

SECRETARIA DEL METRO DE PANAMA



JAPAN INTERNATIONAL COOPERATION AGENCY

THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

DRAWN: \_\_\_\_\_  
DESIGNED: \_\_\_\_\_

DATE: August 2014  
SCALE(A3): Plan 1:5,000  
Profile 1:5,000(X) and 1:1,000(Y)

RECEIVED BY: \_\_\_\_\_  
TEAM LEADER/URBAN RAILWAY PLANNING

SUBMITTED BY: \_\_\_\_\_  
CIVIL AND FACILITY PLANNING

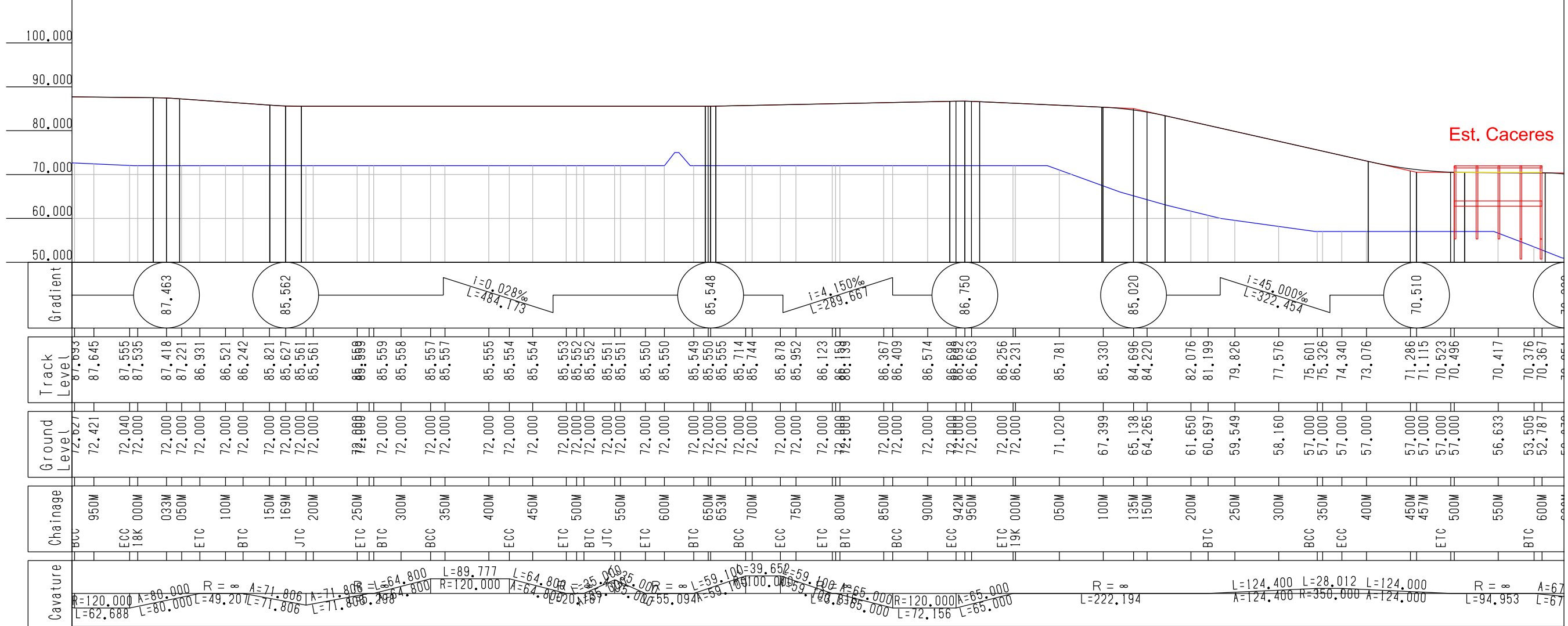
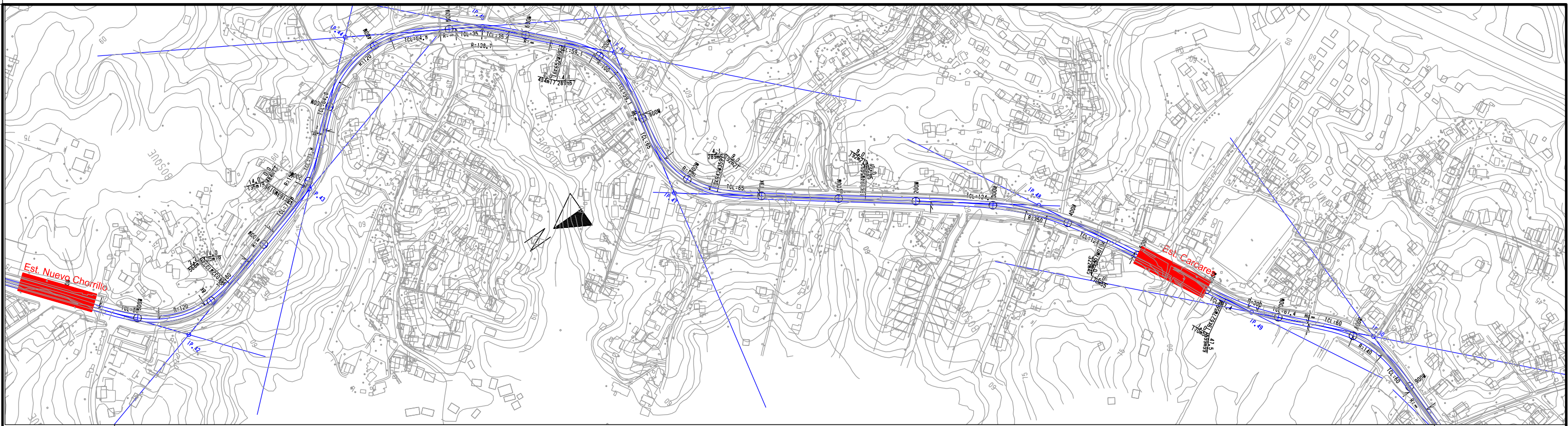
CHECKED BY: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_

