SINGLE LIFT CONFIGURATION

DRAWING LIST

14/03/2003

x	Rev.	Title

TASK 2

D2-	0	-201	B	Design Levels

TASK 3

D3-	0	-201	A	Lock Alignment P1C(Western Lock Wall Option 2) : geotechnical situation
D3-	0	-202	A	Lock Alignment P1D(Western Lock Wall Option 3) : geotechnical situation
D3-	0	-203	A	Comparison of Lock Alignments
D3-	0	-204	A	Canal and Lock Implantation for the different alignments
D3-	0	-205	B	Alignment P1C: Nautical Access
D3-	0	-206	A	Layout Panama Canal : alignment P1C
D3-	0	-207	A	Layout Panama Canal : alignment P1D

TASK 4

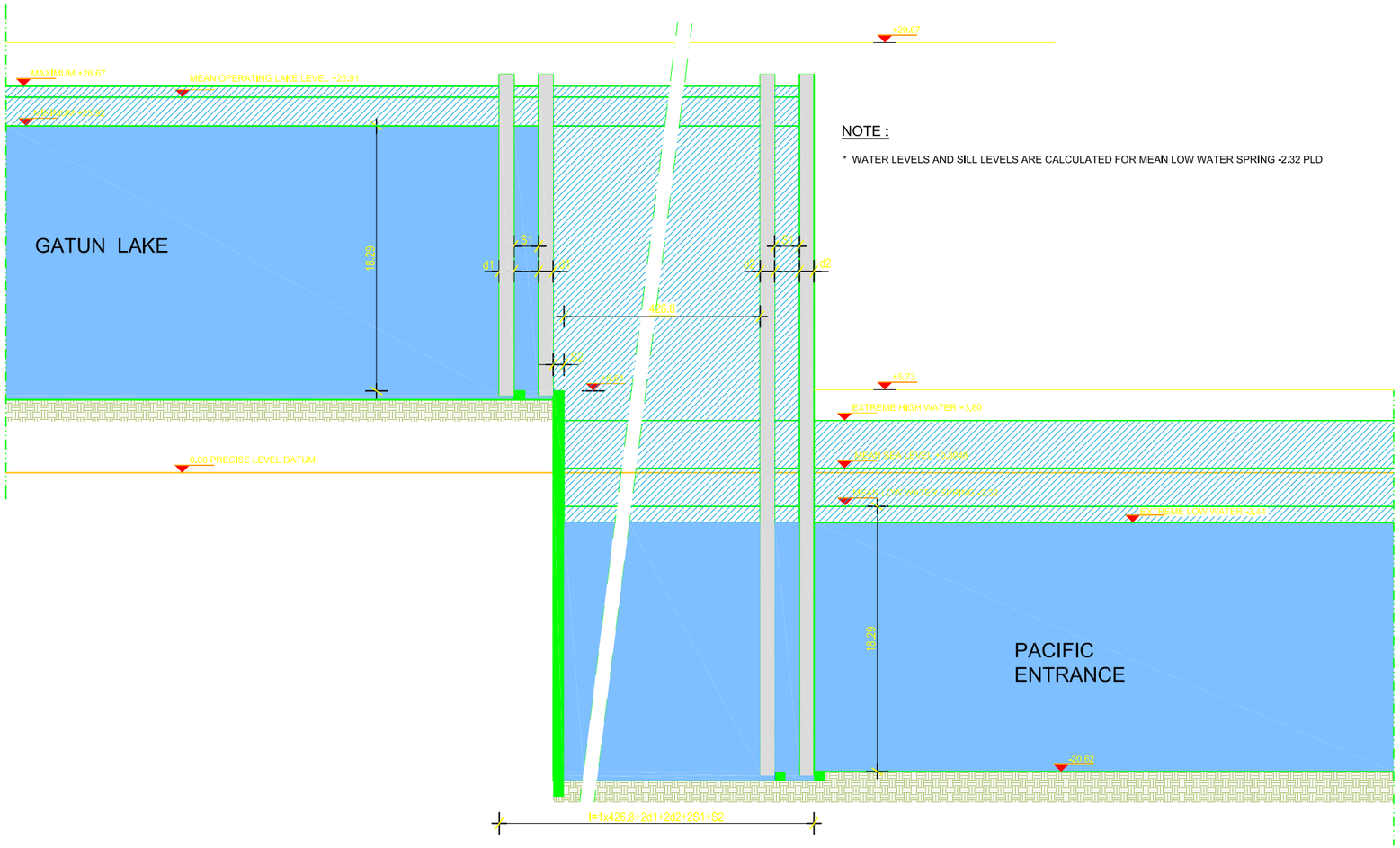
				LAY-OUT
D4-	A	-201	A	General plan view
		-202	B	Cross sections: excavation water saving basins
		-203	B	Plan view: excavation water saving basins
				Lock Walls
D4-	B	-201	E	Eastern and Western Lock Walls + Entrance Walls : longitudinal view
		-202	E	Plan view on entrance Gatun Lake side
		-203	E	Plan view on lock chamber
		-204	E	Plan view on entrance wall Pacific side
		-205	A	Cross-Section Eastern Lock Wall
		-206	B	Cross-Section Western Lock Walls
		-207	A	Lock head 1 : plan view
		-208	A	Lock head 1 : longitudinal section
		-209	A	Lock head 1 : cross section
		-210	B	Lock head 2 : plan view
		-211	B	Lock head 2 : longitudinal section
		-212	B	Lock head 2 : cross section

SINGLE LIFT CONFIGURATION

DRAWING LIST

14/03/2003

	x		Rev.	Title
		-213	A	Lock head 2 : planview of arrangement with pumping basin
				Filling and Emptying System
D4-	C	-201	A	WSB filling and emptying system : structural design
		-202	A	WSB filling and emptying system : hydraulic design
		-203	A	WSB filling and emptying system : option with stacked WSB : hydraulic design
				Lock operating GATES
D4-	D	-201	A	Rolling Gate S1-S2:sections ; S2 :side view and top view
		-202	A	Rolling Gate S2:maintenance and (dis-)mounting maneuvers
		-203	A	Rolling Gate S2:maintenance support wagon-rolling support wagon
				Operating Machinery
D4-	F	-201	A	Control system architecture: basic configuration
		-202	A	Control system architecture: final configuration
				Lighting
D4-	G	-202	A	Lock Wall's Lighting - Floodlights solution
				Electrical power and power requirements
D4-	H	-204	A	High voltage one-line diagram-alternative 1
		-206	A	High voltage one-line diagram-alternative 2
				Entrance walls
D4-	I	-201	A	Cross sections entrance walls
				Operating structures
D4-	J	-201	A	Rolling gate technical room Gatun side
		-202	A	Rolling gate technical room Pacific side
				Construction
D4-	L	-201	A	Construction Plan



NOTE :

* WATER LEVELS AND SILL LEVELS ARE CALCULATED FOR MEAN LOW WATER SPRING -2.32 PLD

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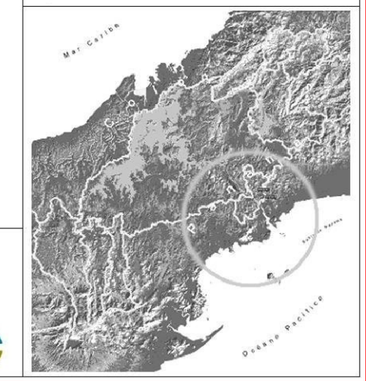
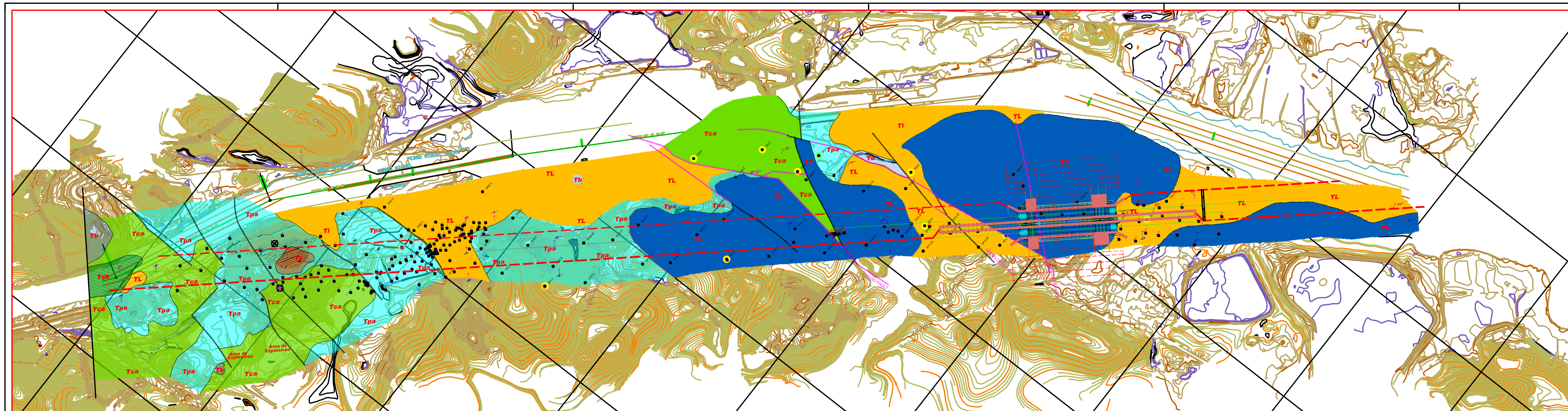


Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
DESIGN LEVELS

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B	14/03/03	FINAL REPORT	BME	JDR	JDR
A	26/11/02	UPDATE	BME	JDR	JDR
–	28/03/02	FIRST EDITION	JDV	TD	RT

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA–97462	1/500	D2– 0 – 201	B	1 / 1



Simbología Formación

- Tb — Basaltos y Diabasa
- Tpa — Pedro Miguel
- Tl — La Boca
- Tca — Cucaracha
- Tcb — Culebra
- TPI-8 — Pozos A.C.P.
- TPIC-35 — Pozos ContraTLstas
- Secciones Geológicas
- Contactos Geológicos
- Fallas Geológicas
- EstraTLficación

NOTA IMPORTANTE / IMPORTANT NOTE

MAPA GEOLÓGICO REVISADO POR CONSORCIO POST PANAMAX (CPP) MARZO-2002

GEOLOGICAL MAP REVISED BY CONSORCIO POST PANAMAX (CPP) MARCH-2002

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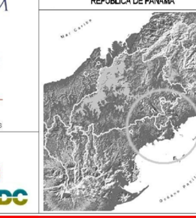

Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
LOCK ALIGNMENT P1C (WESTERN LOCK WALL OPTION 2)
GEOTECHNICAL SITUATION

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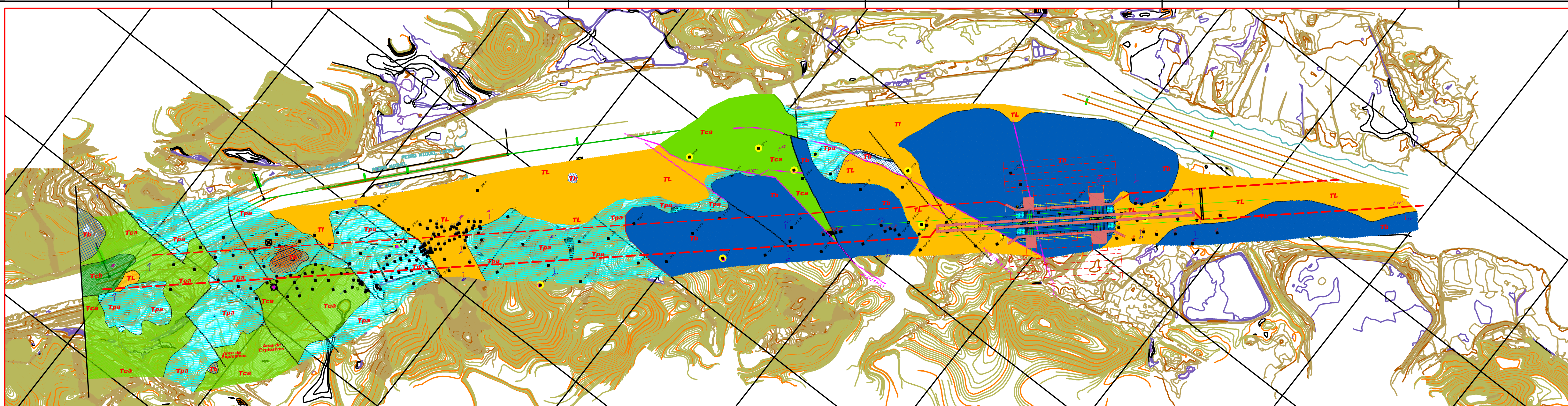
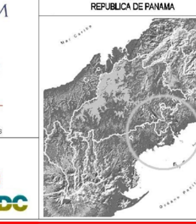
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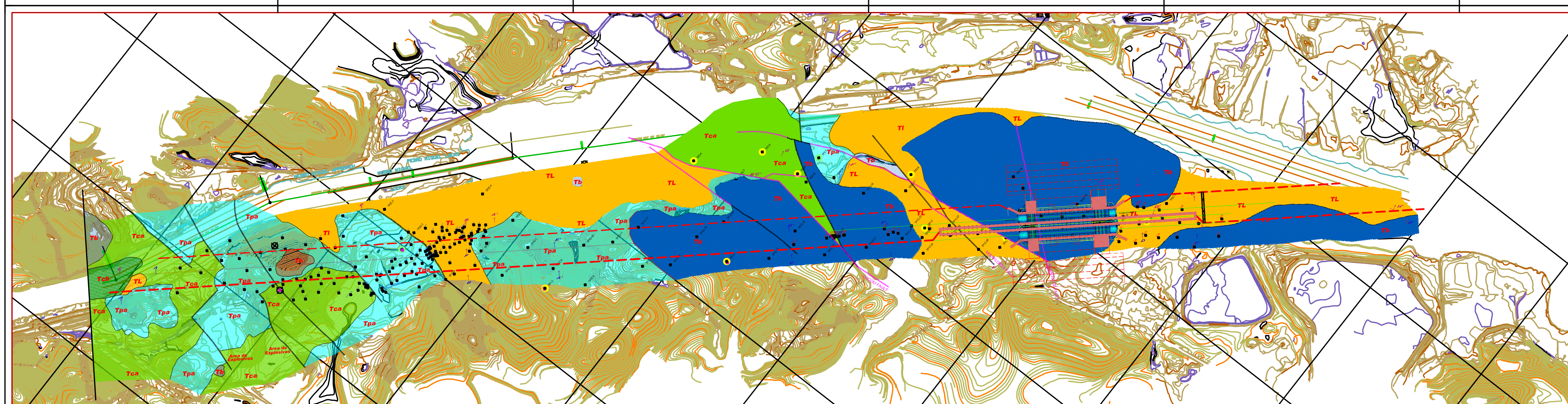
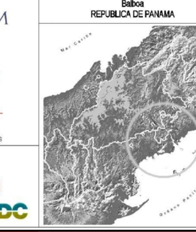
SINGLE LIFT CONFIGURATION
LOCK ALIGNMENT P1C (WESTERN LOCK WALL OPTION 2)
GEOTECHNICAL SITUATION
Contract SAA-97462 Scale: 1/10000 Drawing n°: D3- 0 - 201 Rev.: A Folio 1 / 1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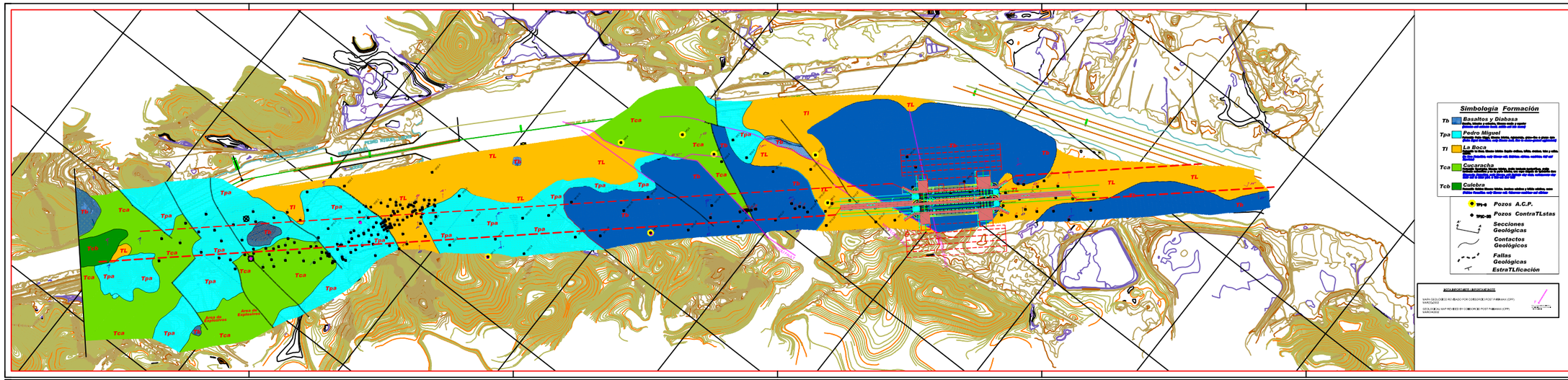

