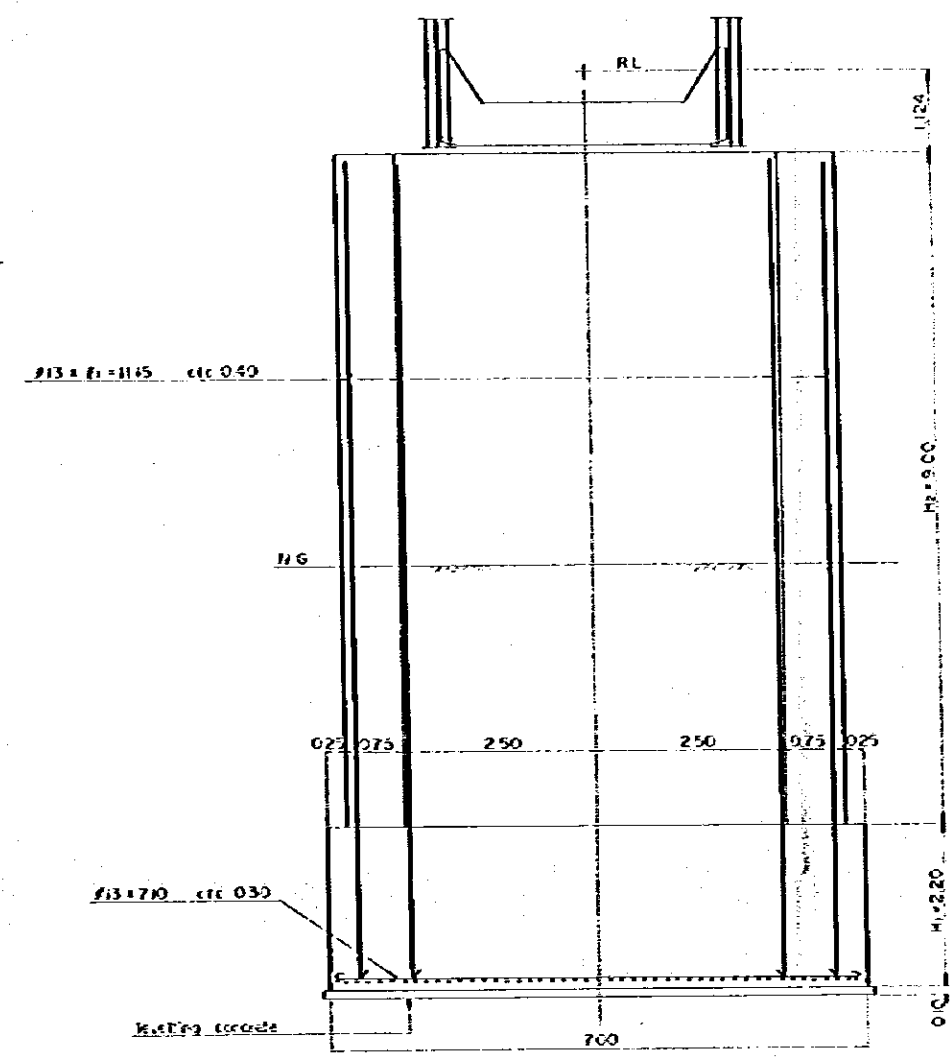


Plan s=1/250

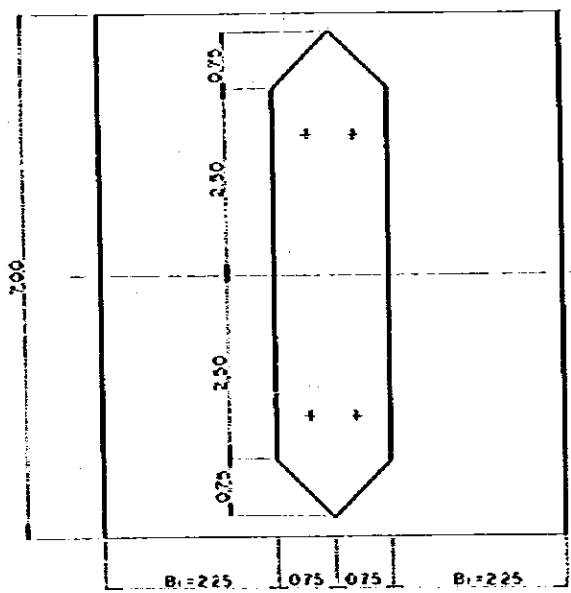
EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PROJECT EASTERN LINE <small>(LINES 2-5-6)</small>		
NO. 4 BRIDGE GENERAL VIEW		
Executive: Empresa		
Drawn by:	Checked by:	Approved by:
Contracting: Empresa		
Checked by:	Approved by:	No. 57



Side View s=1/50



Front View s=1/50



Plan s=1/50

Dimension of each piers (m)

Pier number	H	H ₁	H ₂	B	B ₁	B ₂
(P ₁)	1120	220	900	600	225	550
(P ₂)	1170	220	950	600	225	620

Bar length of each piers (m)

Pier number	f ₁	f ₂	f ₃
(P ₁)	1150	7250	6320
(P ₂)	1160	7750	6320

Note
 structural concrete - class B
 levelling concrete - class D

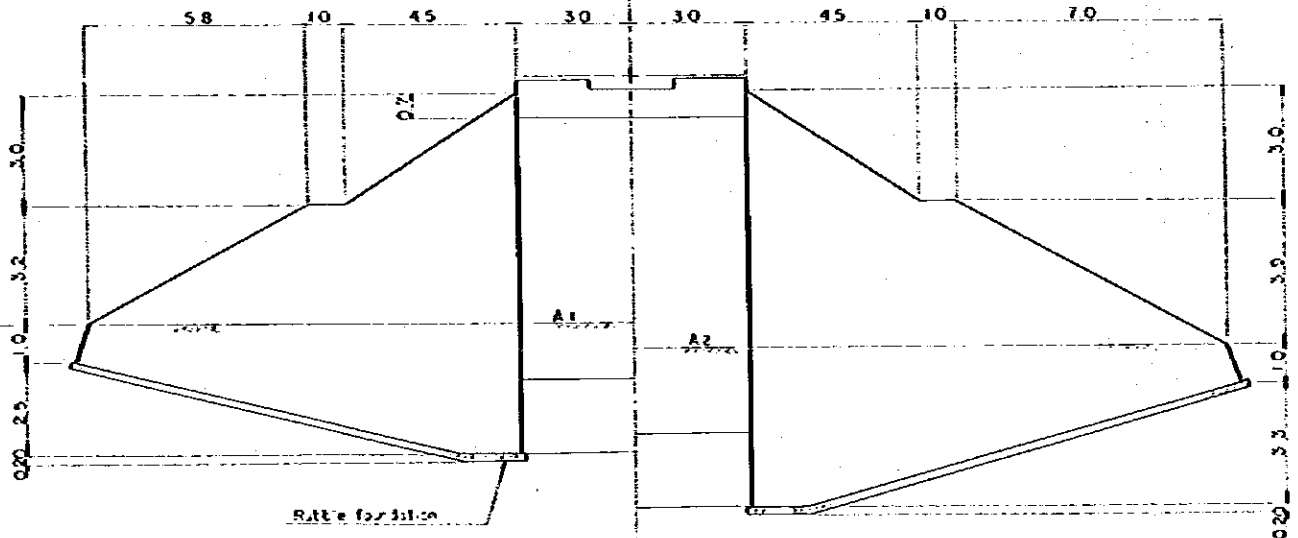
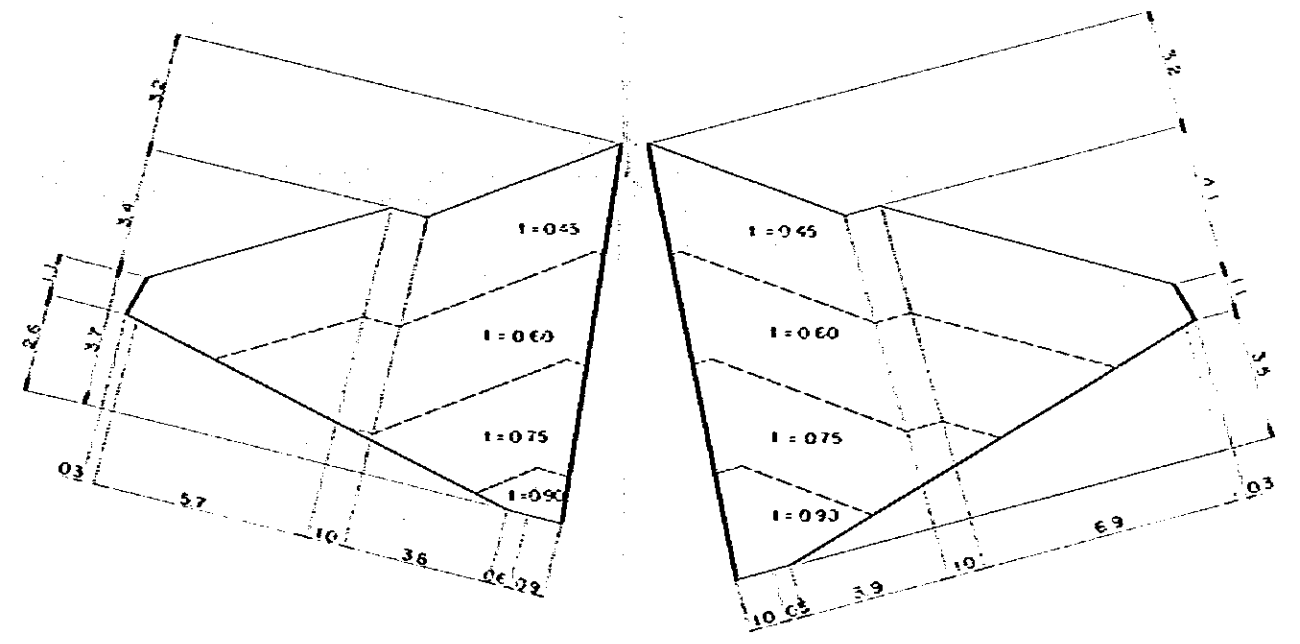
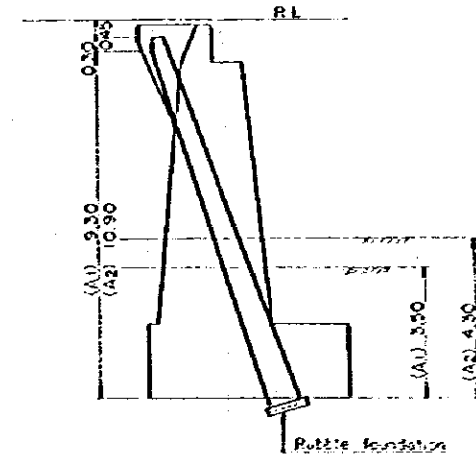
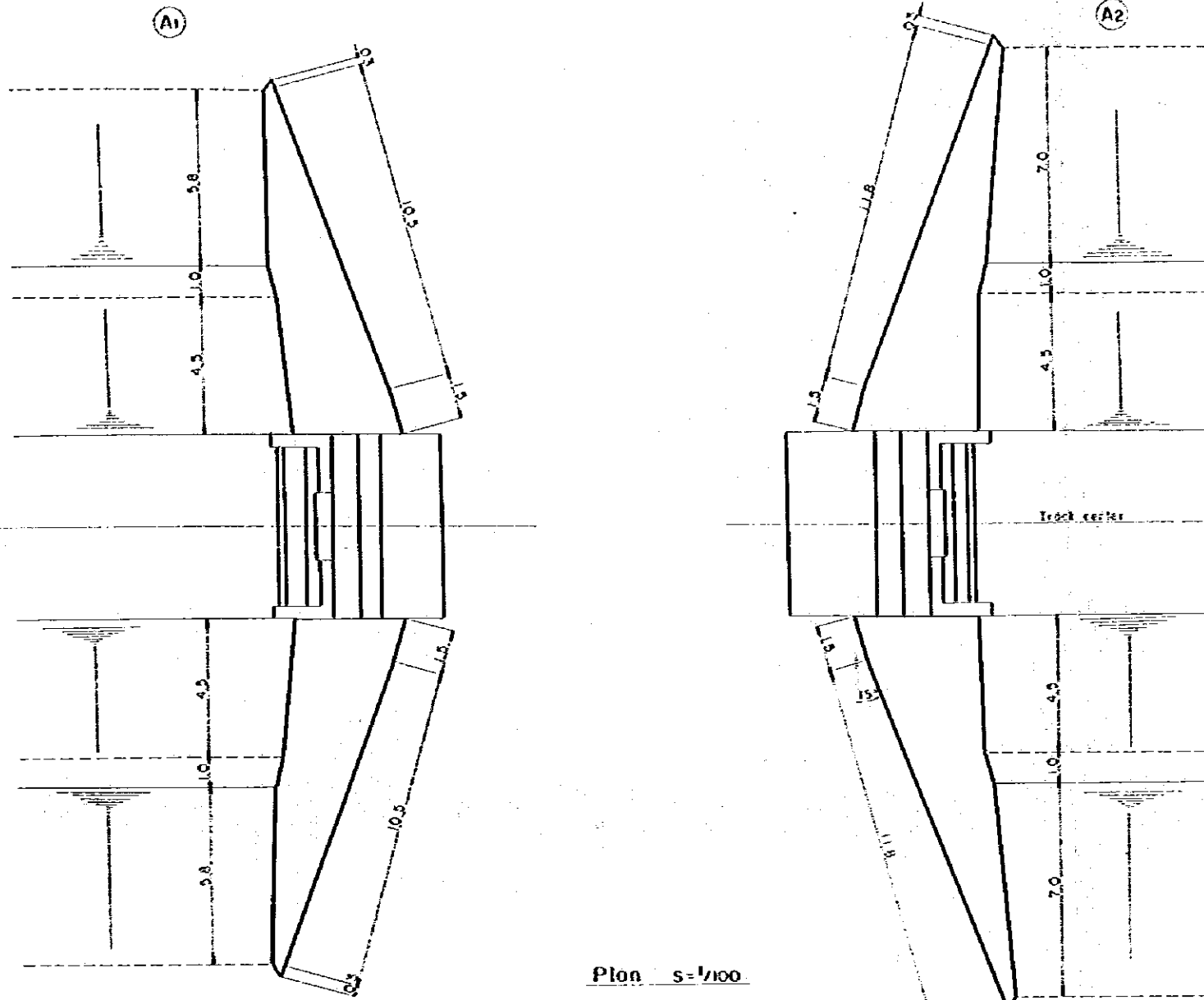
EMPRESA NACIONAL DE FERROCARRILES
 RAILWAY CONSTRUCTION PROJECT EASTERN LINE
 (L. 10000-100000)