PAGE: 12  
18

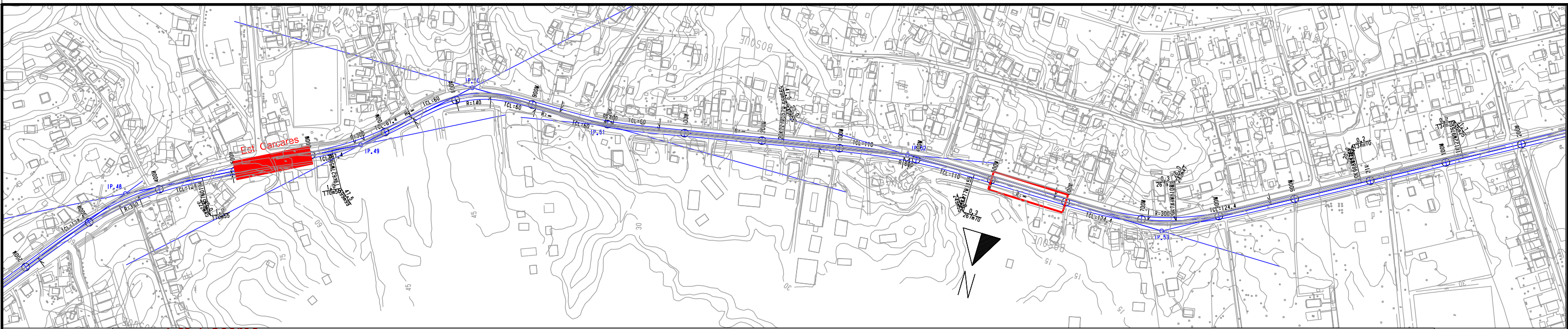
REMARKS:

Alignment Plan(FR)  
(16K500M000 ~ 18K000M000)



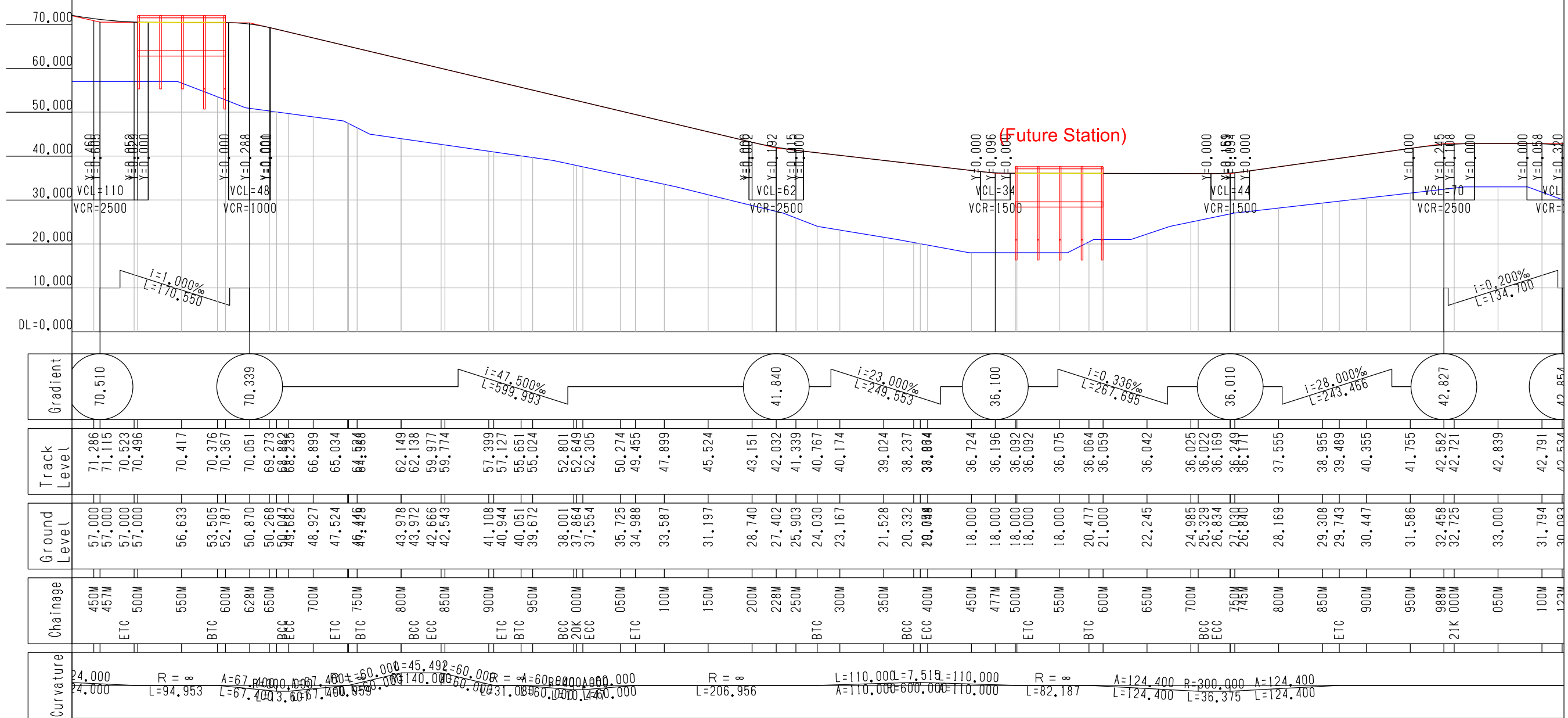






Est. Carcares

(Future Station)