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SINGLE LIFT CONFIGURATION
LOCK ALIGNMENT P1D (WESTERN LOCK WALL OPTION 3)
GEOTECHNICAL SITUATION

No.	Date	Description	Drawn	Checked	Approved
0	01/04/2013	FINAL REPORT	JM	JM	JM
A	29/01/2013	FIRST DRAFT	JM	JM	JM

Contract	Scale:	Drawing n°:	Rev.:	Folio
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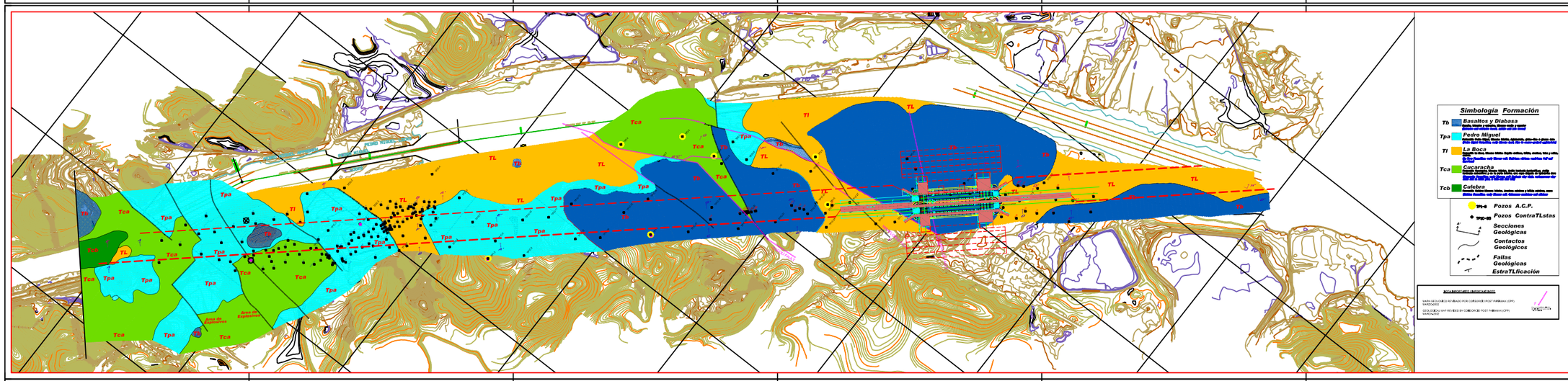

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SINGLE LIFT CONFIGURATION
LOCK ALIGNMENT P1D (WESTERN LOCK WALL OPTION 3)
GEOTECHNICAL SITUATION

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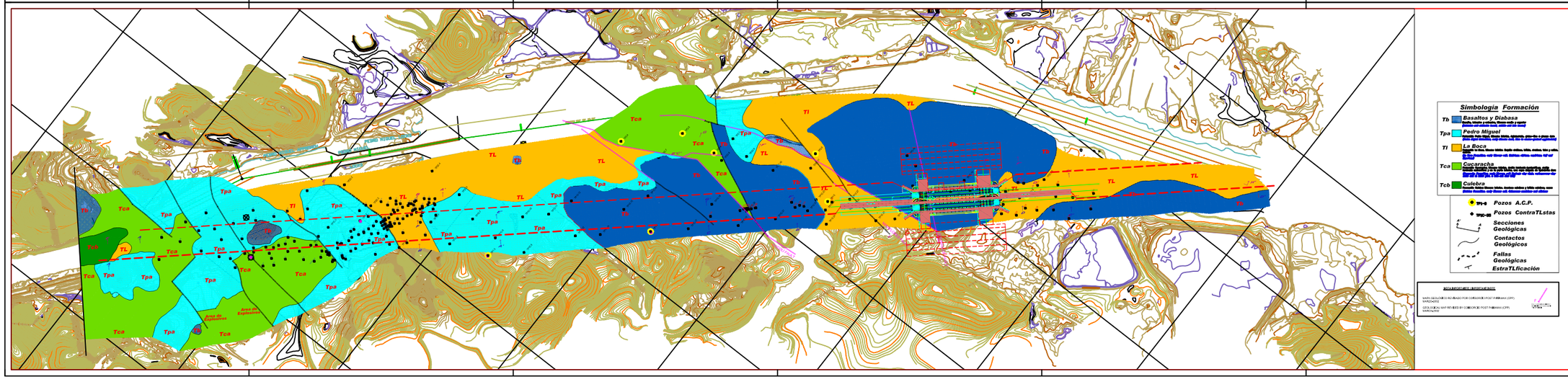

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LOCK ALIGNMENT P1D (WESTERN LOCK WALL OPTION 3)
GEOTECHNICAL SITUATION

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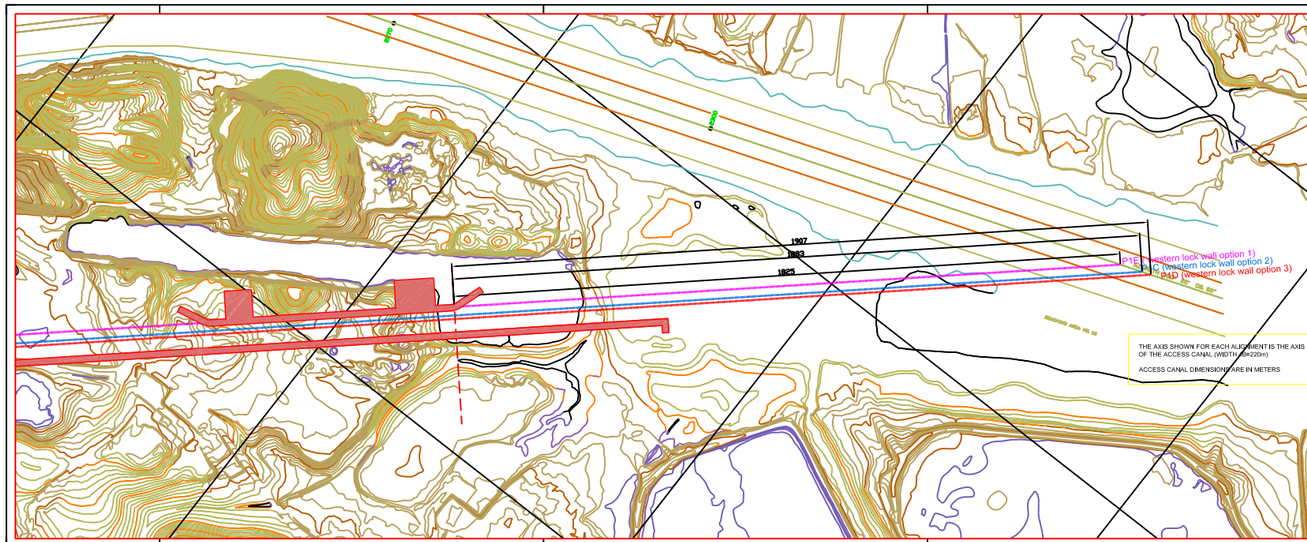

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Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
COMPARISON OF LOCK ALIGNMENTS

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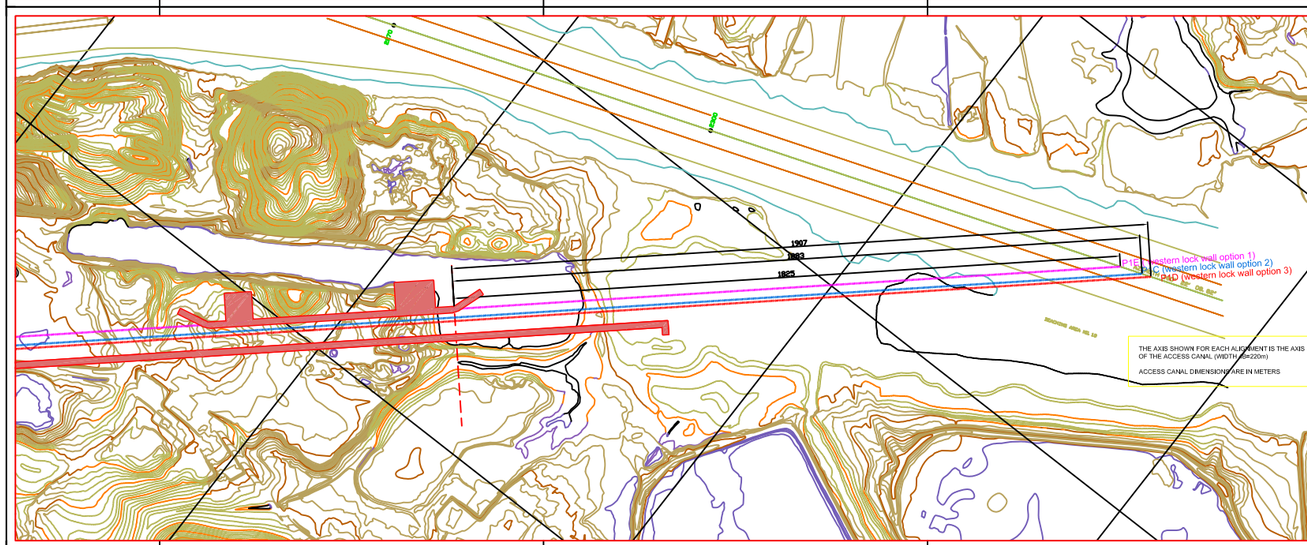
Contract	Scale:	Drawing n°:	Rev.:	Folio
SM-97462	1/10000	D3– 0 – 203	A	1 / 1