NO. 4 BRIDGE
 PIER
 GENERAL VIEW

Facing: Exterior

Drawn by Date	Checked by Date	Approved by Date

Checked by Date Approved by Date No. 59



Note
1" AVERAGE FINISH

(A1) Abutment side (A2) Abutment side

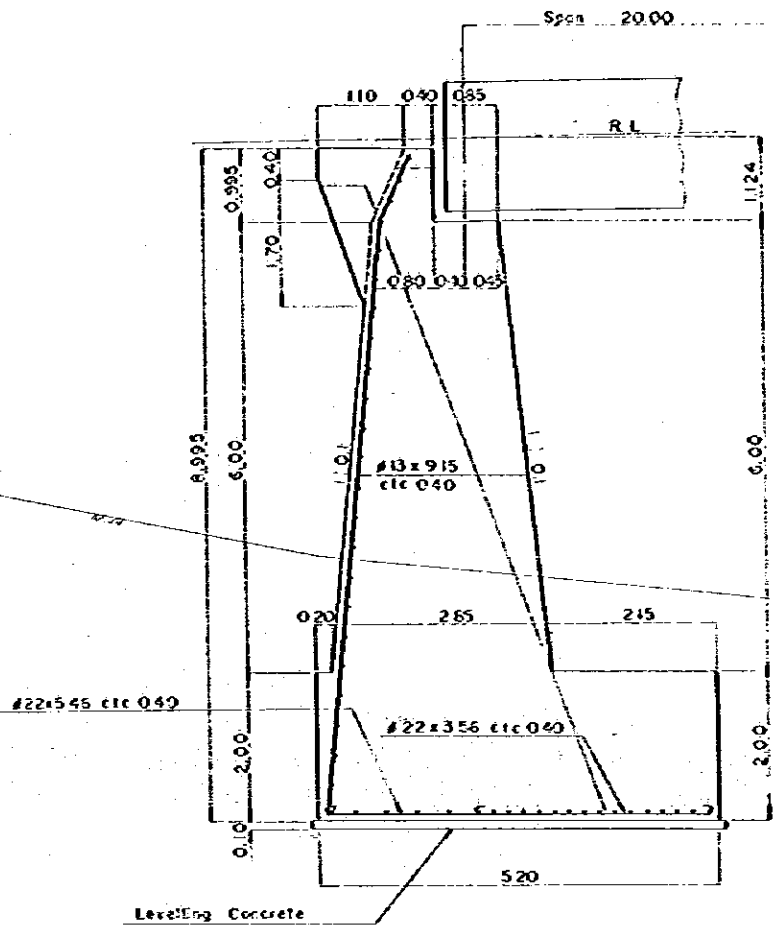
Note
concrete class C

EMPRESA NACIONAL DE FERROVIARIAS			
RULRAY CONSTRUCOES DE NORDE EASTERLY LINE			
NO. 4 BRIDGE			
SHEATHING WALL			
GENERAL VIEW			
Executed by Empresa			
Drawn by Eng.	Checked by Eng.	Approved by Eng.	
Consulting Engineer			
Project by Eng.	Followed by Eng.		60

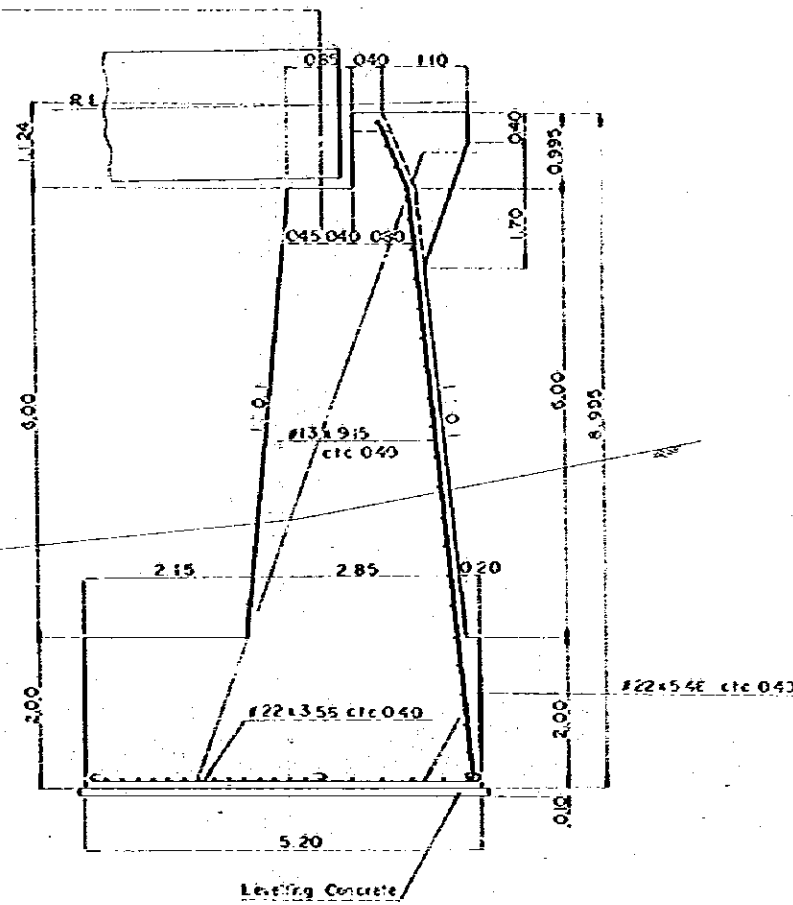
(A1) (A2) Abutment s=1/50

(A1)

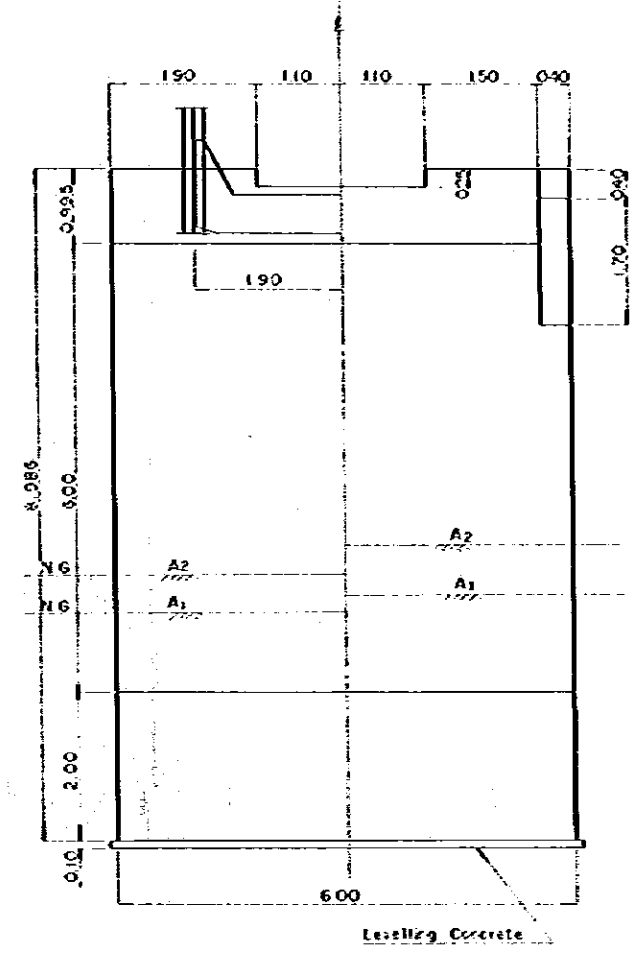
(A2)



Side View



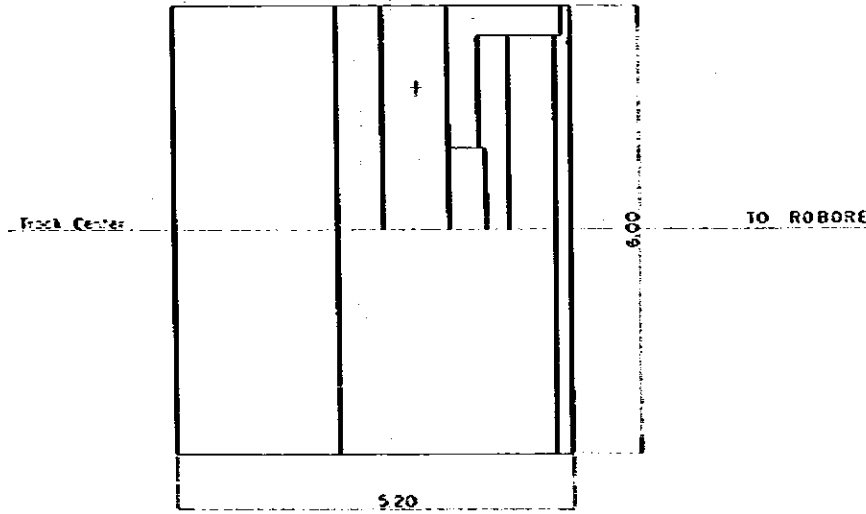
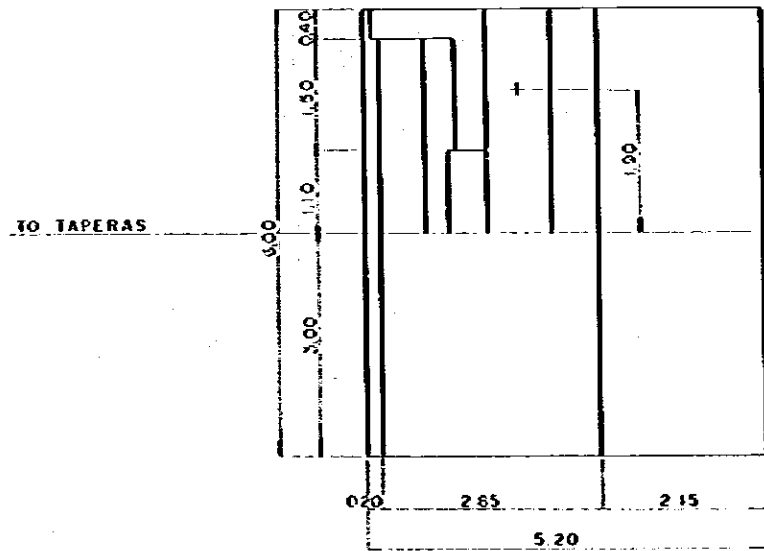
Leveling Concrete



Front View

Back View

Plan

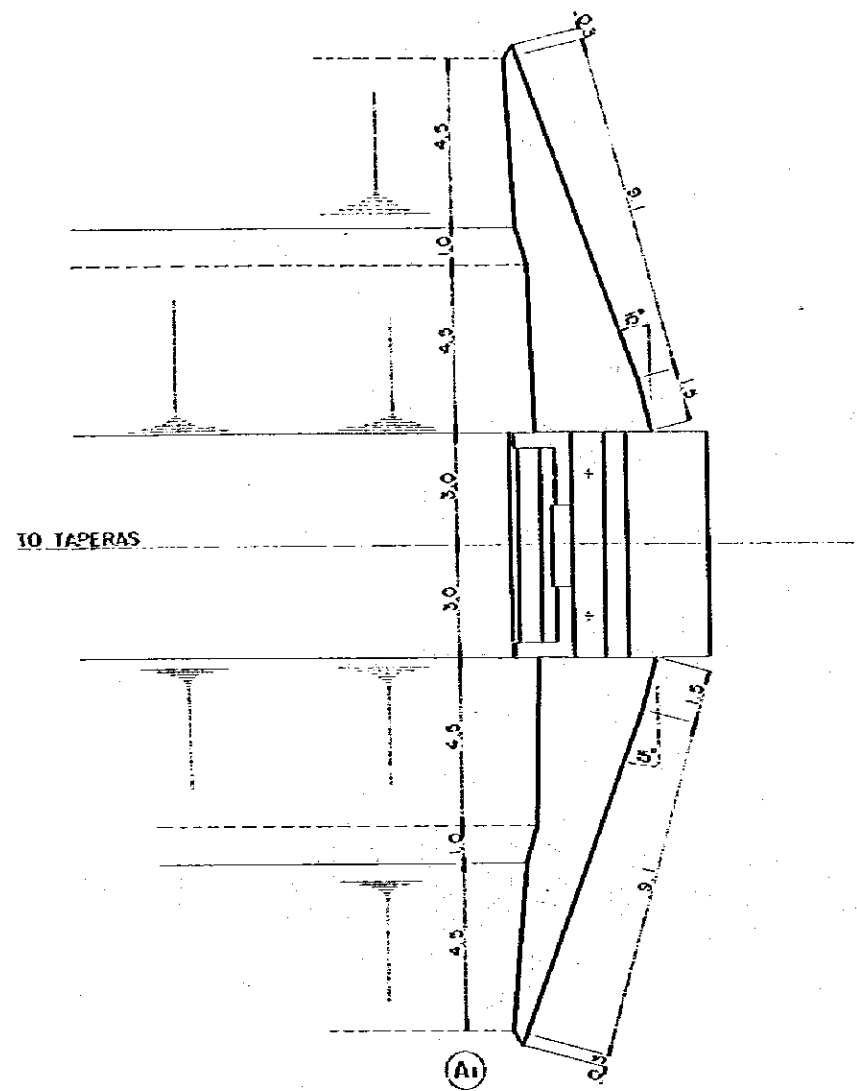


Foundation Plan

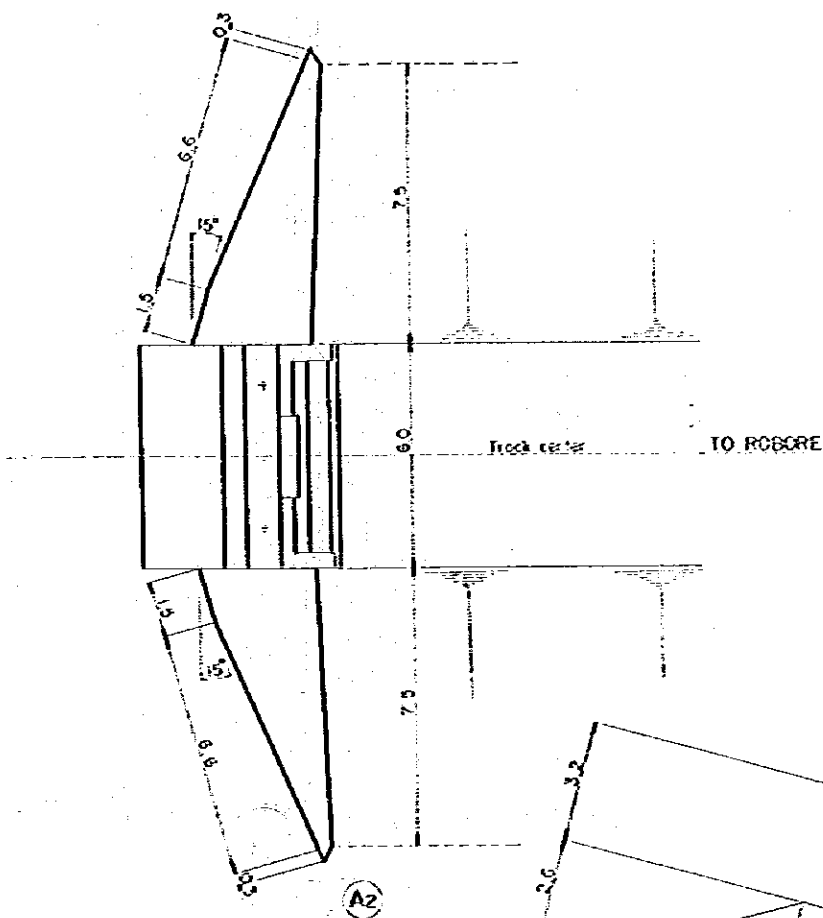
Notes:

Structure	Concrete	Class B
Leveling	Concrete	Class D

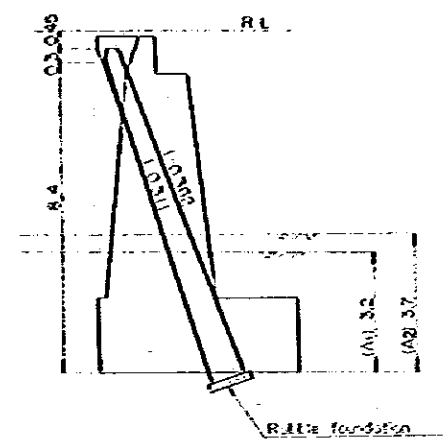
EMPRESA NACIONAL DE FERRICARRILES
 SALVADORENSES DE CONSTRUCCION Y MAINTENIMIENTO DE FERROVIARIAS
 NO 5 BRIDGE
 (A1) (A2) ABUTMENT
 GENERAL VIEW
 61



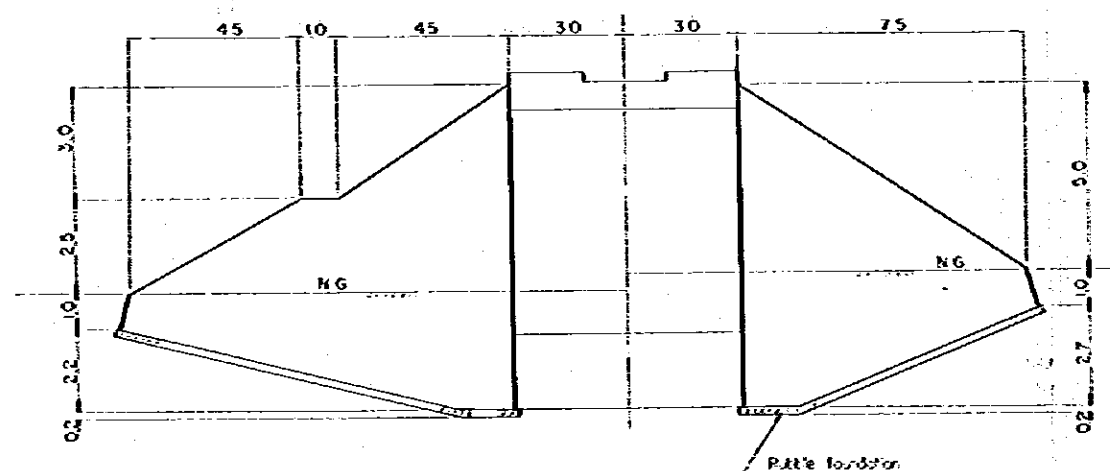
Plan $s=1/100$



A2



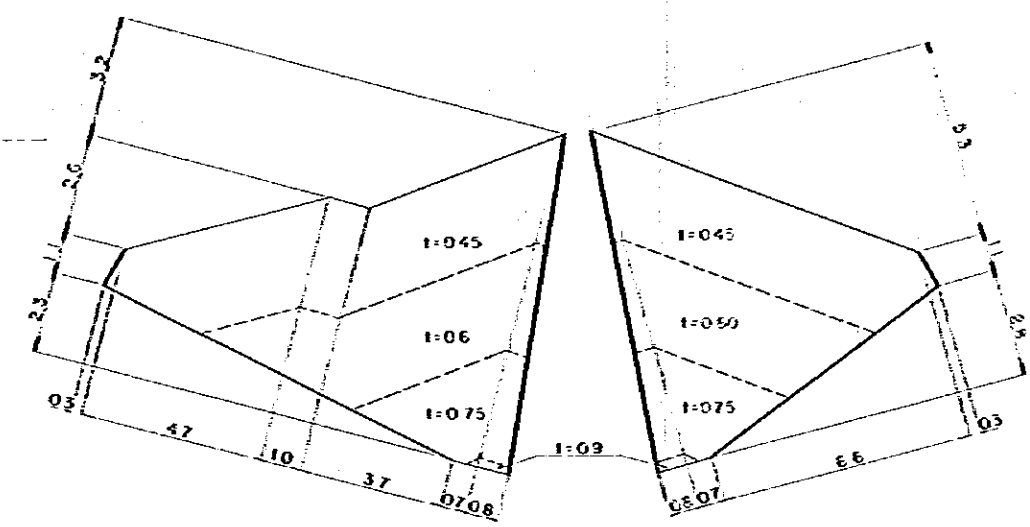
Typical section $s=1/100$



A1 Abutment side

A2 Abutment side

Front View $s=1/100$



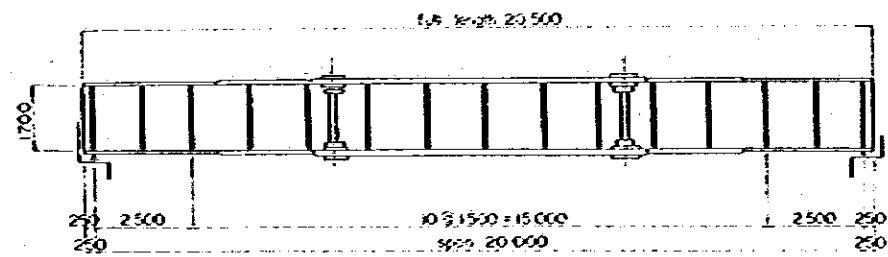
A1 Abutment side

A2 Abutment side

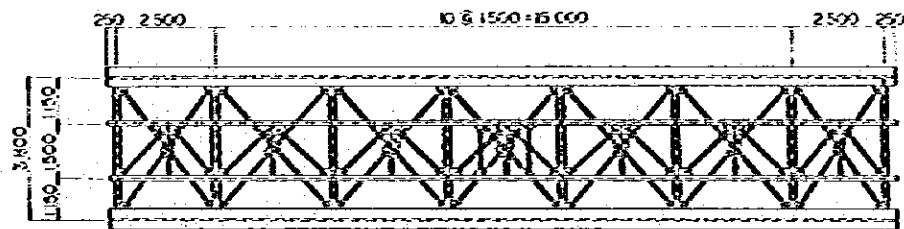
Development $s=1/100$

Note:
The class of concrete
class C

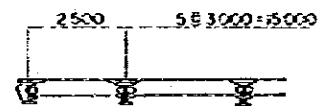
ENTRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN LINE		
1005 BRIDGE		
SHEATHING WALL		
GENERAL VIEW		
Project: 1. Estación		
Drawn by: []	Checked by: []	Approved by: []
Contracting Enterprise		
Scale: 1:100	Sheet No: 62	



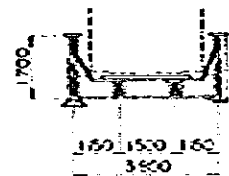
Side View S=1/100



Plan S=1/100



side view of stringer S=1/100



End floor beam

Intermediate floor beam

S=1/100

Reaction
(Per one support)

live load	53.3 ^t
In-gate load	32.0 ^t
dead load	9.8 ^t
Total	95.1^t

Weights of the steel

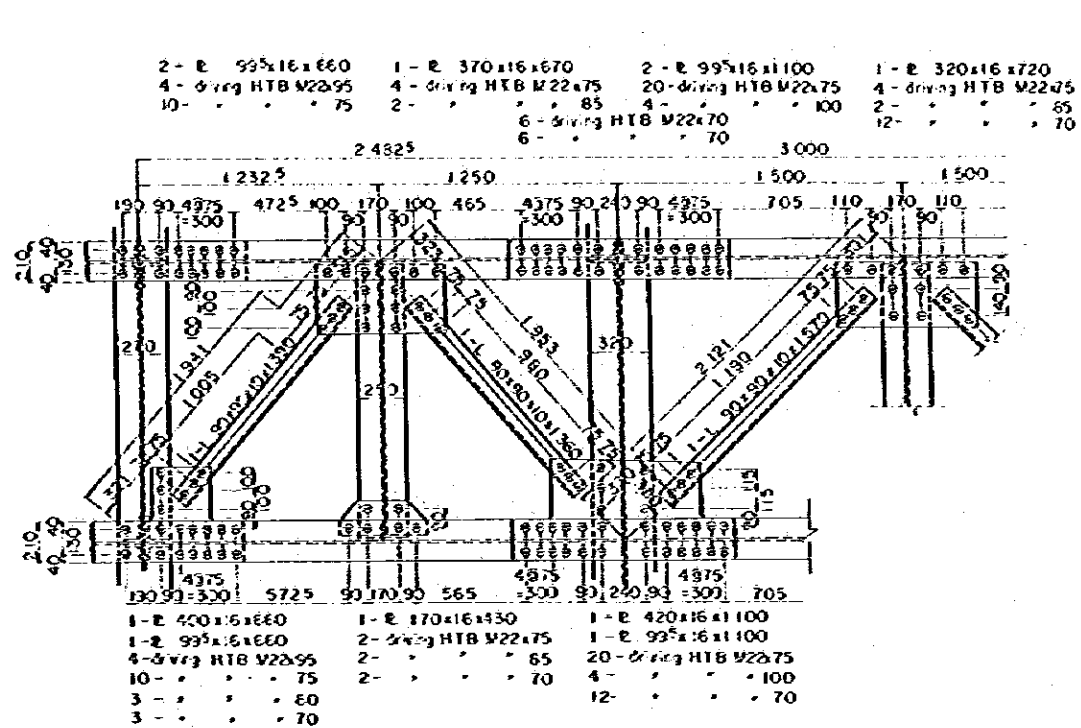
- SU41	23.8 ^t
SS41	5.6 ^t
HTB	1.3 ^t
FC-15	0.6 ^t
Total	31.3^t
Painting area	451.0 ^{m²}
Total length of welded	636.75 ^m

Roll-base ~ bearing surface		Roll-base ~ bottom of the main girder	
bridge-wood tie	250	bridge-wood tie	250
stringer	335	stringer	335
stringer lower flange surface of the end floor beam	133	stringer lower flange surface of the end floor beam	130
lower flange thickness of the end floor beam	22	lower flange thickness of the end floor beam	25
gusset	9	gusset	9
lower flange thickness of the main girder	19	lower flange thickness of the main girder	34
side plate	22	splice plate	19
support	120	high-strength bolt	20
metal treatment	25		
Total distance	335^{cm}	Total distance	892^{cm}

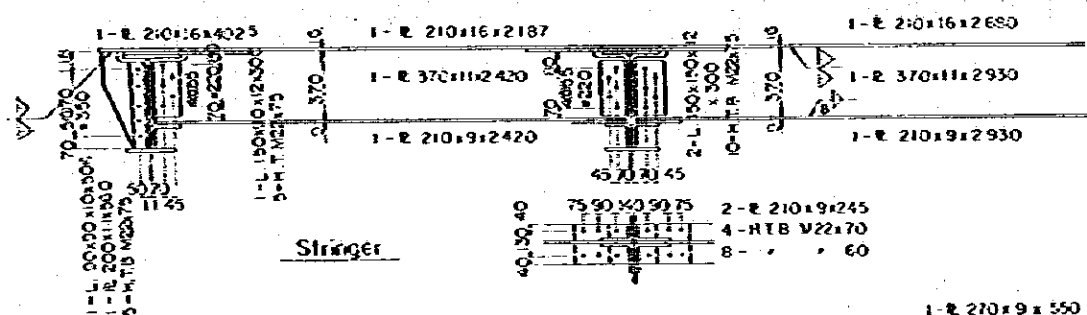
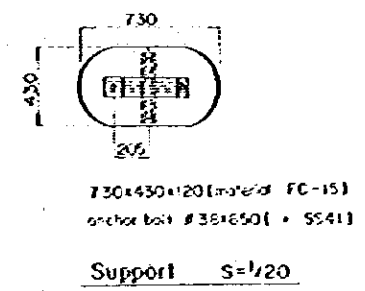
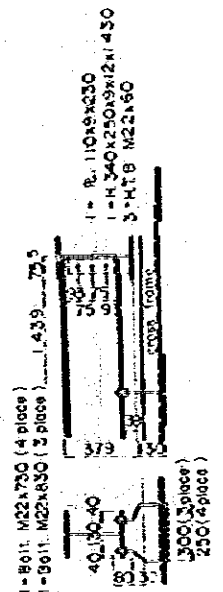
Purport for designing

1. The live load is corger E-45
2. The stringer is of the continuous beam.
3. The main girder is of the three [3] ticks
4. The high-strength bolts (HTE) is of fastening system of the site in its entirety
5. The high-strength bolts of the flange surface of the string and of the lateral bracing of the stringer are fitted through driving

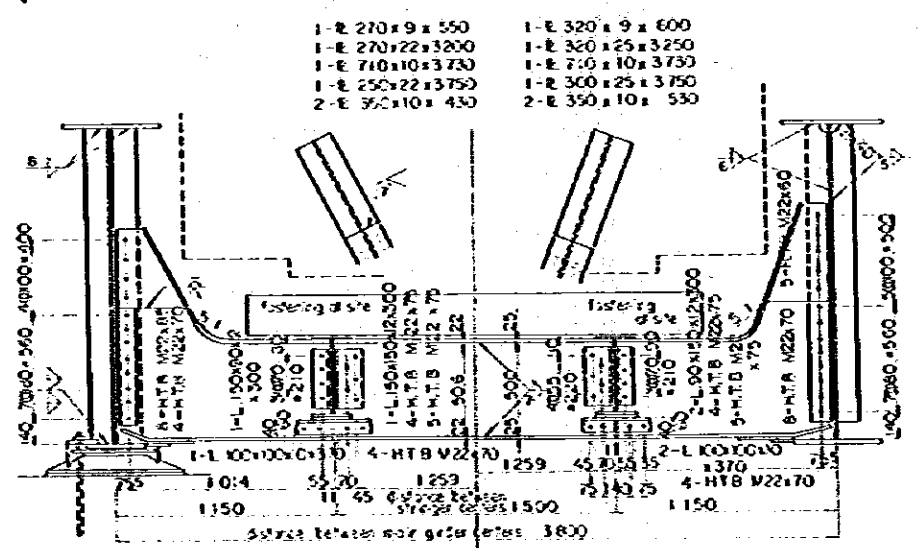
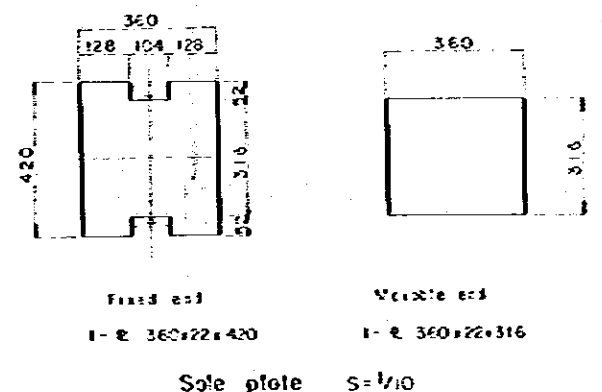
EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PROJECT EASTERN LINE (LÍNEA NOROCCIDENTAL)			
STEEL GIRDER (L=20^m) GENERAL VIEW (sheet 1 of 3)			
Empresa - Enterprise			
Drawn by Date	Chief 1 by Date	Approved by Date	
Contratación - Enterprise			
Scale	Approved by Date	No	63