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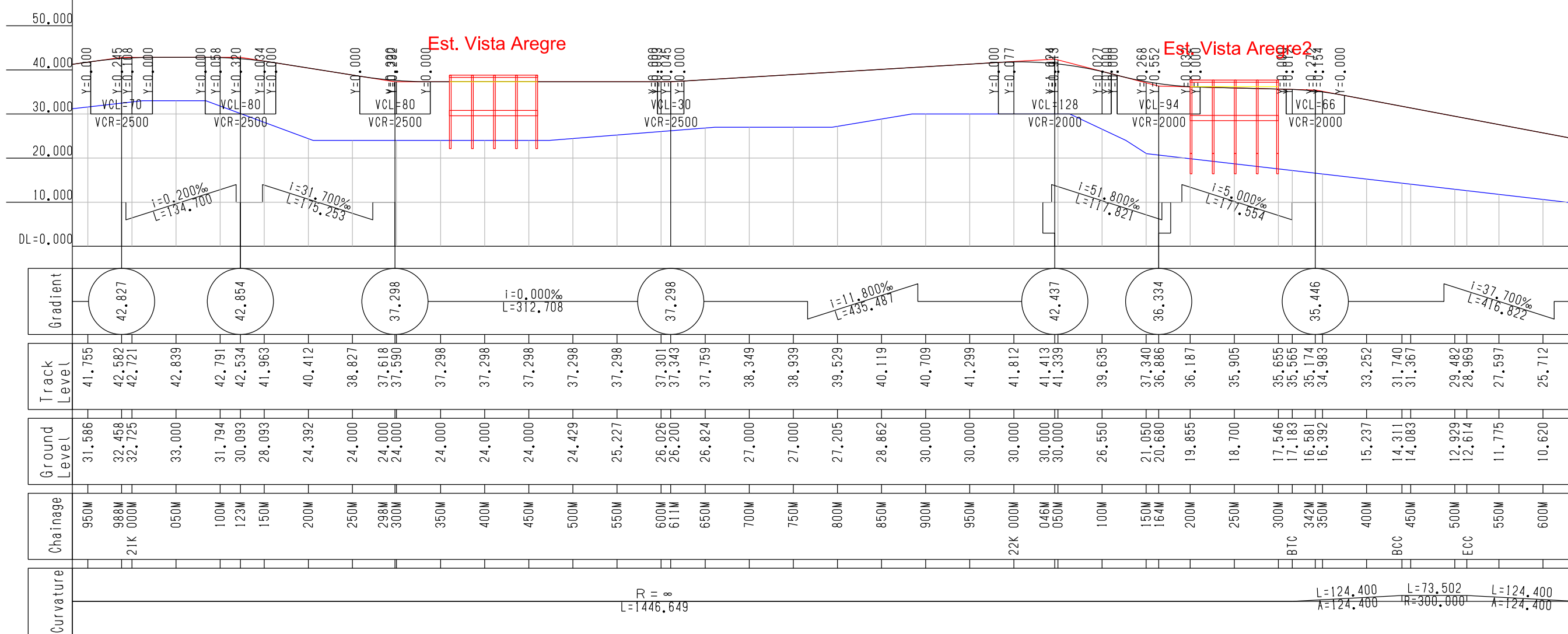
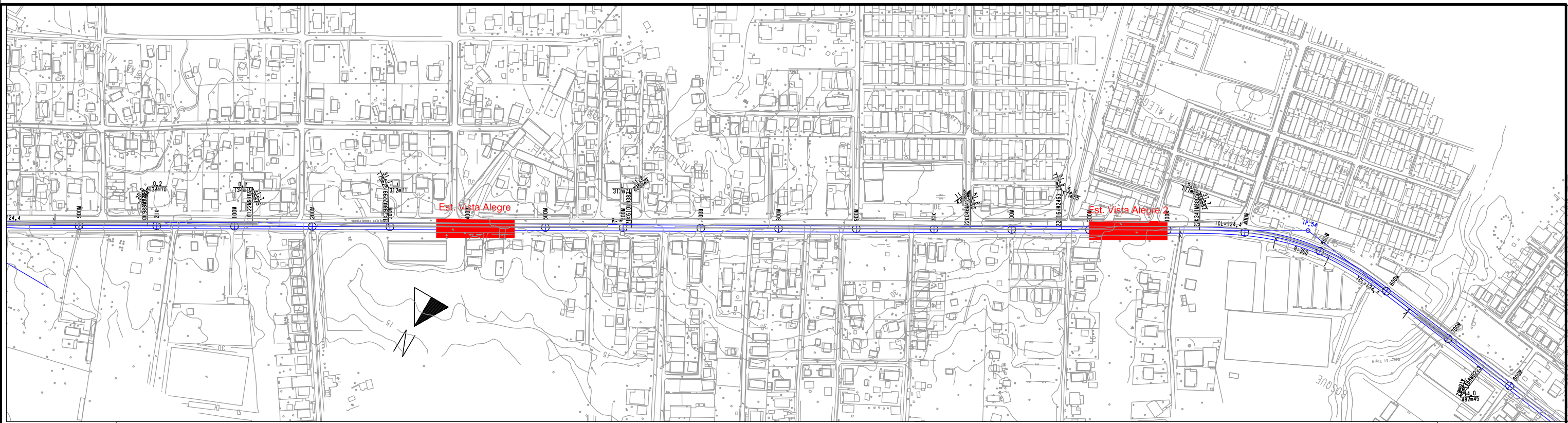
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TEAM LEADER/URBAN RAILWAY PLANNING	CIVIL AND FACILITY PLANNING

CHECKED BY:	PAGE: 14
APPROVED BY:	18

REMARKS:  
Alignment Plan(FR)  
(19K500M000 ~ 21K000M000)





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PAGE:

DESIGNED:

SCALE(A3): Plan 1:5,000  
Profile 1:5,000(X) and 1:1,000(Y)

TEAM LEADER/URBAN RAILWAY PLANNING

CIVIL AND FACILITY PLANNING

APPROVED BY:

15

REMARKS:

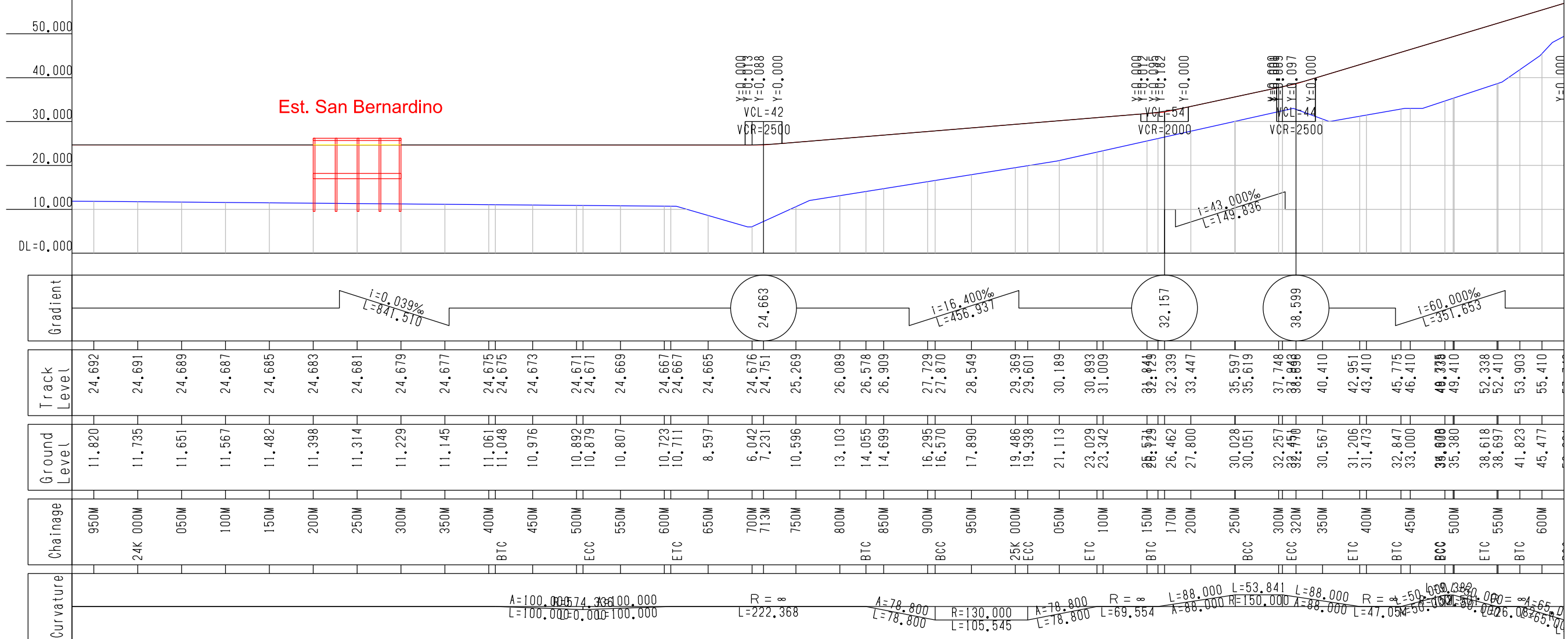
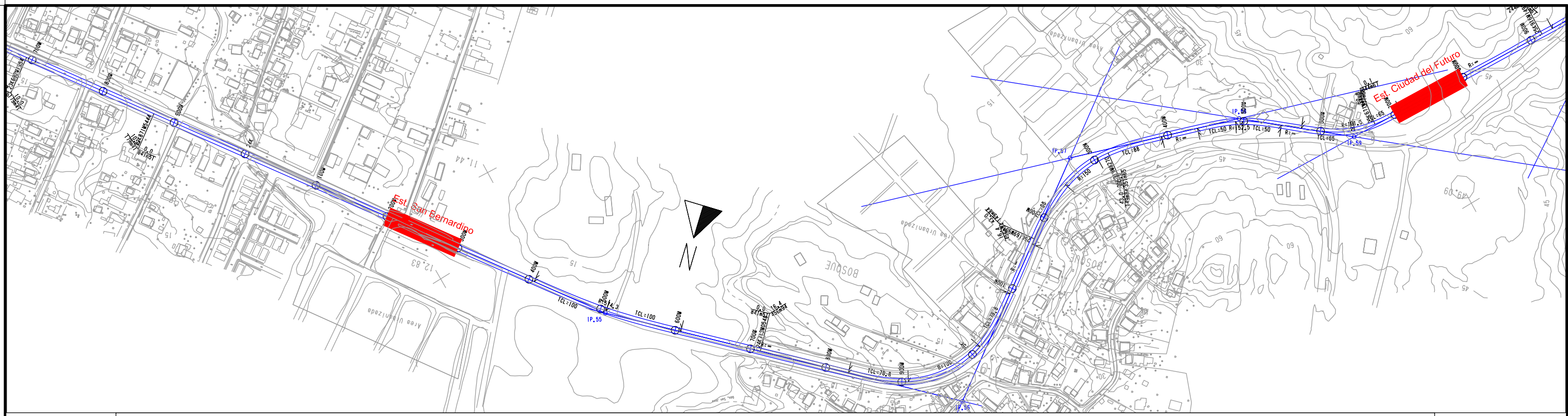
Alignment Plan(FR)  
(21K000M000 ~ 22K500M000)

18









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THE FEASIBILITY STUDY ON PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT

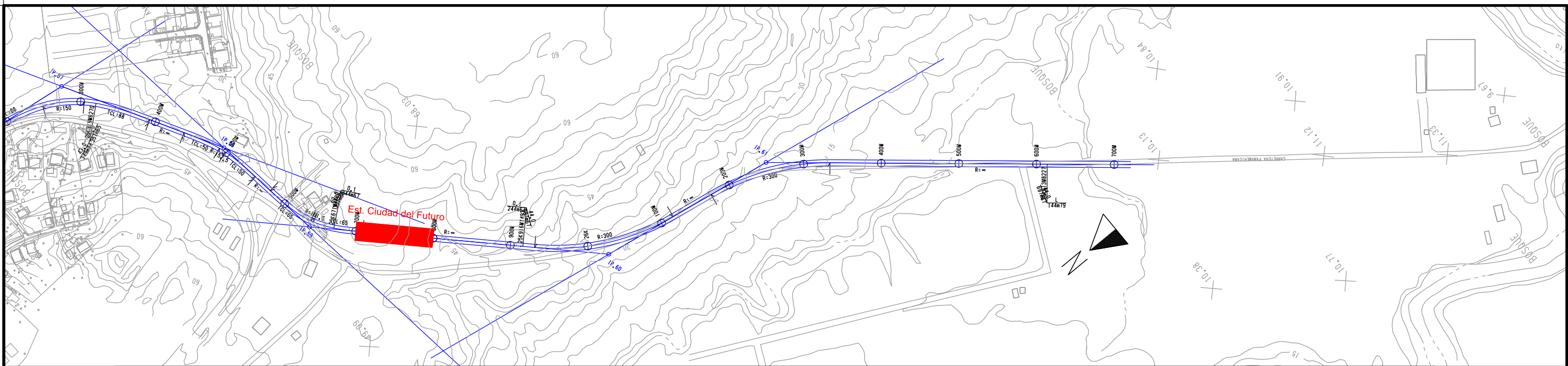
DRAWN: \_\_\_\_\_ DATE: August 2014  
 DESIGNED: \_\_\_\_\_ SCALE(A3): Plan 1:5,000  
 Profile 1:5,000(X) and 1:1,000(Y)