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Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
COMPARISON OF LOCK ALIGNMENTS

No.	Date	Description	Drawn	Checked	Approved
1					
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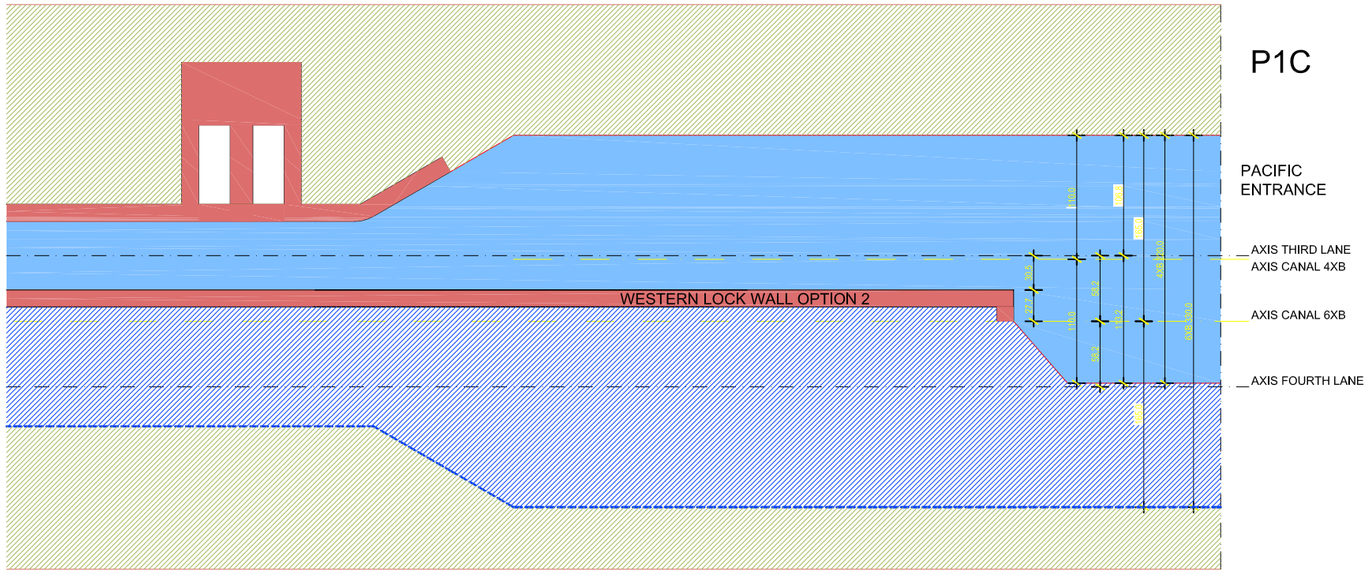

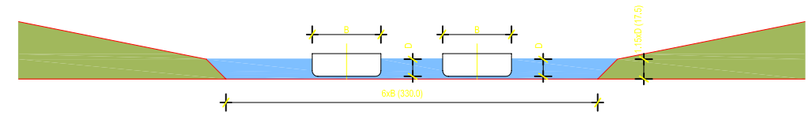

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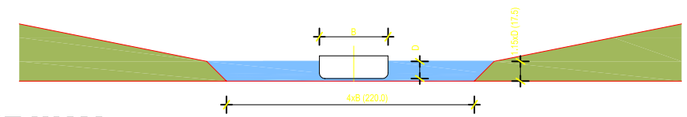

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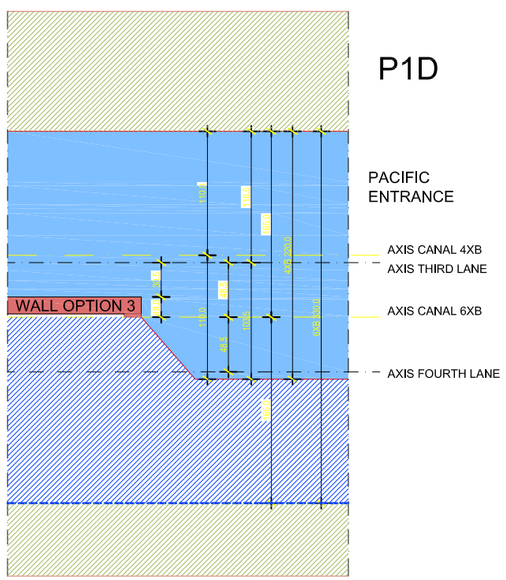
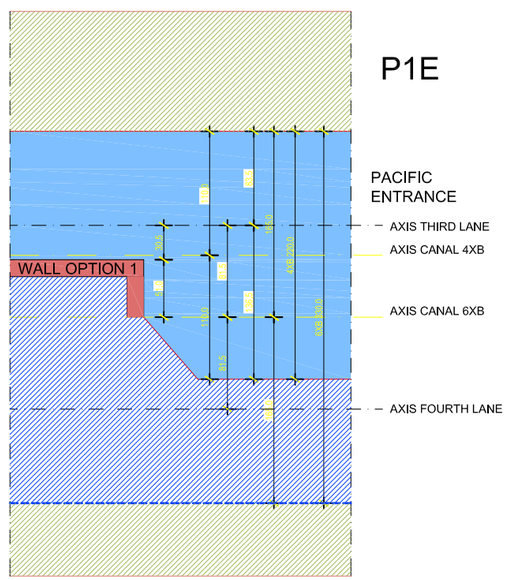
ALL DIMENSIONS ARE ON THE LEVEL OF CONCEPT DESIGN AND HAVE TO BE CHECKED AND VALIDATED DURING FURTHER AND DETAILED DESIGN

ALL DIMENSIONS ARE IN METERS





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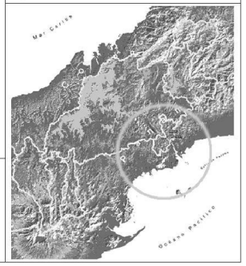
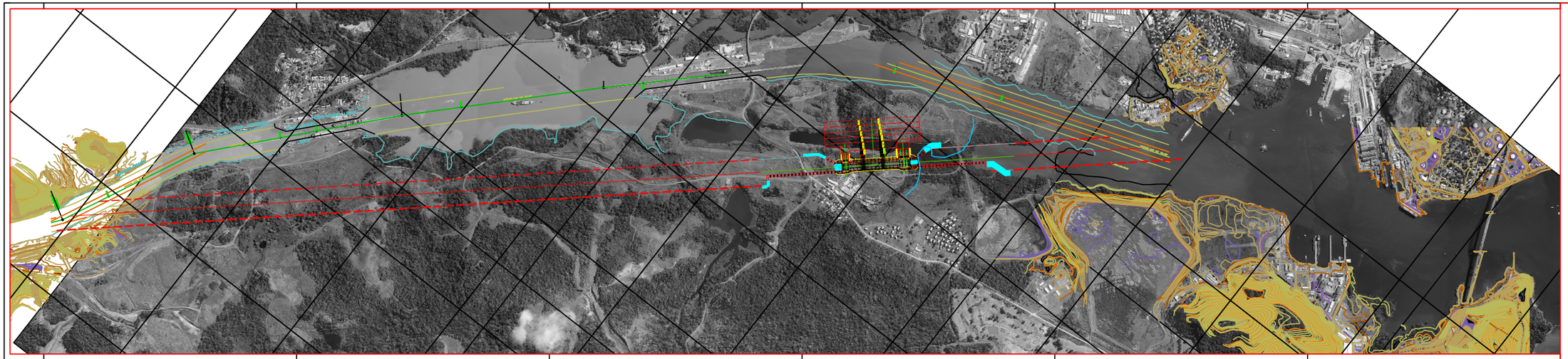


Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
CANAL AND LOCK IMPLANTATION FOR THE DIFFERENT ALIGNMENTS

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B					
A	14/03/03	FINAL REPORT	BME	JDR	JDR
–	04/12/02	FIRST EDITION	BME	JDR	JDR

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/250	D3 – 0 – 204	A	1/1



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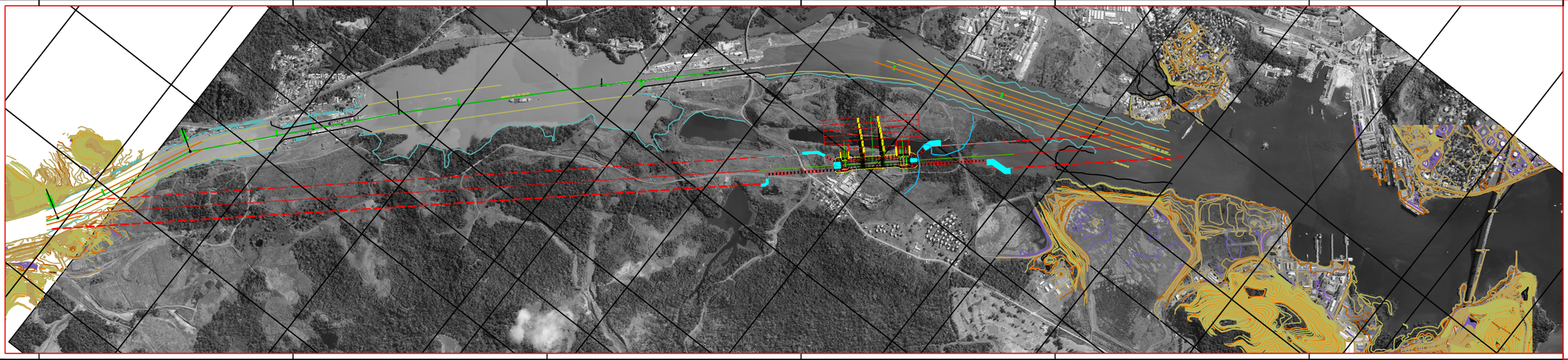
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
ALIGNMENT P1C : NAUTICAL ACCESS

Contract	Scale	Drawing n°:	Rev.:	Folio
SMA-07482	1/10000	D3- 0 - 205	B	1 / 1



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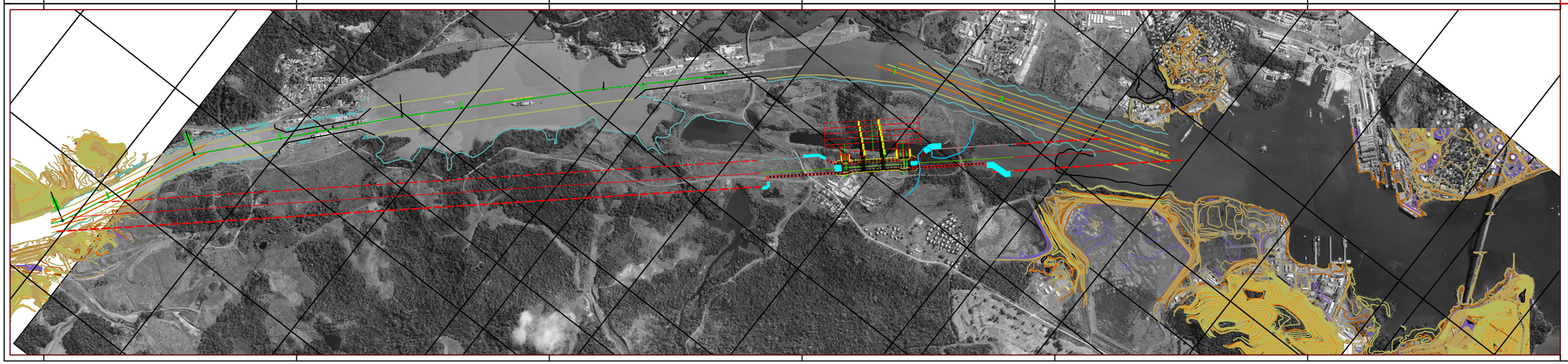
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
ALIGNMENT P1C : NAUTICAL ACCESS

Contract	Scale	Drawing n°:	Rev.:	Folio
SMA-07482	1/10000	D3- 0 - 205	B	1 / 1



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Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
ALIGNMENT P1C : NAUTICAL ACCESS

Contract	Scale	Drawing n°:	Rev.:	Folio
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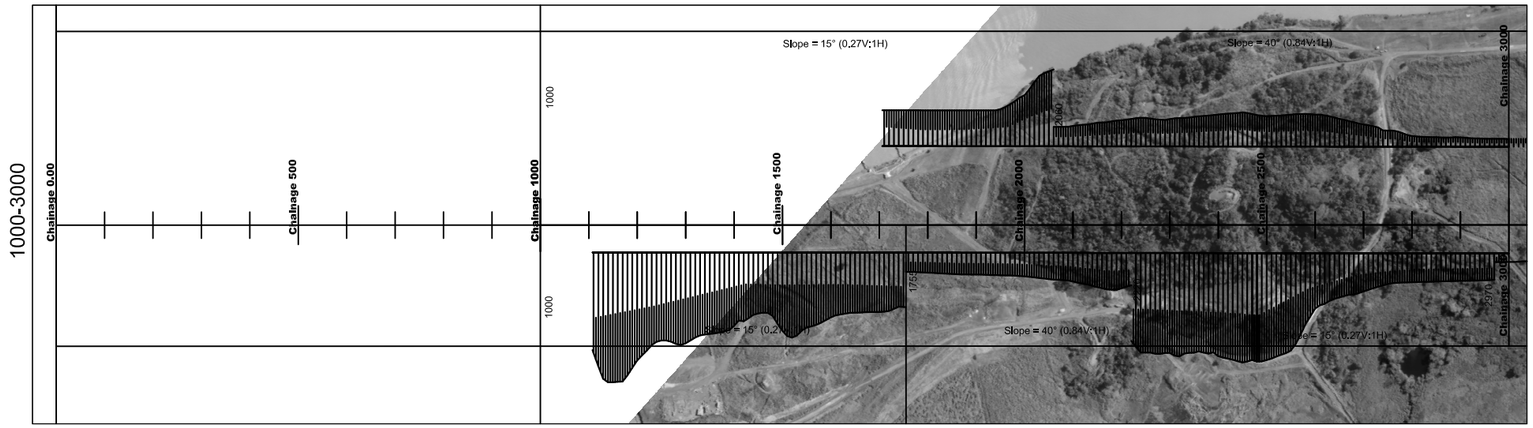