Upper lateral bracing



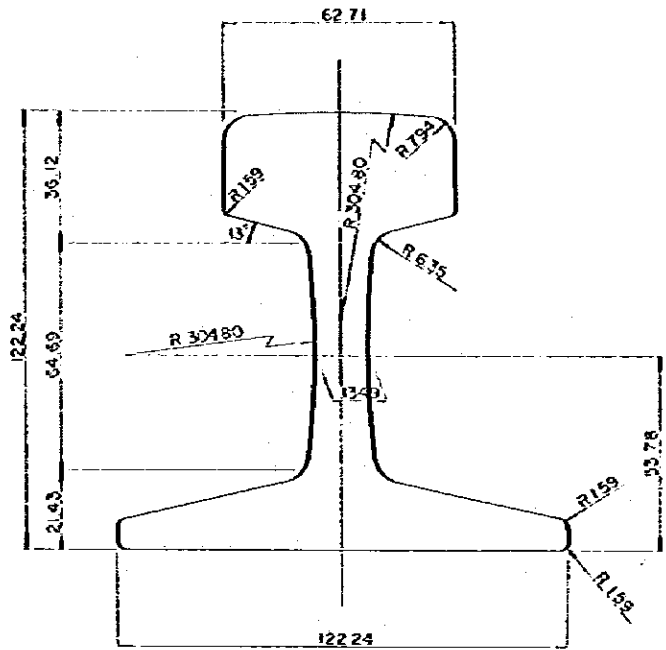
Stringer



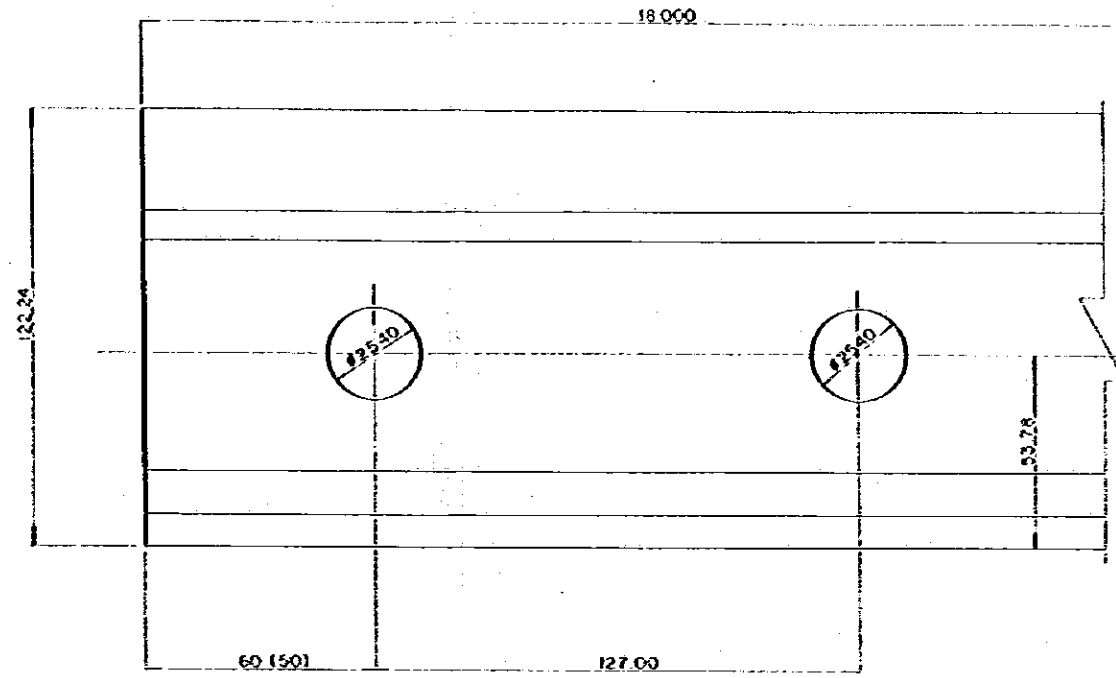
End floor beam

Intermediate floor beam

EMPRESA NACIONAL DE FERROCARRILES			
RAILWAY CONSTRUCTION FRONT EASTERN LINE			
GENERAL VIEW			
(Sheet 3 of 3)			
Drawing Enterprise			
Drawn by	Checked by	Approved by	Date
Contracting Enterprise			
			65

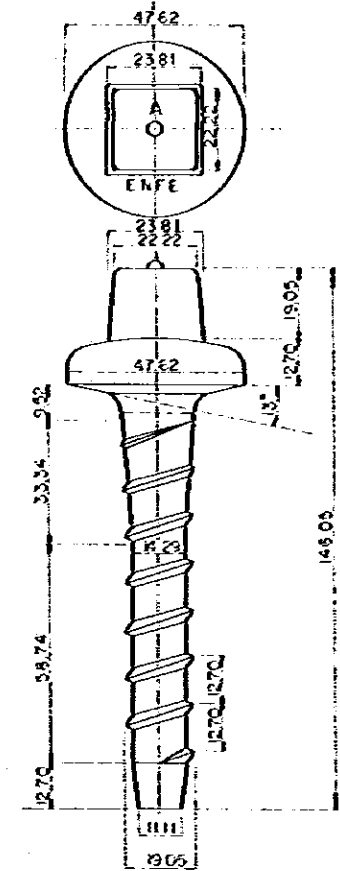


Section

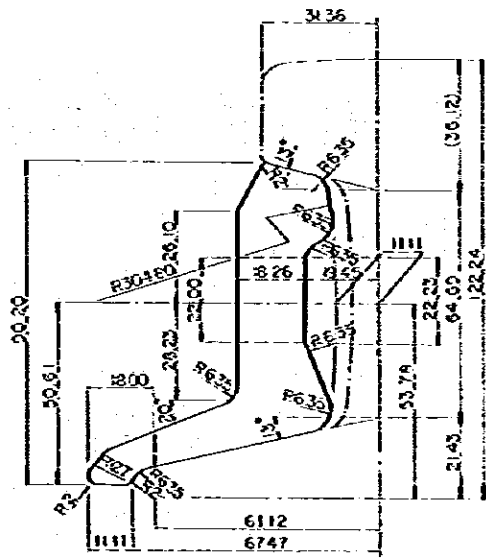


Side View

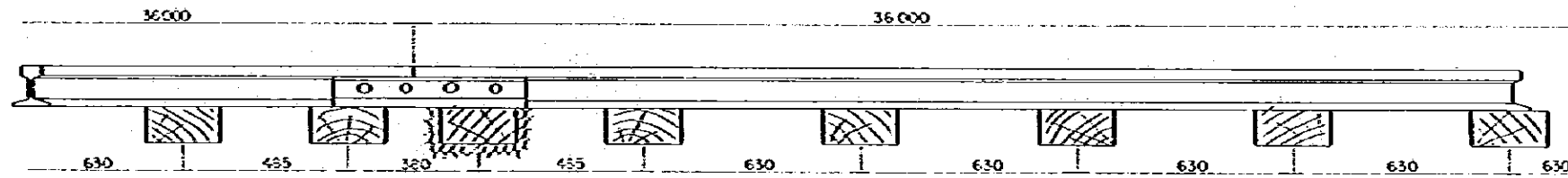
Rail (372 kg/m) $s=1/1$



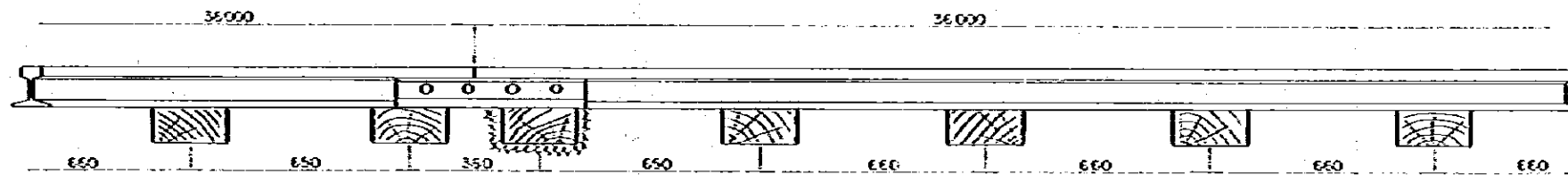
Drive spike $s=1/1$



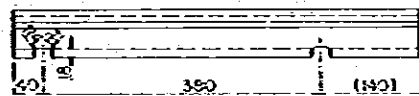
Section $s=1/1$



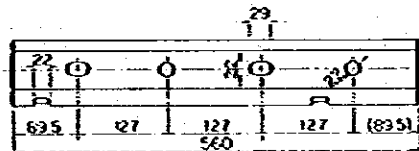
Tie interval (main track) $s=1/10$



Tie interval (Side track) $s=1/10$



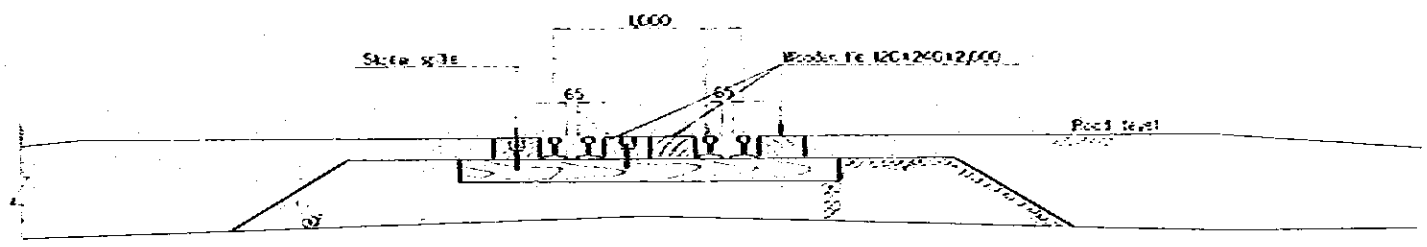
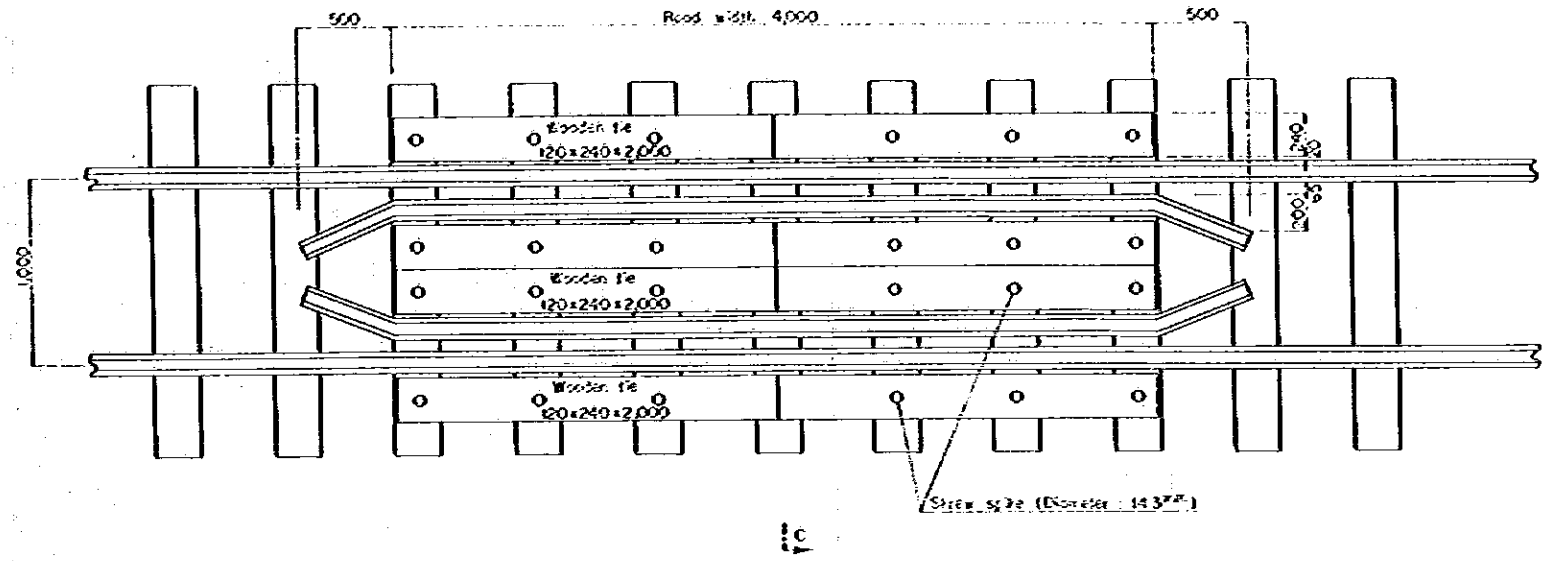
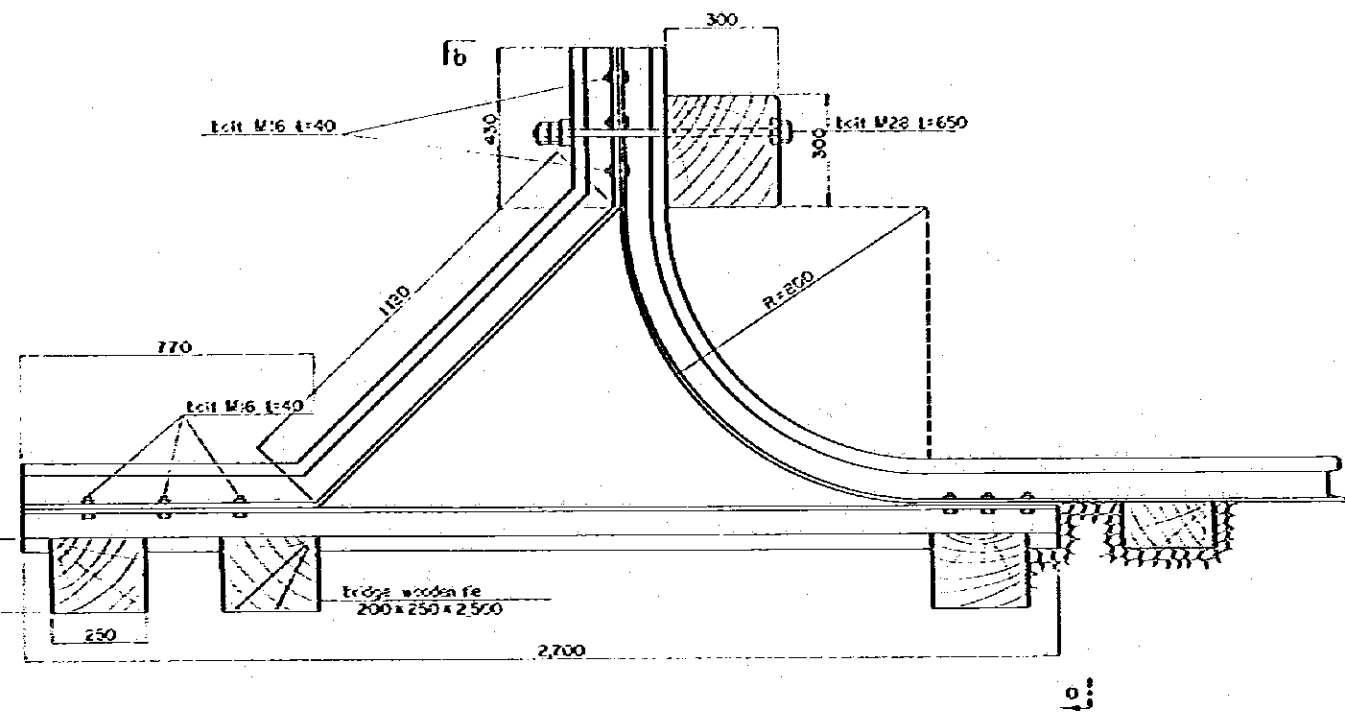
Plan $s=1/50$