RECEIVED BY: \_\_\_\_\_ SUBMITTED BY: \_\_\_\_\_  
 TEAM LEADER/URBAN RAILWAY PLANNING CIVIL AND FACILITY PLANNING

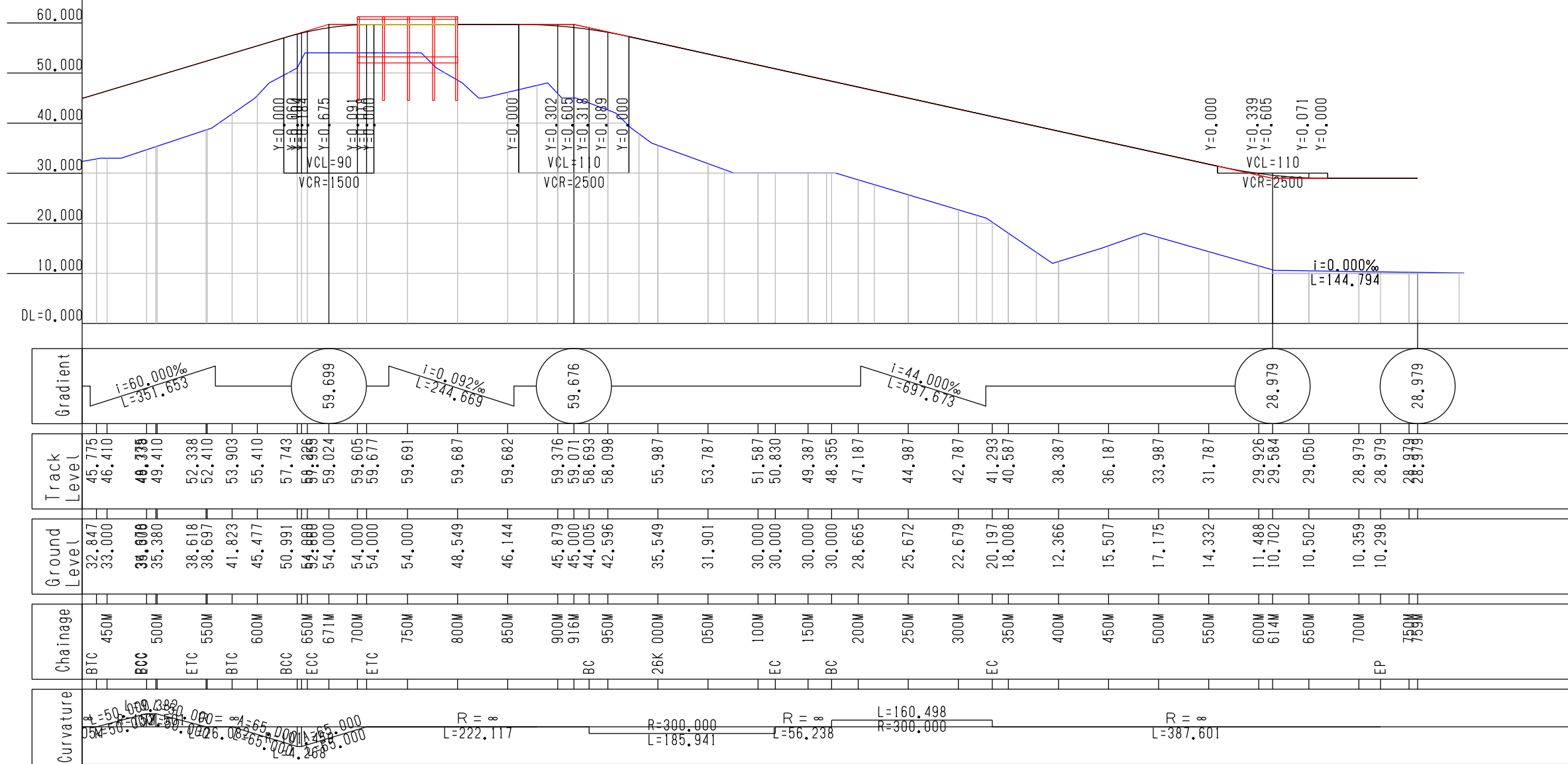
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 PAGE: 17/18

REMARKS:  
 Alignment Plan(FR)  
 (24K000M000 ~ 25K500M000)





**Est. Ciudad del Futuro**



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APPROVED BY: \_\_\_\_\_

PAGE: 18

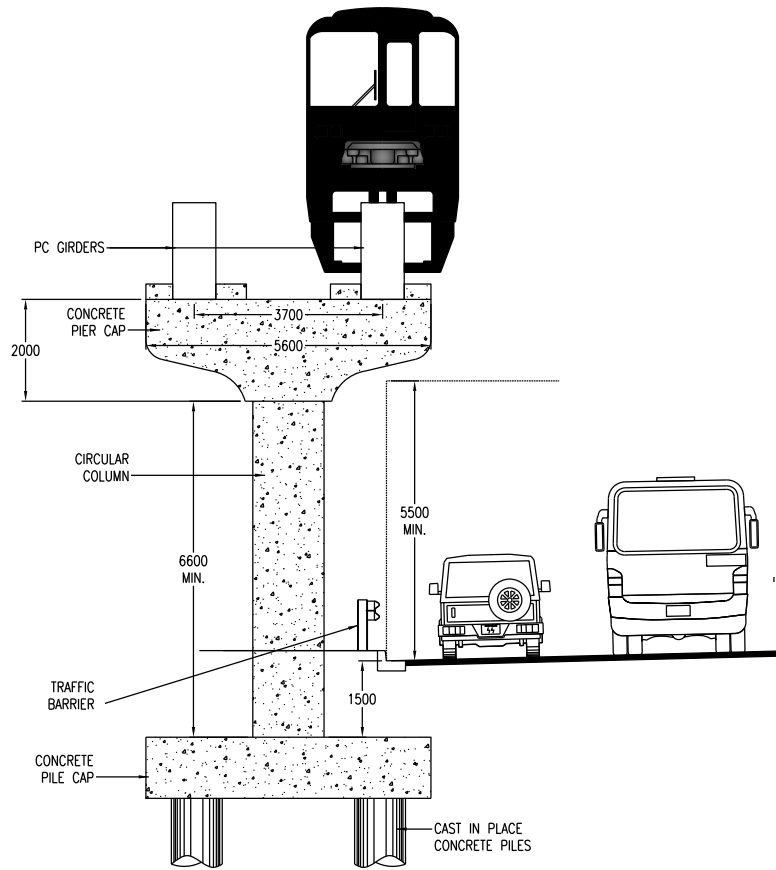
REMARKS:

Alignment Plan(FR)  
(25K500M000 ~ 26K800M000)