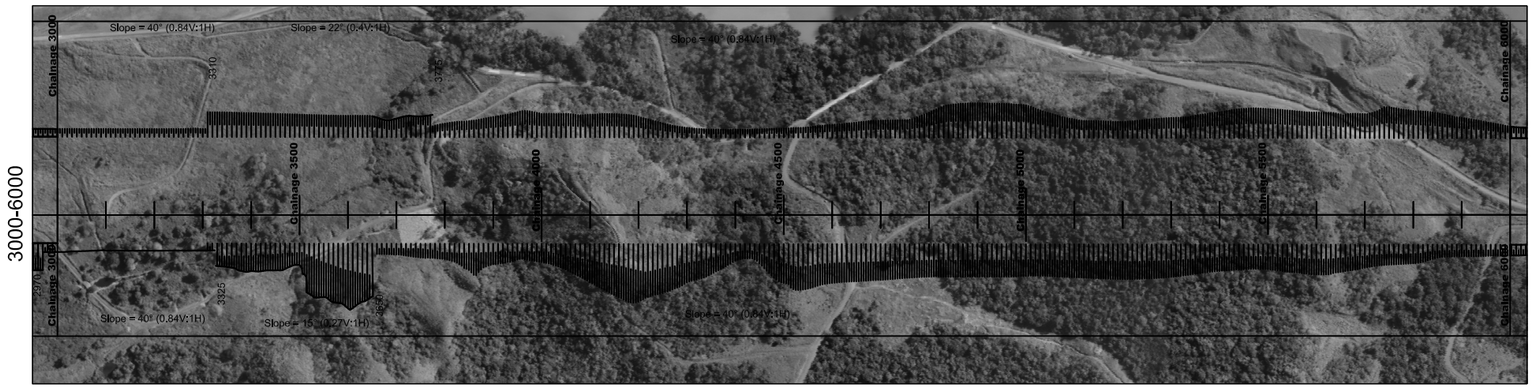

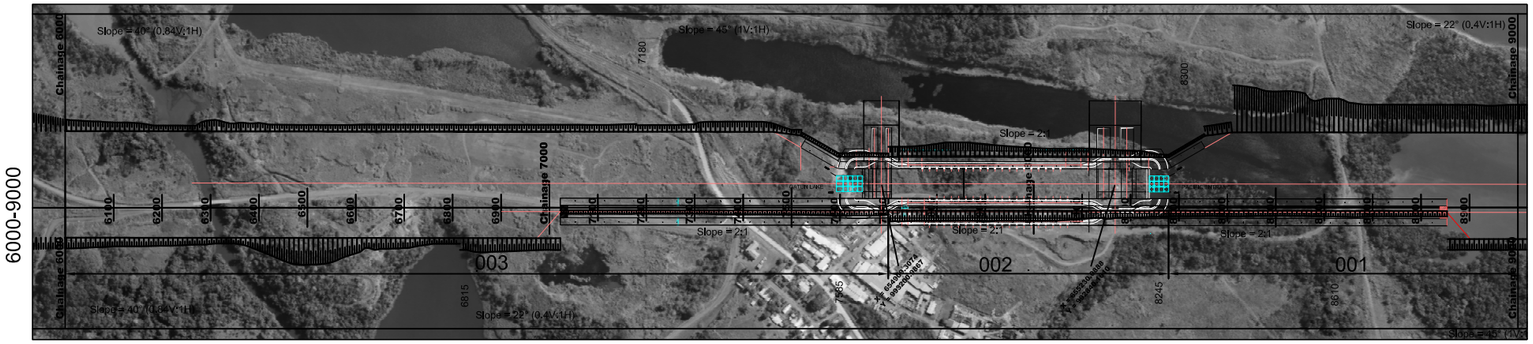

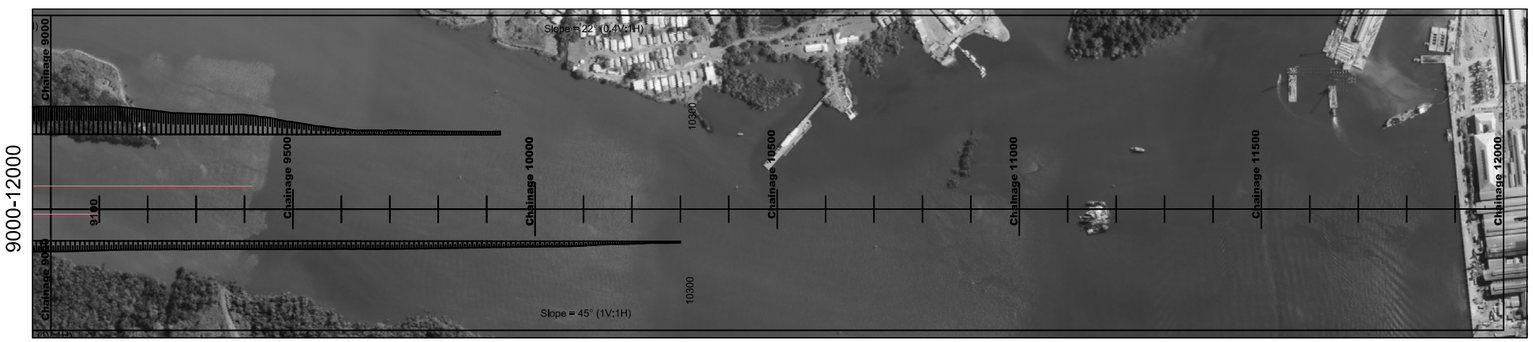

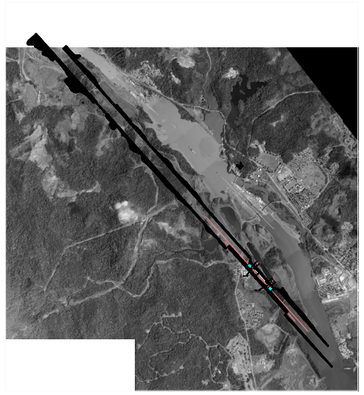

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Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
LAYOUT PANAMA CANAL
ALIGNMENT P1C

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
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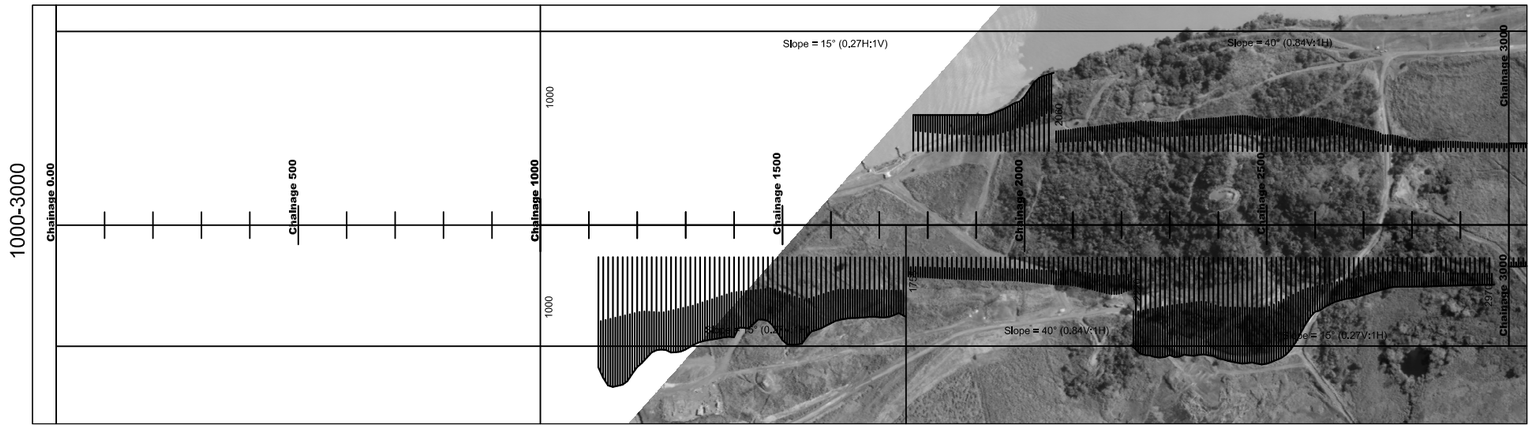
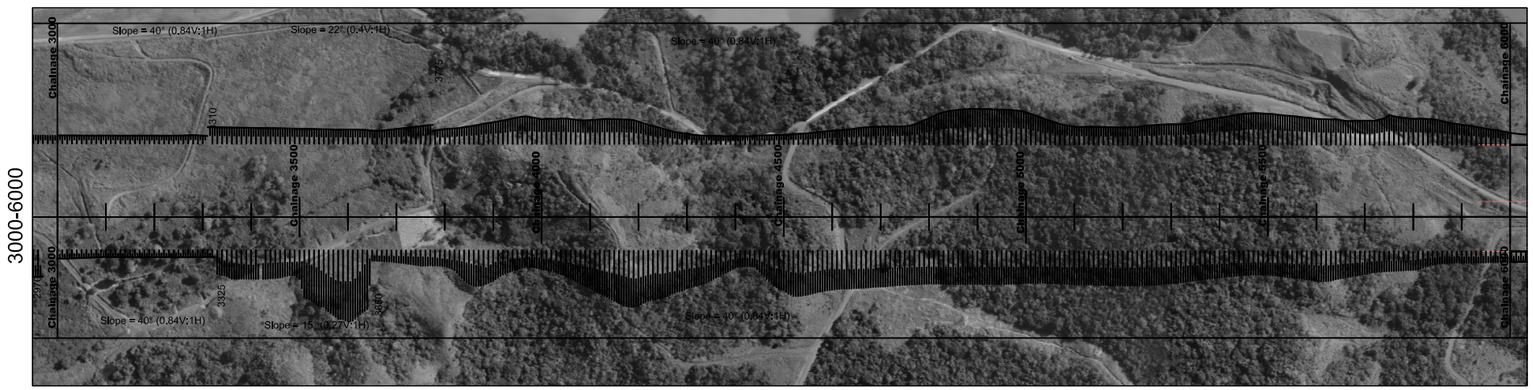
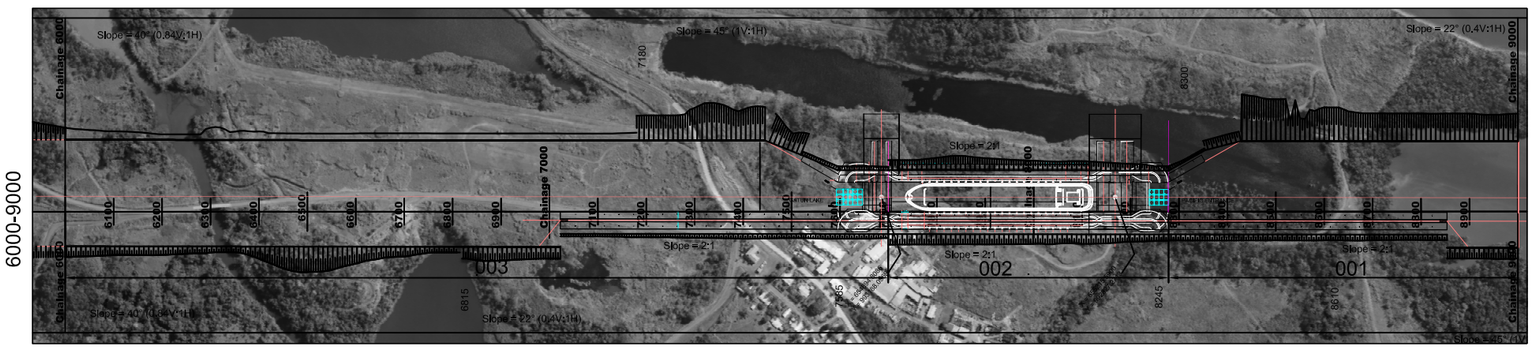
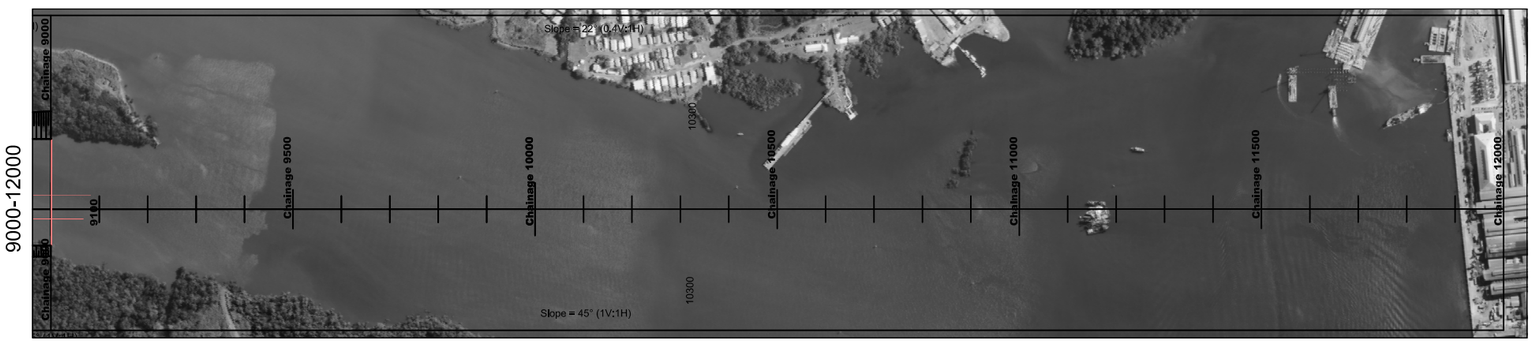
A	14/03/03	FINAL REPORT	BME	JGR	JGR
–	28/01/03	FIRST EDITION	JCC	PMA	JVG