Side View $s=1/50$

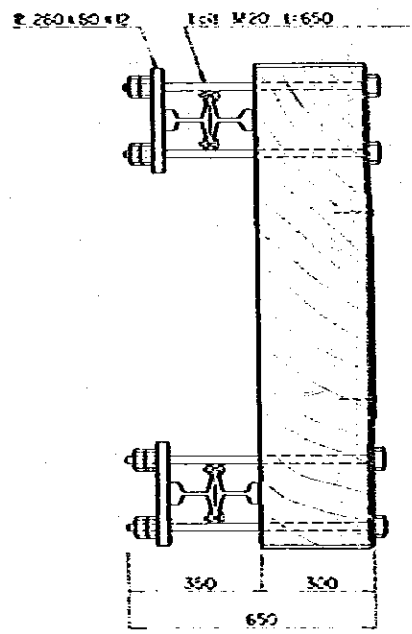
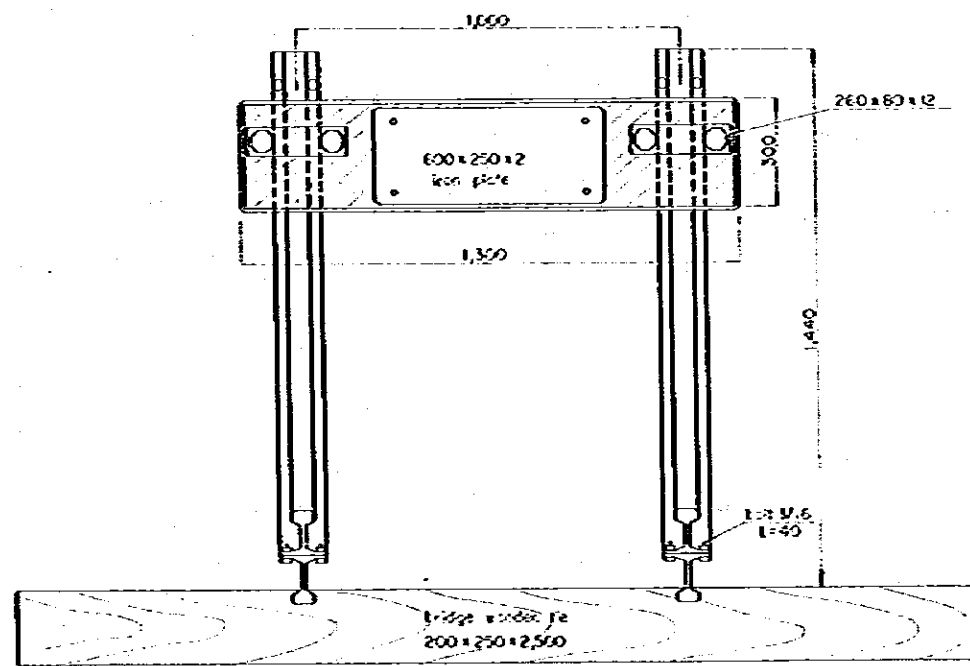
Joint Bar

EMPRESA NACIONAL DE FERROVIARIAS
 SISTEMA DE CARRIS DE TRILHA LARGA
TYPICAL TRACK STRUCTURE
 RAIL, DRIVE SPIKE, JOINT BAR
 TIE INTERVAL (Sheet 1 of 2)
 Executing Engineer
 Press to Date Checked by Date Approved by Date
 Contracting Enterprise



Plan S=1/200

section c - c
Level Crossing S=1/200



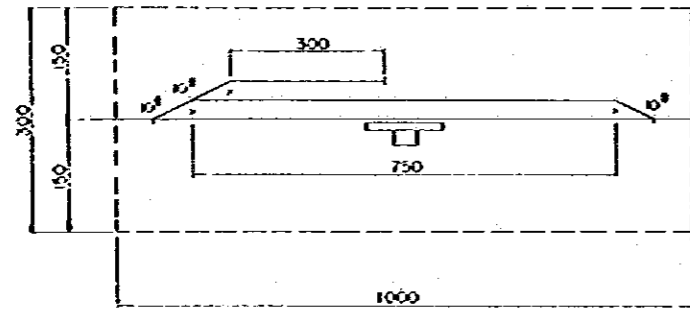
Buffer stop S=1/100

EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PATENT EASTERN LINE (SHEETS 1-1000)		
TYPICAL TRACK STRUCTURE BUFFER STOP, LEVEL CROSSING (sheet 2 of 2)		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		No. 67
Checked by Date	Approved by Date	No.