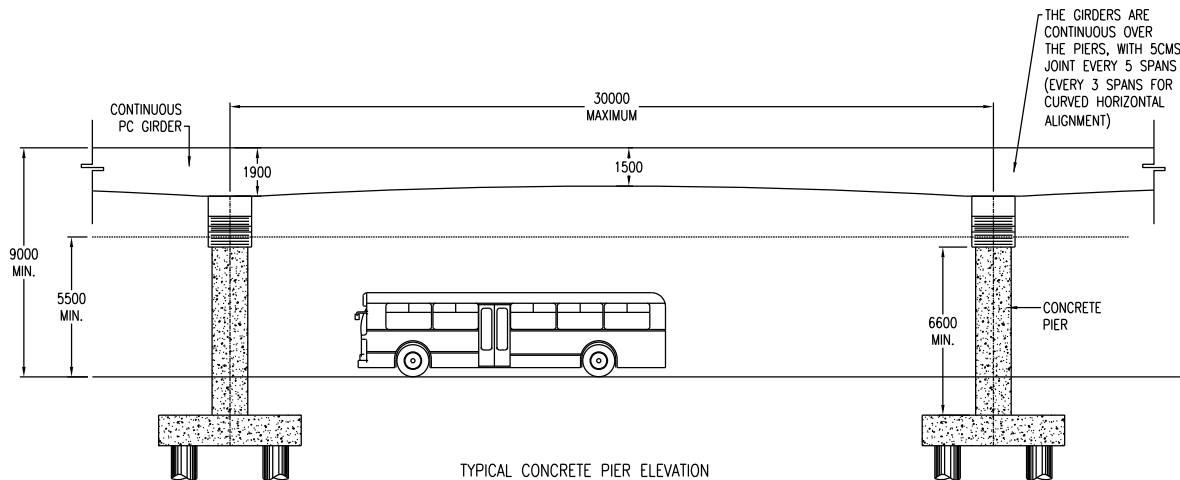


## 4-2: Drawings of Structures





TYPICAL CONCRETE PIER ELEVATION  
SCALE 1:100



TYPICAL CONCRETE PIER ELEVATION  
SCALE 1:100

GENERAL NOTES

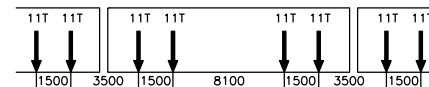
1.0 DESIGN

DESIGN CODES

- \* AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, THIRD EDITION 2004
- \* TECHNICAL STANDARD FOR SEISMIC DESIGN IN PANAMA

LIVE LOAD

- \* 6 CARS OF 44 TONS EACH.



DEAD LOAD

- \* REINFORCED CONCRETE 2,400 kg/m<sup>3</sup>
- \* COMPACTED EARTH FILL 1,600 kg/m<sup>3</sup>
- \* STRUCTURAL STEEL 7,850 kg/m<sup>3</sup>

SEISMIC LOAD

- \* ACCELERATION COEFFICIENT A=0.20 (PANAMA CITY)
- \* SITE COEFFICIENTS, SOIL PROFILE S2, S=1.20

MATERIALS PROPERTIES

CONCRETE

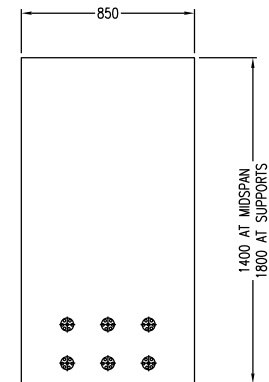
- \* PRESTRESSED CONCRETE 420 kg/cm<sup>2</sup>
- \* PIER CONCRETE 280 kg/cm<sup>2</sup>
- \* PILES CONCRETE 280 kg/cm<sup>2</sup>

PRESTRESSING STEEL

- \* LOW RELAXATION SEVEN WIRE CABLES GRADE 270K
- FPU = 18,900 KG/CM<sup>2</sup>

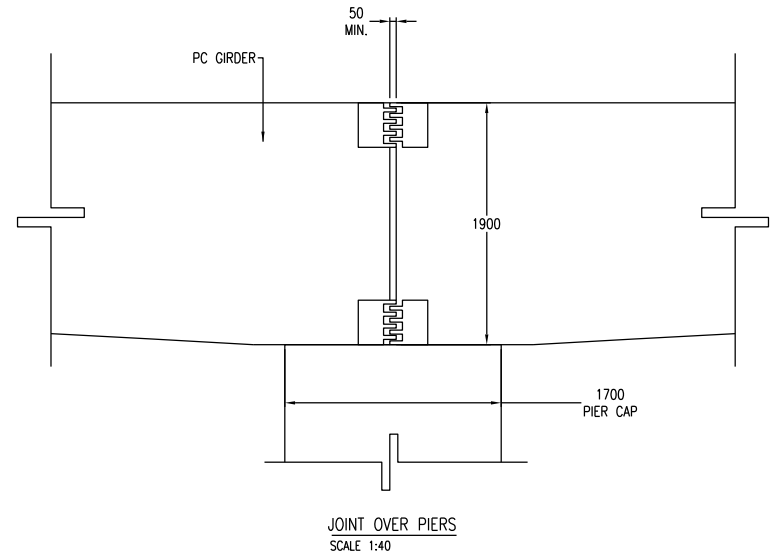
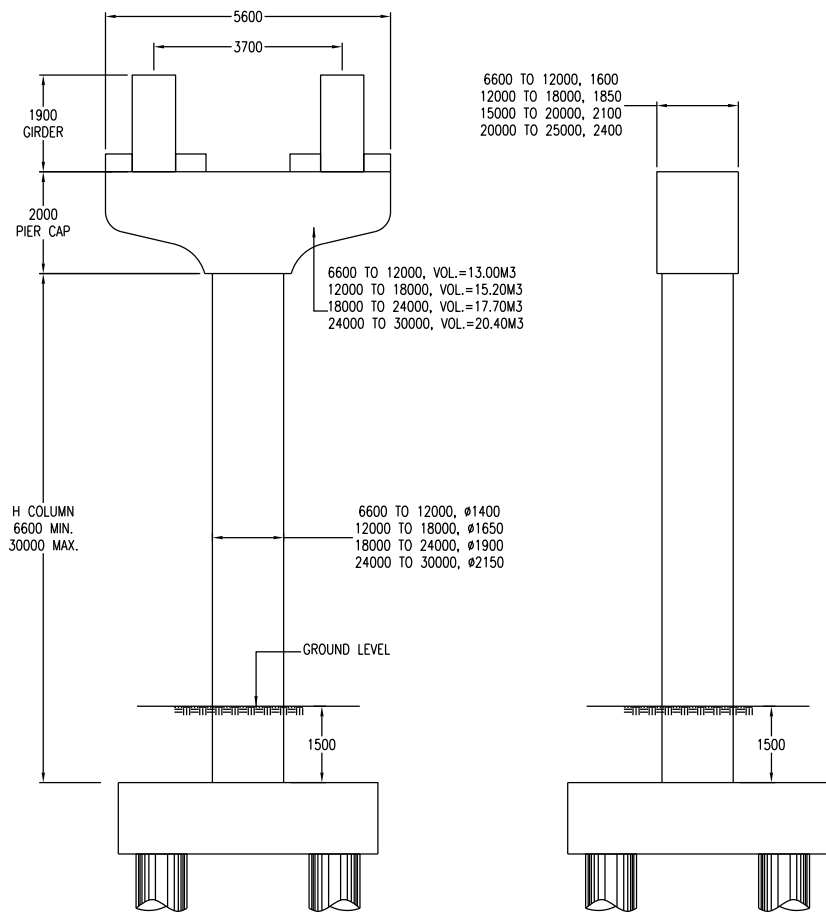
REINFORCEMENT STEEL