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/4000	D3 – 0 – 206	A	A0









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Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
LAYOUT PANAMA CANAL
ALIGNMENT P1D

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
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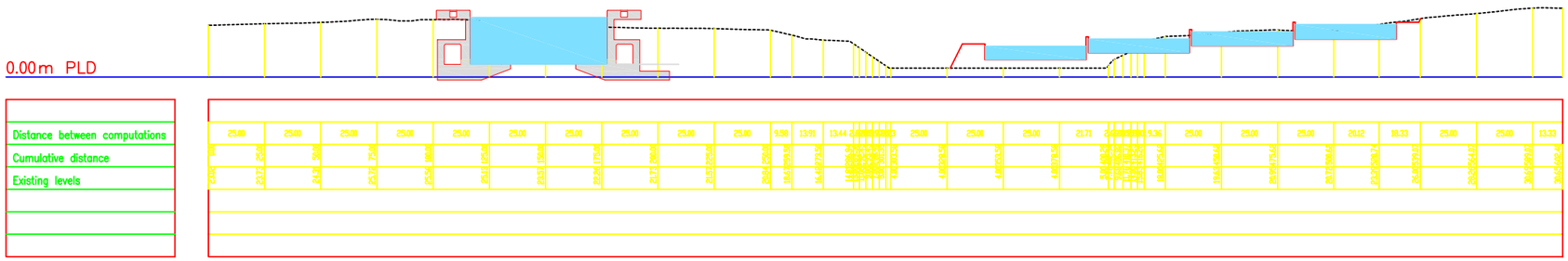
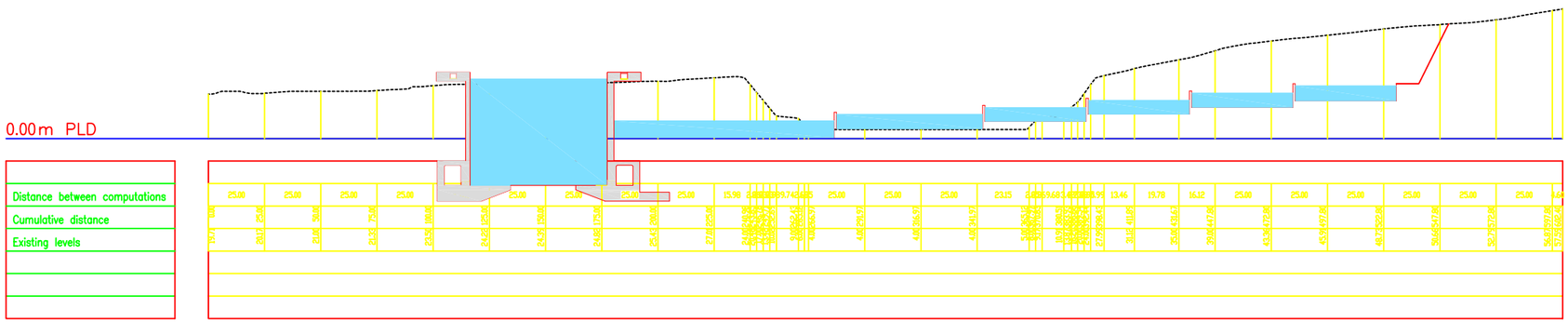
B					
A	14/03/03	FINAL REPORT	BNE	JDR	JDR
–	28/01/03	FIRST EDITION	JCC	PWA	JVD

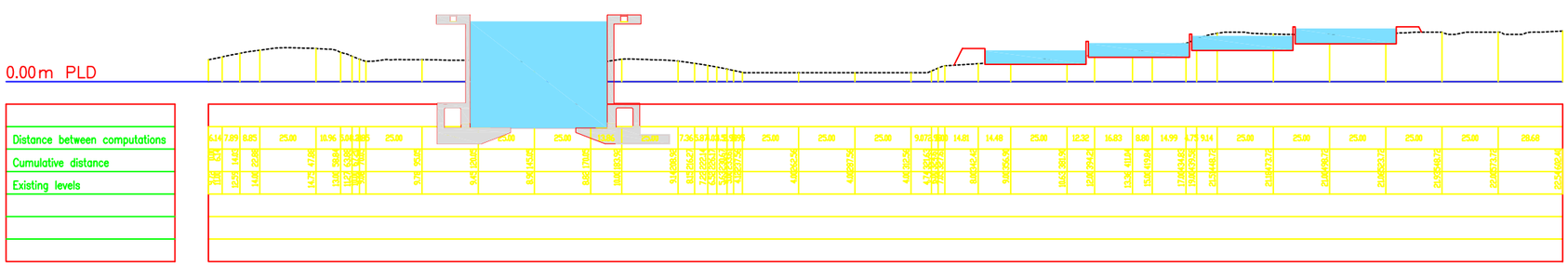
Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/4000	D3 – 0 – 207	A	A0