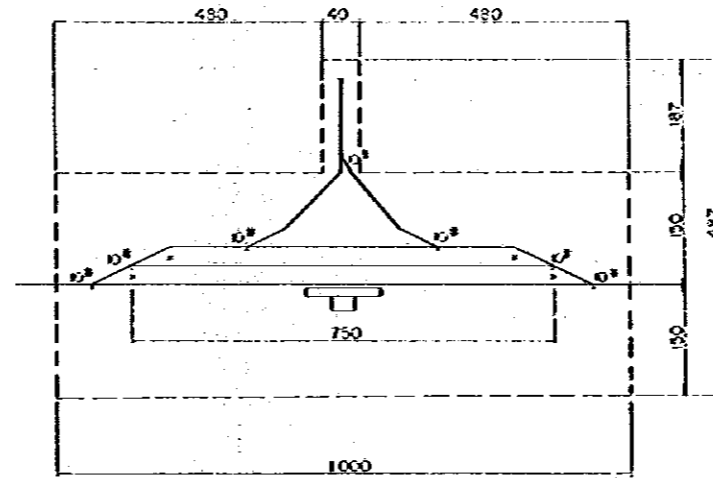
Sketch of track layout

Unit : m

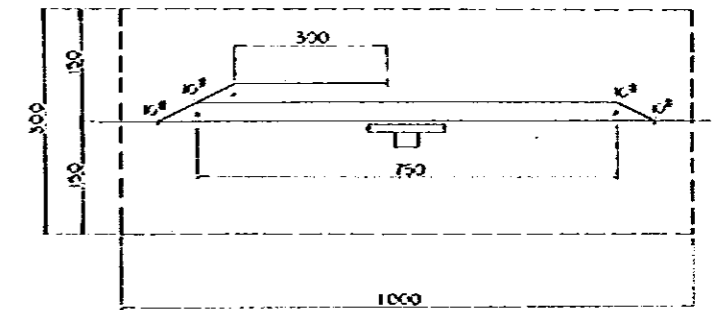
No. 1 Station



No. 2 Station

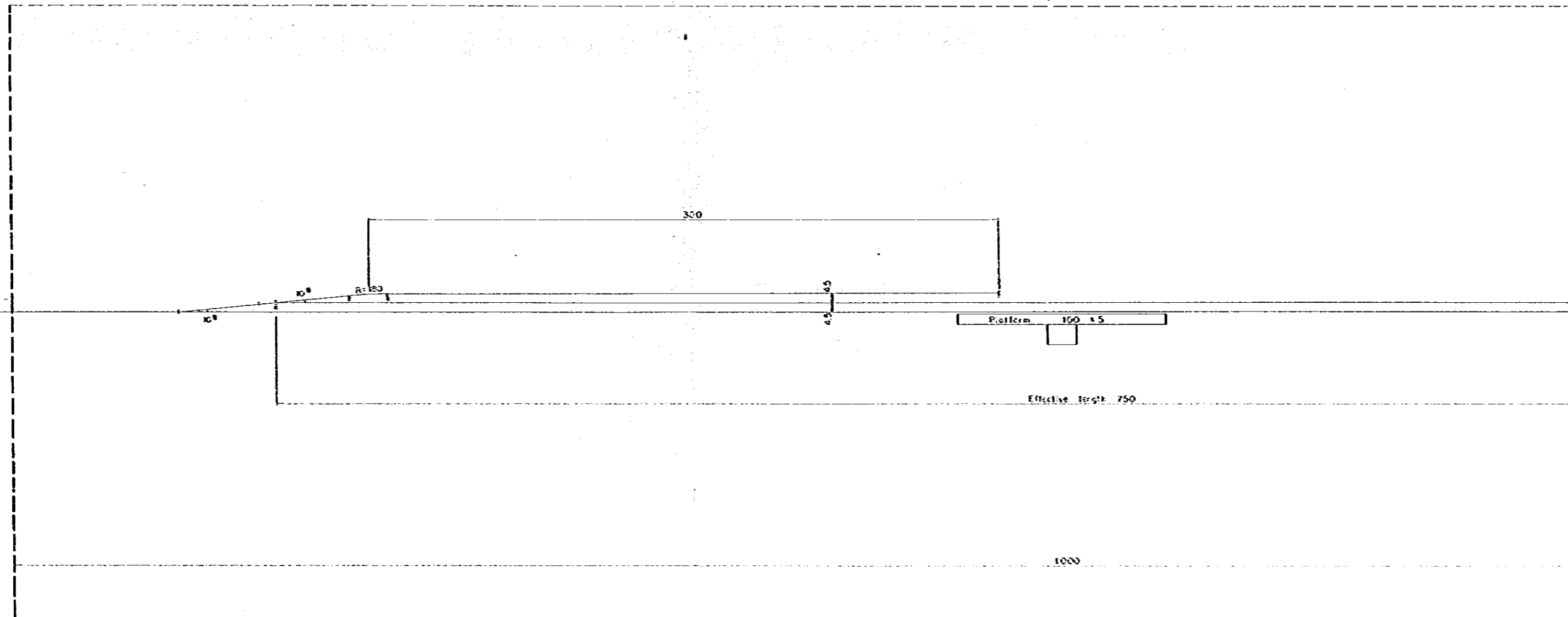


No. 3 Station



Track layout of Station yard (TYPE A) S=1/1000

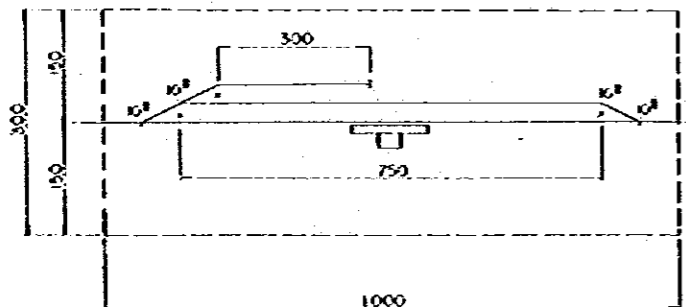
Unit : m



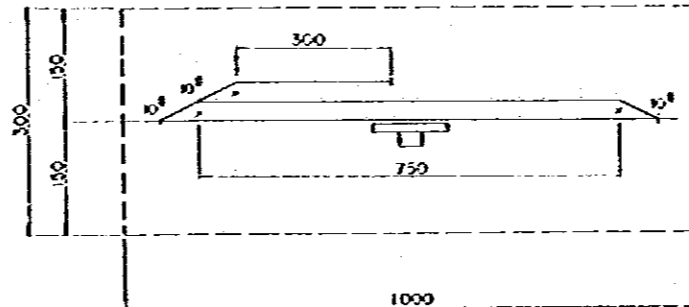
etch of track layout

Unit: m

No. 3 Station

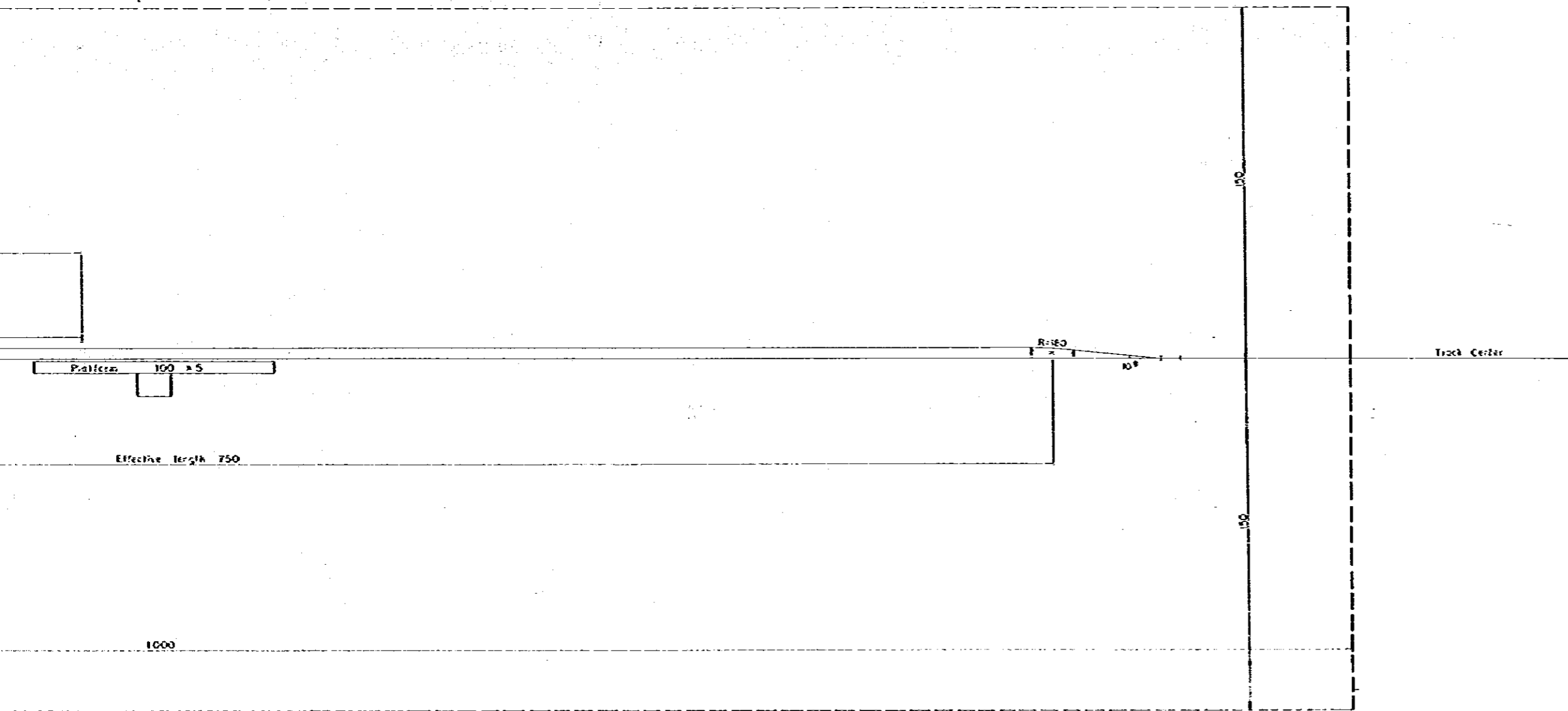


No. 4 Station

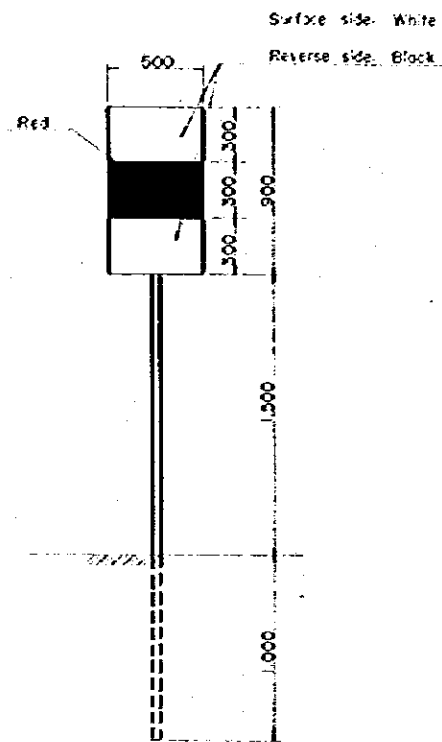


Track layout of Station yard (TYPE A) S=1/1000

Unit: m

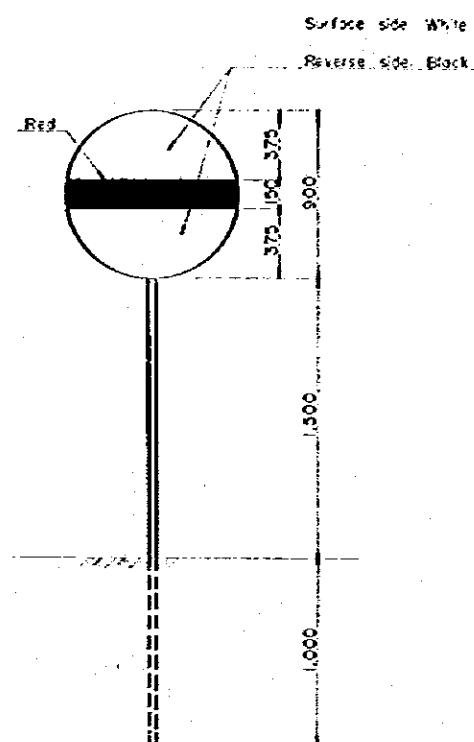


EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PROJECT EASTERN LINE (ESTACIONES Y PLATAFORMAS)		
TRACK LAYOUT OF STATION YARD (Sheet 1 of 2)		
Executing Enterprise		
Drawn by Date	Checked by Date	Approved by Date
Contracting Enterprise		
Checked by Date	Approved by Date	No. 68



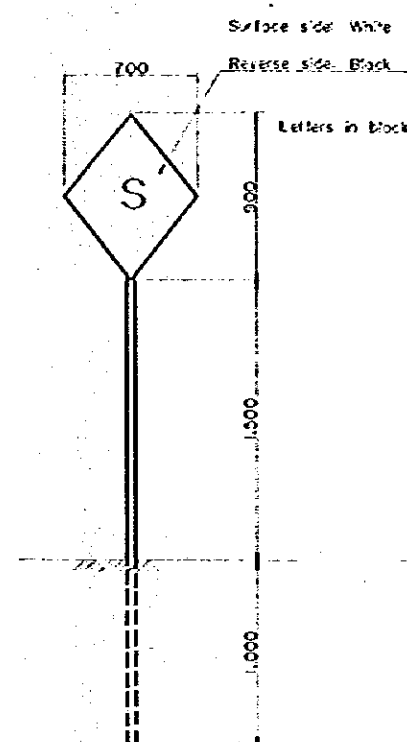
MARSHALLING BOUNDARY INDICATOR S-1/20

Note:
To be erected at the site 200m inside of turnout-point within the station yard.



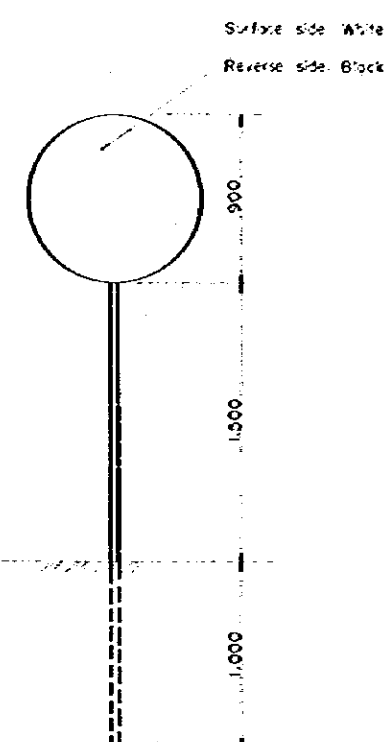
STATION BOUNDARY INDICATOR S-1/20

Note:
To be erected at the site 500m inside of station entrance turnout-point.



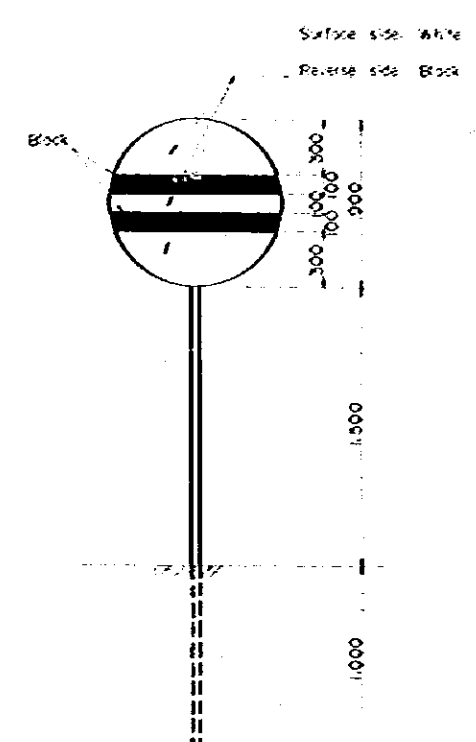
WHISTLE POST S-1/20

Note:
To be erected at the site 1500m inside of station entrance turnout-point and 600m inside of the related level crossing.



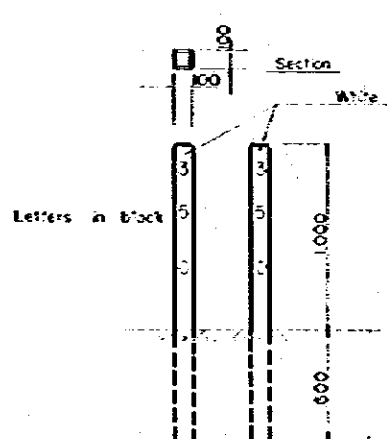
STATION APPROACH INDICATOR S-1/20

Note:
To be erected at the site 2000m inside of station entrance turnout-point.



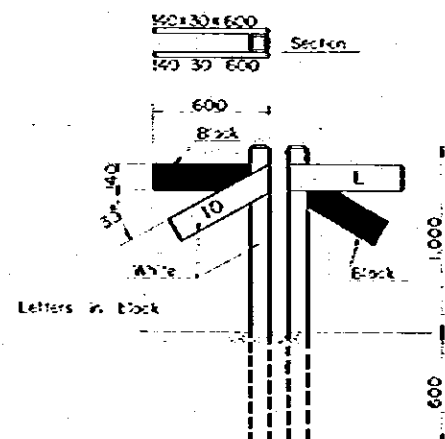
BRIDGE APPROACH INDICATOR S-1/20

Note:
To be erected at the site 300m inside of the related bridge.



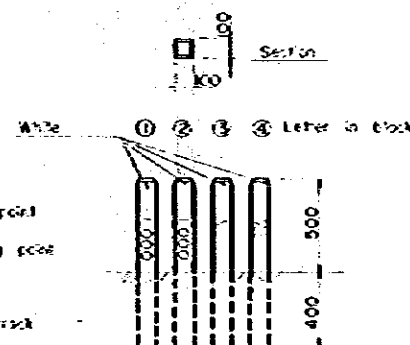
KILOMETER POST S-1/20

Note:
To be erected at the site every one Km.

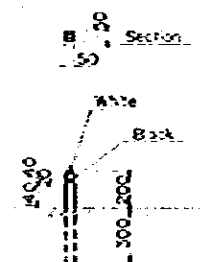


GRADE POST S-1/20

Note:
① Towards starting point
② Towards terminating point
③ Lateral of track
④ Reverse side of track



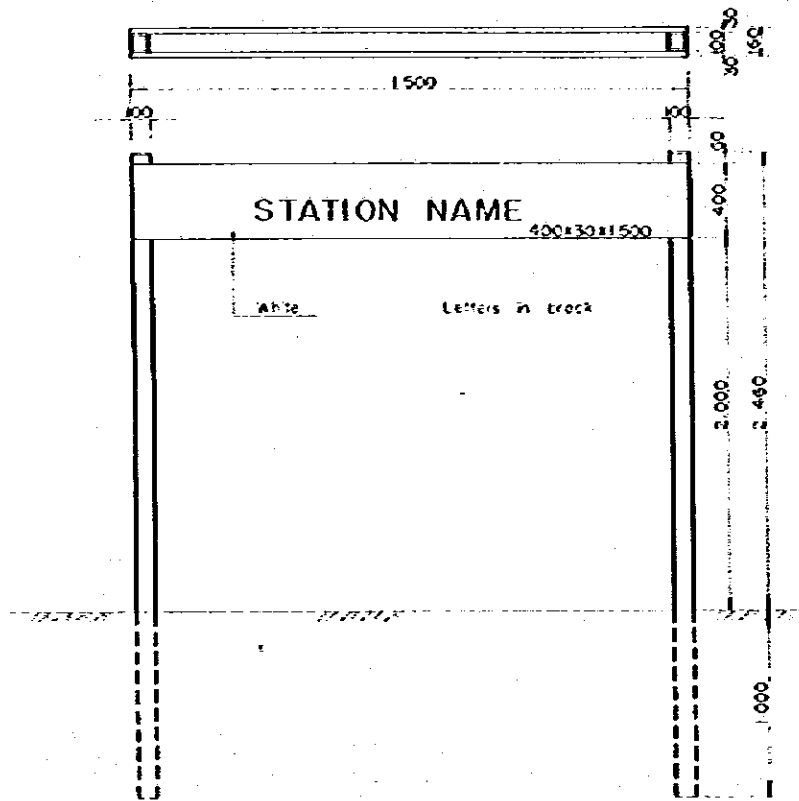
BCC, ECC, PCC POST S-1/20



B.T.C. E.T.C. POST S-1/20

CIRCULAR CURVE AND TRANSITION CURVE POST

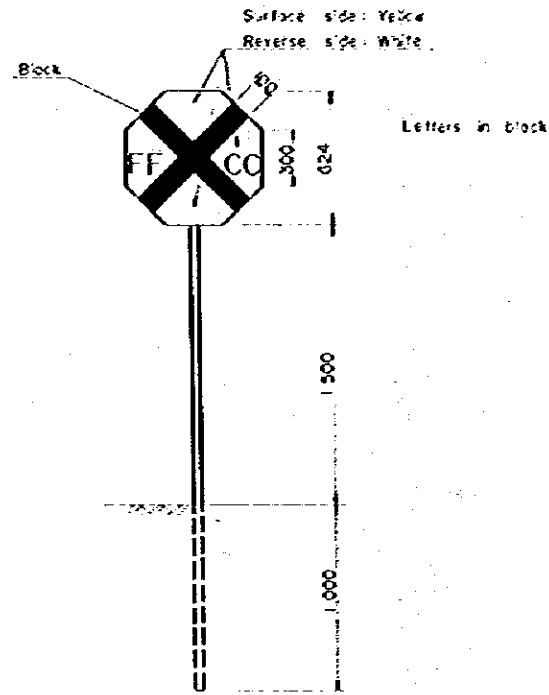
EMPRESA NACIONAL DE FERROCARRILES RAILWAY CONSTRUCTION PROJECT EASTERN LINE (1974-1975)		
TYPICAL OF ROADWAY SIGN (Sheet 1 of 2)		
Erecting Enterprise		
Drawn by:	Checked by:	Approved by:
Contracting Enterprise		
Checked by:	Approved by:	No. 70



INDICATION BOARD OF STATION NAME s-1/20

Note:

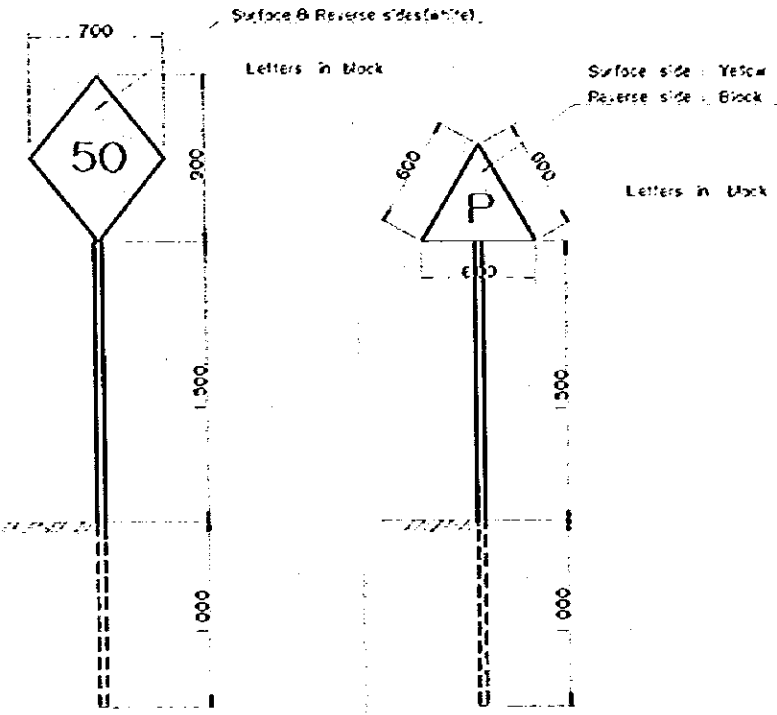
To be erected at the site 50m inside of junction of the station entrance



WARNING POST FOR CROSSING s-1/20

Note:

Right-hand side of road-shoulder

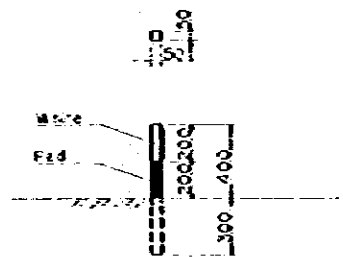


SPEED LIMIT INDICATOR s-1/20

WARNING SIG POST s-1/20

Note:

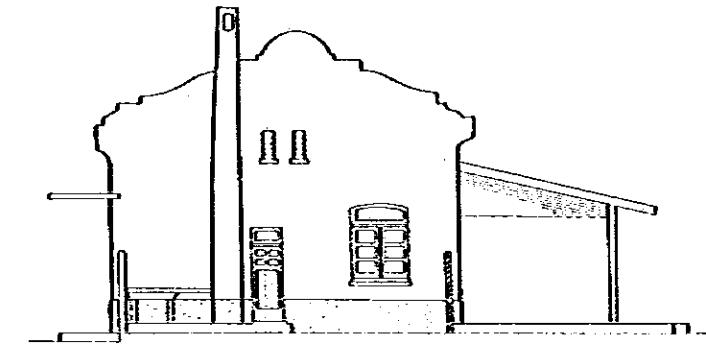
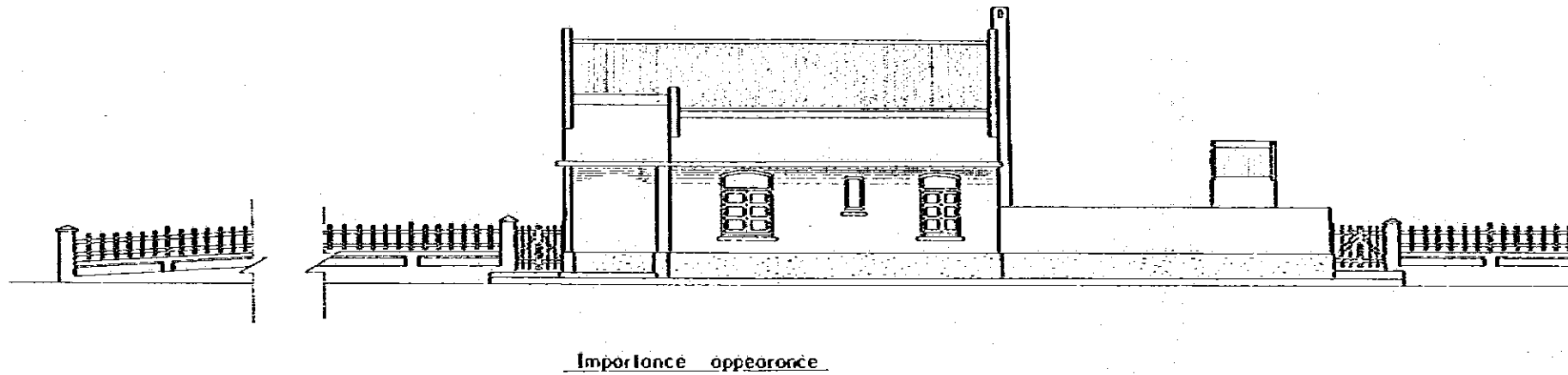
To be erected at the previous site 50m inside thereof



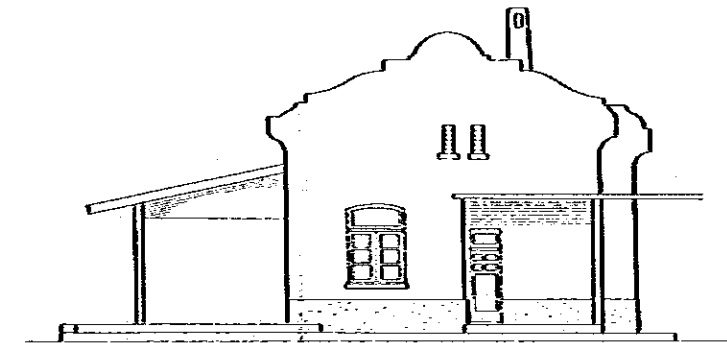
CLEARANCE POST s-1/20

Note:

To be erected at the site 1.65m distant from the centerline with the interval of 37m distant between centerlines of forming tracks



Front - E



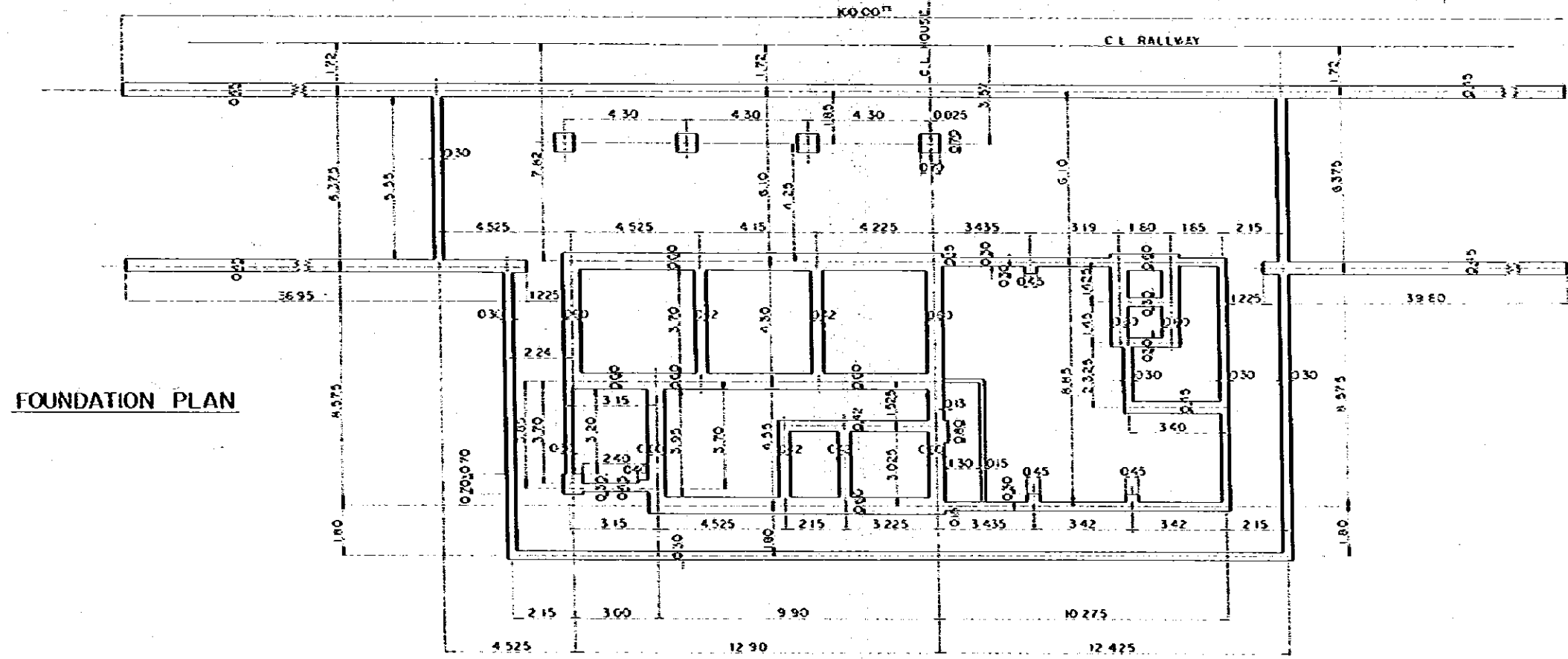
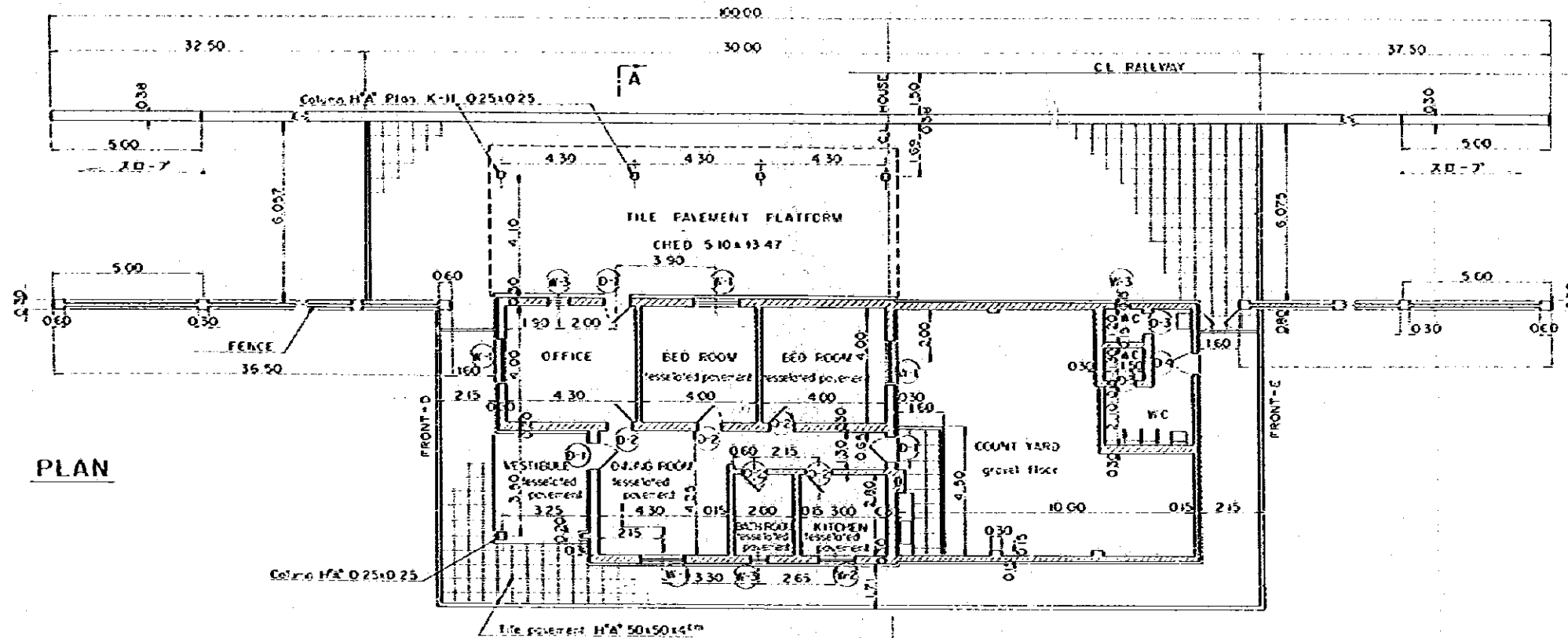
Front - D

Finish schedule

Outside		Platform	
Roof	Brick type roof 10' or long size zinc galvanized sheet (thickness $\geq 0.47''$)	Floor	Concrete plate Gravel bed Do 40 ^{mm} , Trusses 100 ^{mm} , Area 420m ²
External wall	Spraying with cement (white)	Fence	Steel fence H=80 ^{cm} L=73 ^m
Iron pipe	Hard vinyl chloride or steel pipe	Roof	Brick type roofing or long size zinc galvanized sheet (thickness $\geq 0.47''$)
External wall	Spraying with cement (white) High: 60 wall, 1 piece	External wall	Oil paint
Unfloored part	Concrete plate (sectional sheet)	Ceiling	Decorative plaster Coloured paint, High: 100 wall, 3 piece (wall that is attached to office)

Inside						
Room name	Floor	Baseboard	Wear mat	Wall	Ceiling	
Office	Tile of porcelain type for floor	Marble OP	Marble thickness 25 ^{mm} H 900 ^{mm}	Decorative plaster	Decorative plaster	
Bed room (1)	"	Wood H 100 ^{mm} OP	"	"	"	
" (2)	"	"	"	"	"	
Living room	"	"	"	"	"	
Kitchen	"	"	Tile of porcelain type H 1000 ^{mm}	"	"	
Bath room	"	"	"	Ceramics 150	Spraying with cement (white)	
Passage	"	Wood H 100 ^{mm} OP	"	Decorative plaster	Decorative plaster	
Vestibule	"	"	"	Spraying with cement (white)	"	
Water closet	Artificial stone	"	Artificial stone H 600 ^{mm}	Decorative plaster	"	

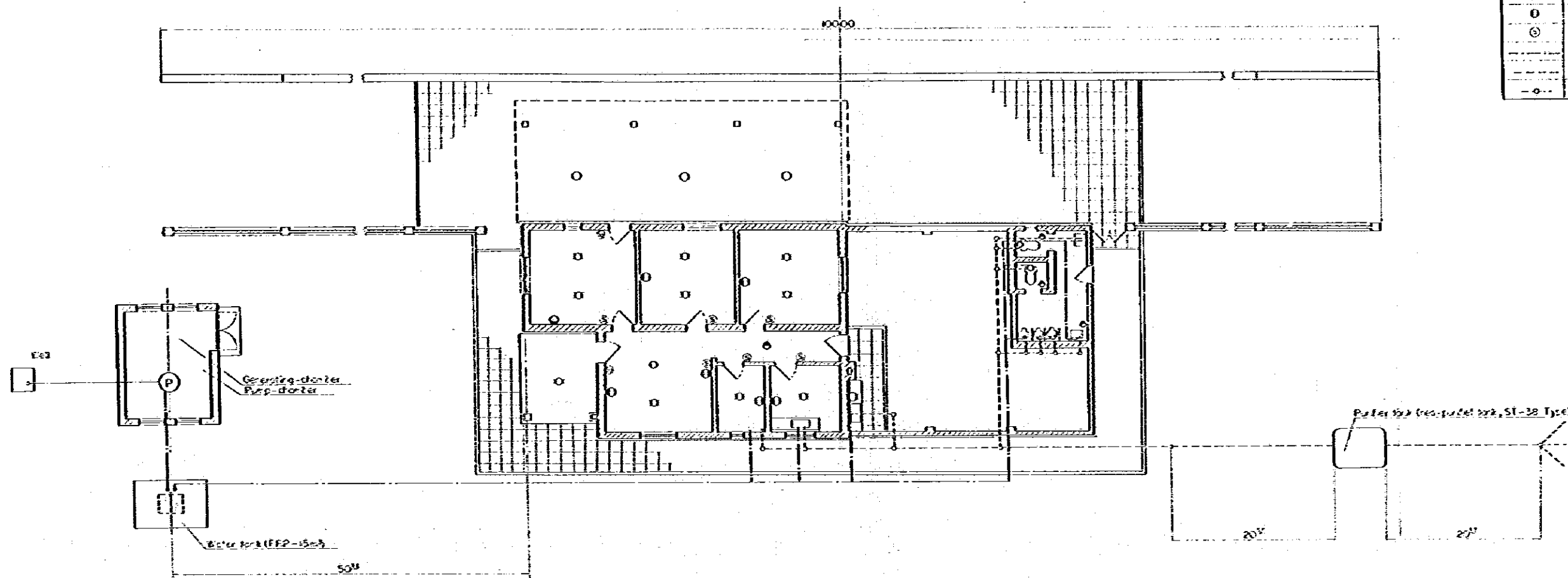
EMPRESA NACIONAL DE FERROCARRILES
 RAILWAY CONSTRUCTION PROJECT EASTERN LINE
 STATION BUILDING AND FACILITY
 GENERAL VIEW
 (sheet 1 of 5)
 ESTIMATED QUANTITIES
 ESTIMATED COST
 ESTIMATED DATE
 72