- \* CORRUGATED BARS GRADE 60 ASTM A-615, fy=4200 Kg/cm<sup>2</sup>



POST-TENSIONED GIRDER SECTION  
SCALE 1:25

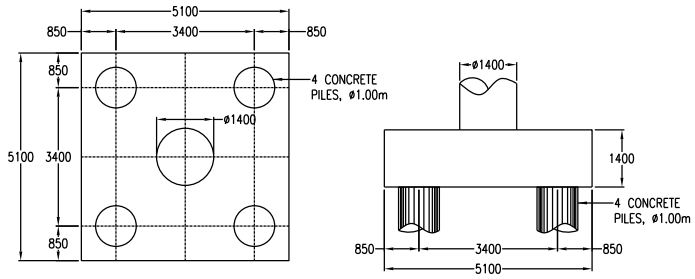
PROJECT: <b>THE FEASIBILITY STUDY OF PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT</b>		
CONTENTS: <b>TYPICAL DETAILS</b>		
DESIGNED: R.M.G.	DATE: JANUARY-2013	
DRAWN: E.A.D.C.	SCALE: INDICATED	SHEET: 1 / 3



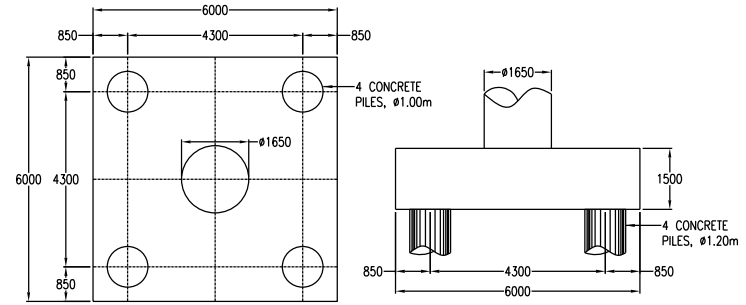
GEOMETRY OF PIER CAP AND COLUMNS  
SCALE 1:100

PROJECT: <b>THE FEASIBILITY STUDY OF PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT</b>		
CONTENTS: <b>PIER DETAILS</b>		
DESIGNED: R.M.G.	DATE: OCTOBER-2013	
DRAWN: E.A.D.C.	SCALE: INDICATED	SHEET: 2 / 3

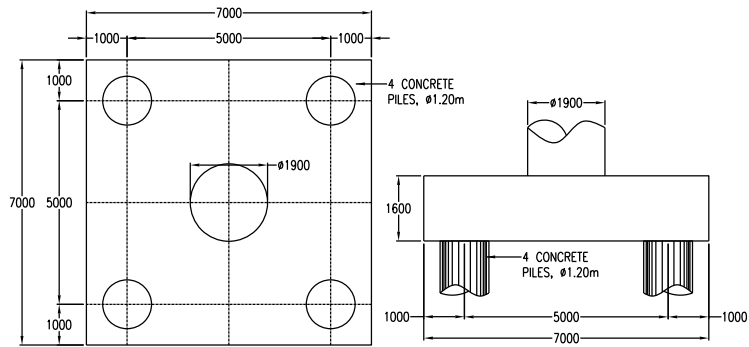




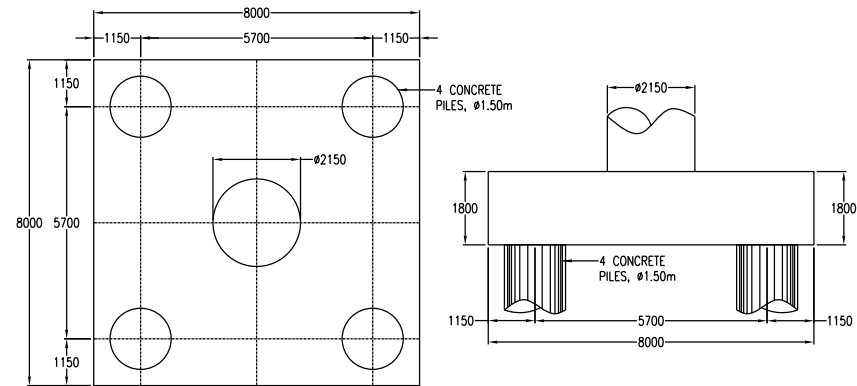
PILE CAP FOR COLUMNS OF H=6.60m TO H=12.00m



PILE CAP FOR COLUMNS OF H=12.00m TO H=18.00m



PILE CAP FOR COLUMNS OF H=18.00m TO H=24.00m



PILE CAP FOR COLUMNS OF H=24.00m TO H=30.00m

PROJECT:		
<b>THE FEASIBILITY STUDY OF PANAMA CITY URBAN TRANSPORTATION LINE-3 PROJECT</b>		
CONTENTS:		
<b>FOOTING DETAILS</b>		
DESIGNED:	DATE:	
R.M.G.	OCTOBER-2013	
DRAWN:	SCALE:	SHEET:
E.A.D.C.	INDICATED	3 / 3