EMPRESA NACIONAL DE FERROCARRILES
 RAILWAY CONSTRUCTION PROJECT EASTERN LINE
 STATION BUILDING AND FACILITY
 GENERAL VIEW
 (Sheet 2 of 5)
 Executed by: [Signature]
 Drawn by: [Signature] Checked by: [Signature] Approved by: [Signature]
 Consulting Engineer
 73

Marking

○	100 Watt fluorescent light
⊙	60 Watt
◊	40 Watt
□	Plug
⊗	Sand
⊕	Sand 12 place
---	Water supply pipe
---	Seepage pipe
---	Drainage basin



Application method		Application method	
<p>Ribbed seam roofing with zinc galvanized sheet</p>	<p>Cement mortar (for floor)</p> <p>Type of Materials : Cement-Sand Base Material : Concrete Standard Thickness : 30mm Finish : Steel trowel Joint : "V" type steel beam Admixture : Cement 1: Sand 2 Remarks : The thickness of plastering may be varied according to the circumstances.</p>	<p>Cement mortar (for wall)</p> <p>Type of Materials : Cement : Sand Base Material : Concrete Standard Thickness : 6+11+3=20mm Finish : Wooden trowel Steel trowel : Brush finish Admixture : Basic plastering : Cement 1: Sand 2 Intermediate plastering : Cement 1: Sand 3 Final plastering : Cement 1: Sand 3 : Hydrated lime 0.3</p>	<p>Decorative plaster</p> <p>Type of Materials : Decorative plaster Base Material : Concrete Standard Thickness : 7+5+2+15=29mm Finish : Steel trowel Admixture Basic plaster : Decorative plaster 0.8 Cement 0.2 Sand 2 : 1 part Intermediate plaster : Decorative plaster 0.9 Cement 0.1 sand 0.4 Final plaster : Decorative plaster 1 : 1 part</p>
<p>Water-proofed mortar</p> <p>Type of Materials : Cement sand waterproof agent Base Material : Concrete Standard Thickness : 5+5=30mm Finish : Steel trowel Joint : No joint Admixture : Cement 1: Sand 2 Waterproof Agent Remarks : Depending upon the type of waterproof chemical agent, the standard thickness and the admixture may be varied.</p>	<p>Special mortar</p> <p>Type of Materials : Cement sand Special surface Finishing material Base Material : Concrete Standard Thickness : 30mm Finish : Steel trowel Joint : "V" type steel beam Admixture : Cement 1: Sand 2</p>	<p>Tie hanging (for floor)</p> <p>Type of Materials : Facsimile type of mosaic tile Base Material : Concrete Standard Thickness : 50mm Joint : 2mm Admixture : Water in place Cement 1: Sand 3 Finishing joint : Cement 1: Sand 2 Remarks : In the event of providing water-proof layer, the thickness shall be 50+20=70</p>	<p>Tie hanging (for wall)</p> <p>Type of Materials : Semi-gloss type porcelain tile Base Material : Concrete, Lath Standard Thickness : 30mm Joint : 5mm Admixture : Base Mortar, with glue Cement 1: Sand 3 Finishing joint : Cement (white) 1: Sand 1</p>

EMPRESA NACIONAL DE FERROCARRILES
 RAILWAY CONSTRUCTION PROJECT EASTERN LINE
 STATION BUILDING AND FACILITY
 GENERAL VIEW
 (Sheet 4 of 5)
 Executed by: [Signature]
 Drawn by: [Signature] Checked by: [Signature] Approved by: [Signature]
 Constructing Engineer
 75

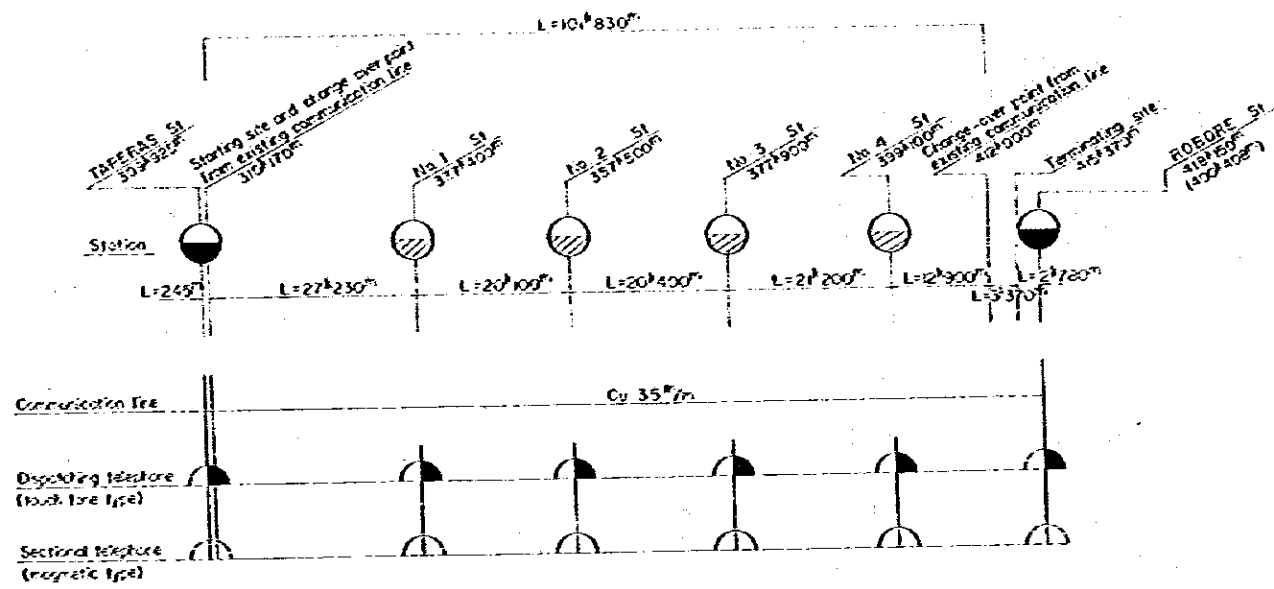
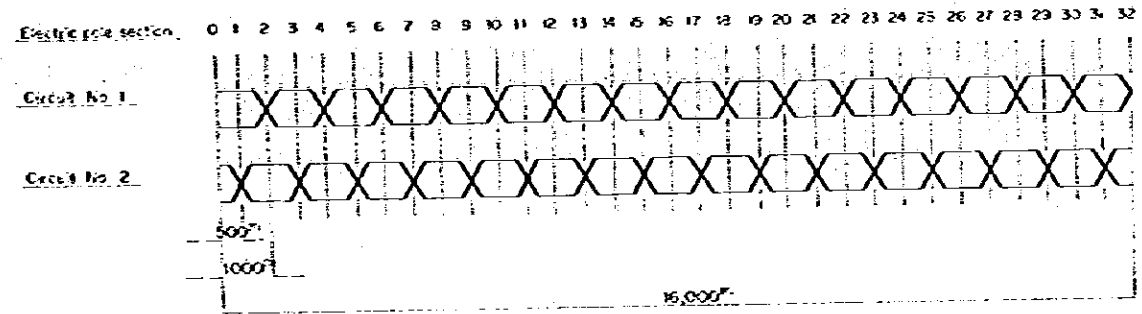


Figure of Communication circuit



Ordinary Transposition Figure of Bare Communication line (standard section)

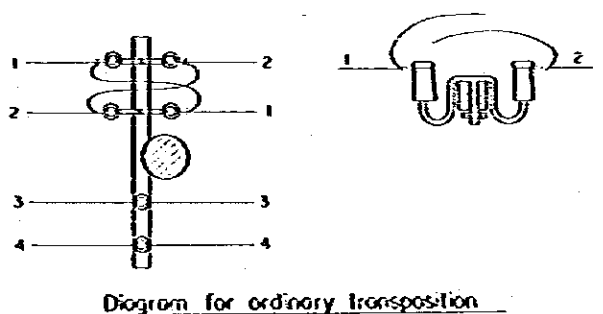
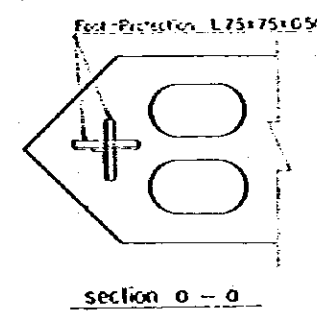
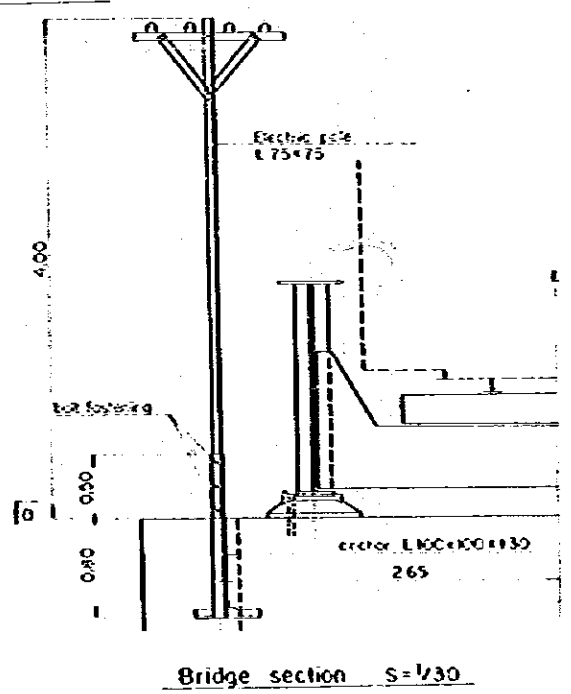


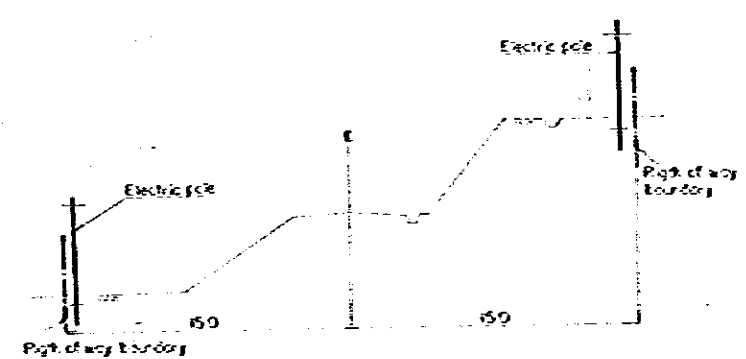
Diagram for ordinary transposition



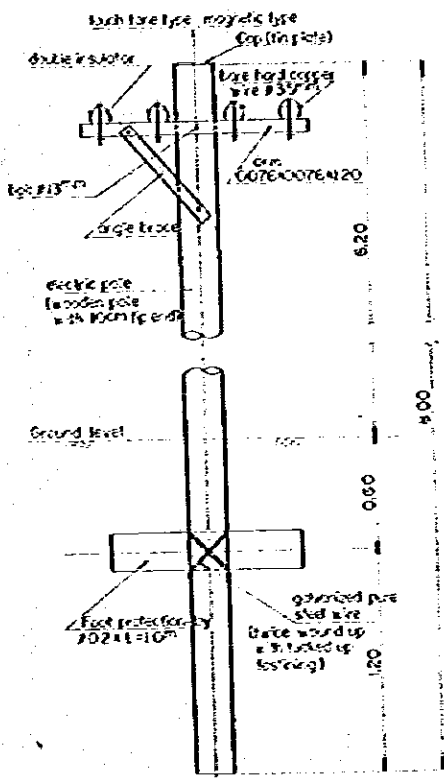
section 0-0



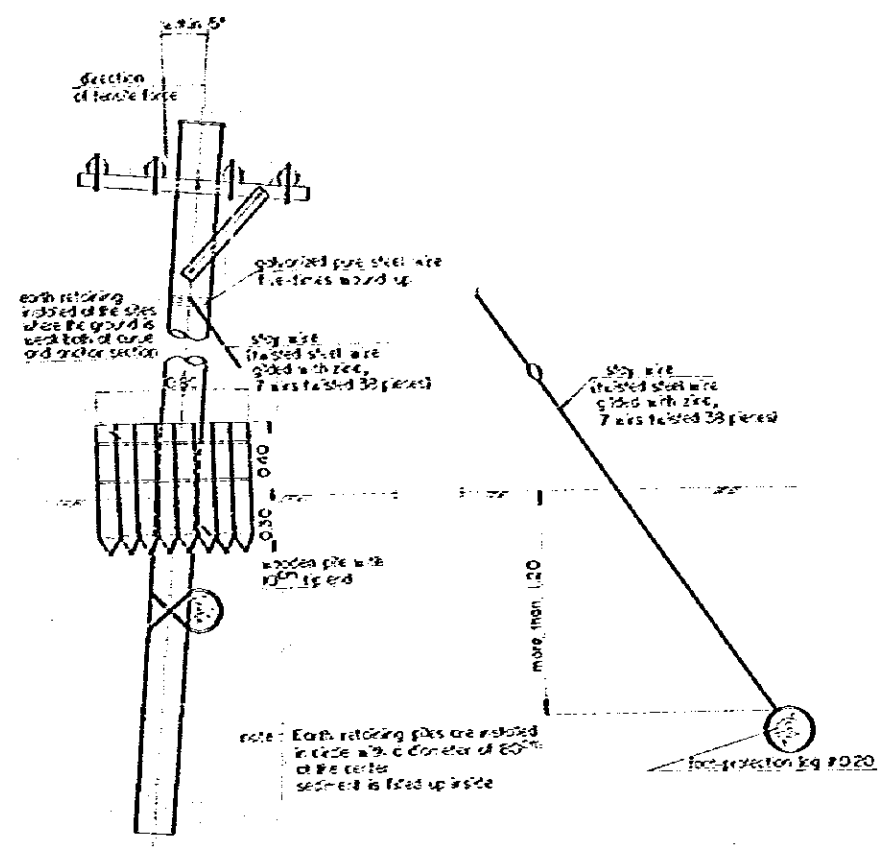
Bridge section S=1/30



Banking section S=1/200 Cutting section S=1/200



General section



Curv section or Anchor section

Figure of Erected Electric Poles

Location Figure of Erected Electric Poles (standard)

EMPRESA NACIONAL DE FERROCARRILES		
RAILWAY CONSTRUCTION PROJECT EASTERN LINE		
COMMUNICATION FACILITY		
GENERAL VIEW		
Executed by: [Signature]		
Drawn by: [Signature]	Checked by: [Signature]	Approved by: [Signature]
Construction: [Signature]		Project: [Signature]
No. 77		