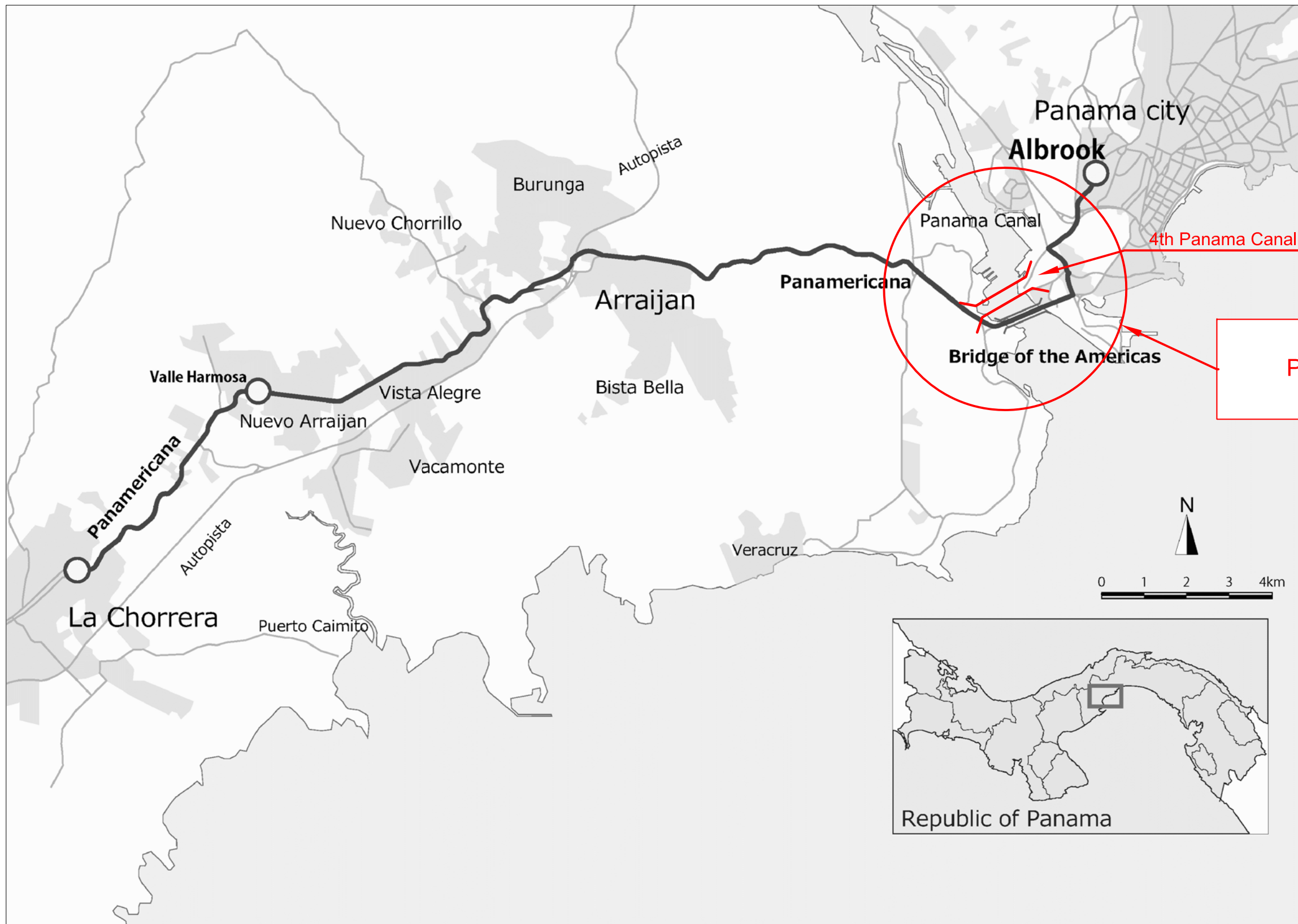
## Appendix 5: Drawings (4th Panama Canal Bridge)



## Appendix 5-1 : Preliminary Design Drawings

## Appendix 5-1-1 : Project Location Map





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DESIGNED: \_\_\_\_\_

DATE: May 2014  
SCALE: S=1:100,000

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PAGE: 1/2

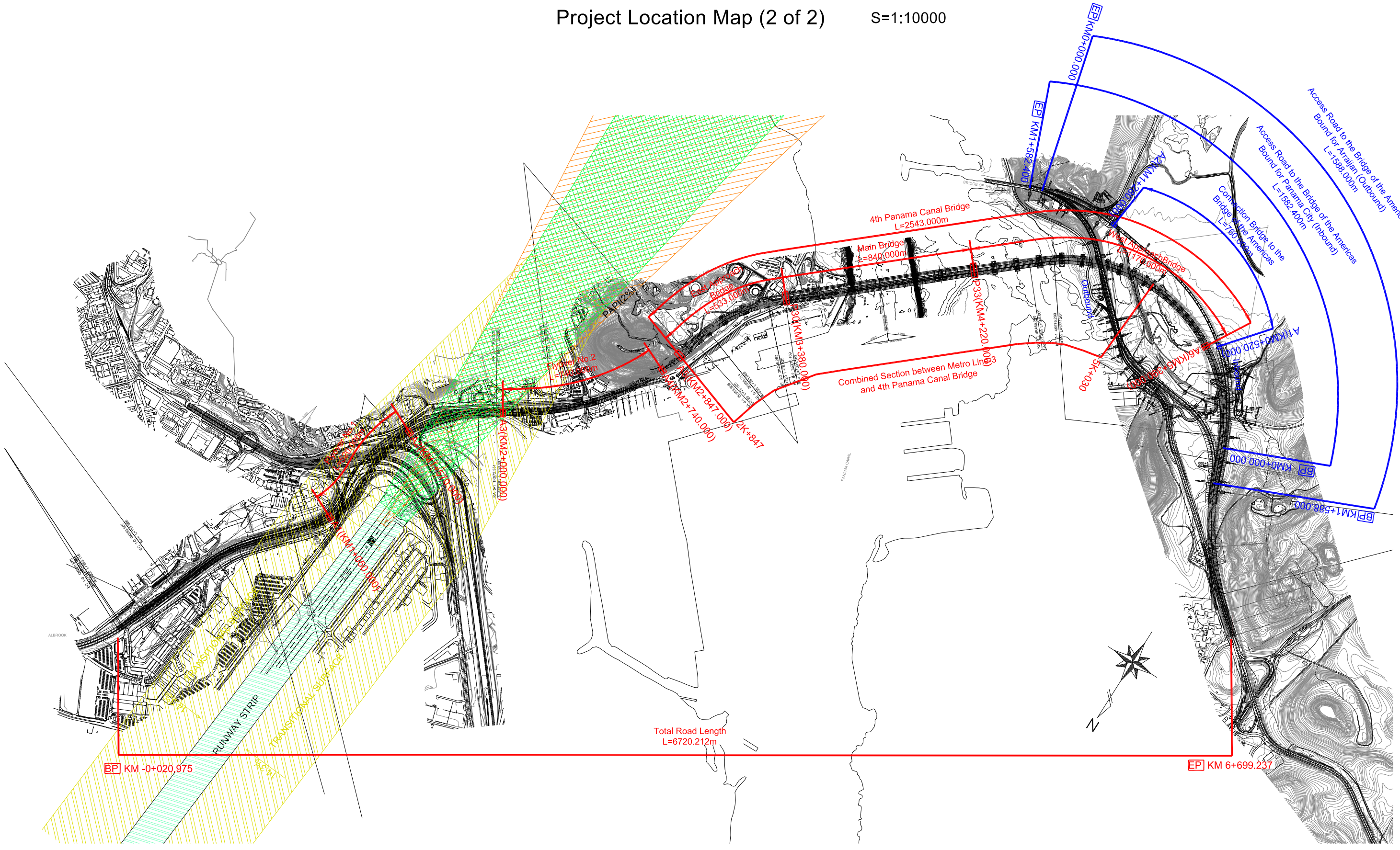
REMARKS:

Project Location Map (1 of 2)





Project Location Map (2 of 2)

S=1:10000



Total Road Length  
L=6720.212m

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			DRAWN:	DATE: May 2014	RECEIVED BY:	SUBMITTED BY:	CHECKED BY:	
			DESIGNED:	SCALE: S=1:10000	TEAM LEADER/URBAN RAILWAY PLANNING	CIVIL AND FACILITY PLANNING	APPROVED BY:	