Cross-section 1



Cross-section 2



Cross-section 3

CROSS SECTIONS CORRESPONDING TO DRAWING D4-A-203

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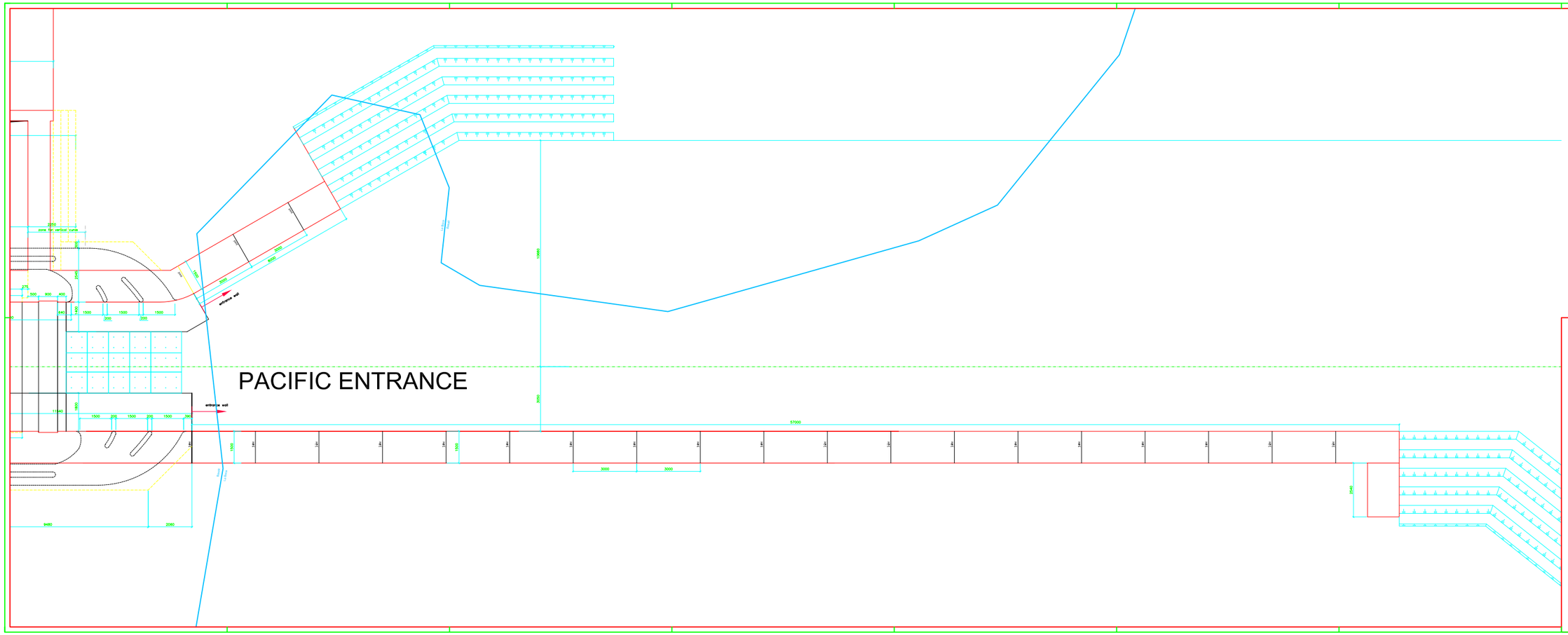
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
CROSS-SECTIONS - EXCAVATION WATER SAVING BASINS

REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B	14/03/03	FINAL REPORT	BMC	JDR	JDR
A	10/01/03	MODIFIED WSB	KDO	JDR	JDR
–	12/12/02	FIRST EDITION	KDO	JDR	JDR

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/1000	D4-A-202	B	1 / 1



ALL DIMENSIONS ARE ON THE LEVEL OF CONCEPT DESIGN AND HAVE TO BE CHECKED AND VALIDATED DURING FURTHER AND DETAILED DESIGN

ALL DIMENSIONS ARE IN CENTIMETERS

THE STRUCTURE IS SHOWN FOR WESTERN LOCK WALL OPTION 2 (ALIGNMENT P1C)

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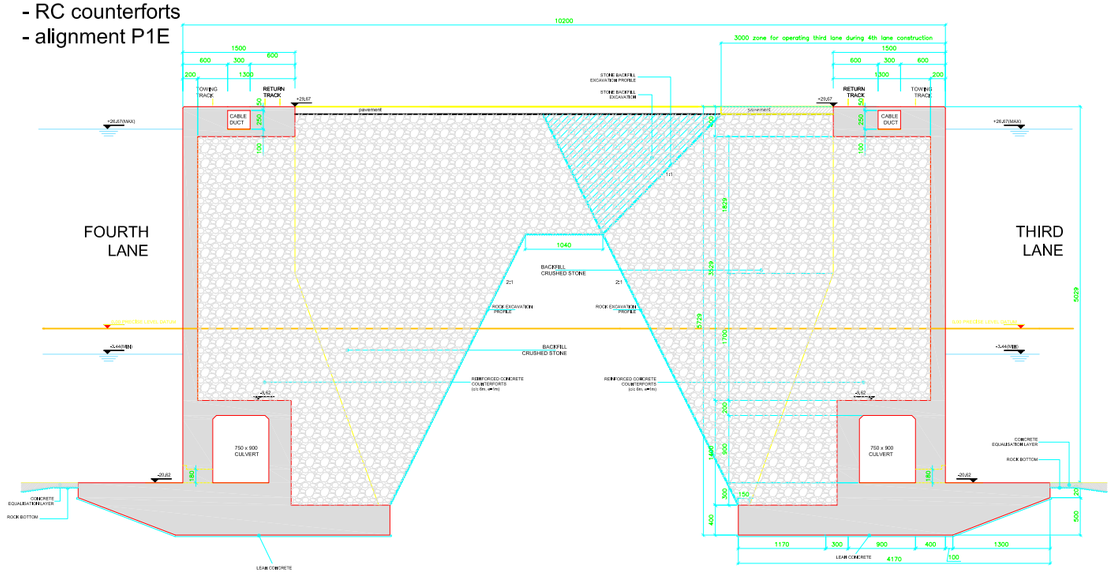
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
ENTRANCE PACIFIC SIDE : PLAN VIEW

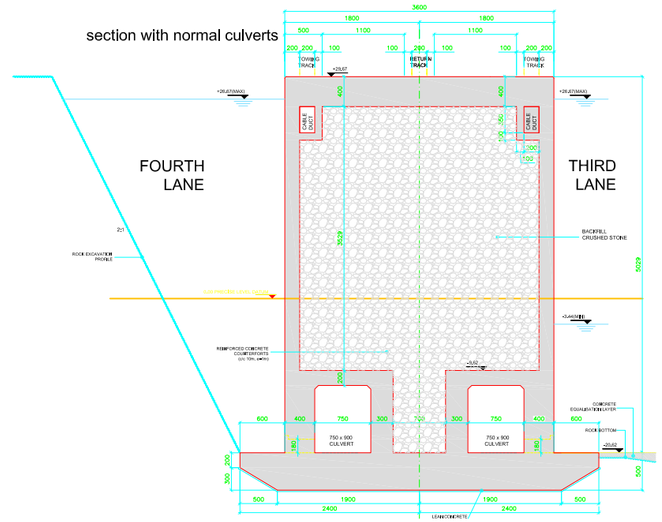
Contract	Scale	Drawing n°:	Rev.:	Folio
BM-07402	1/500	D4– B – 204	E	1 / 1

OPTION 1: towing locomotives
- separate construction of 4th lane lock wall
- RC counterforts
- alignment P1E

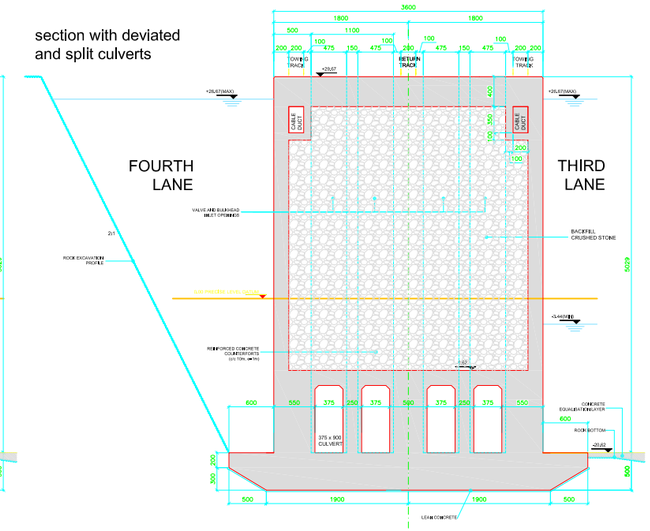


OPTION 3: towing locomotives
- combined construction of 4th lane lock wall
- alignment P1D

section with normal culverts

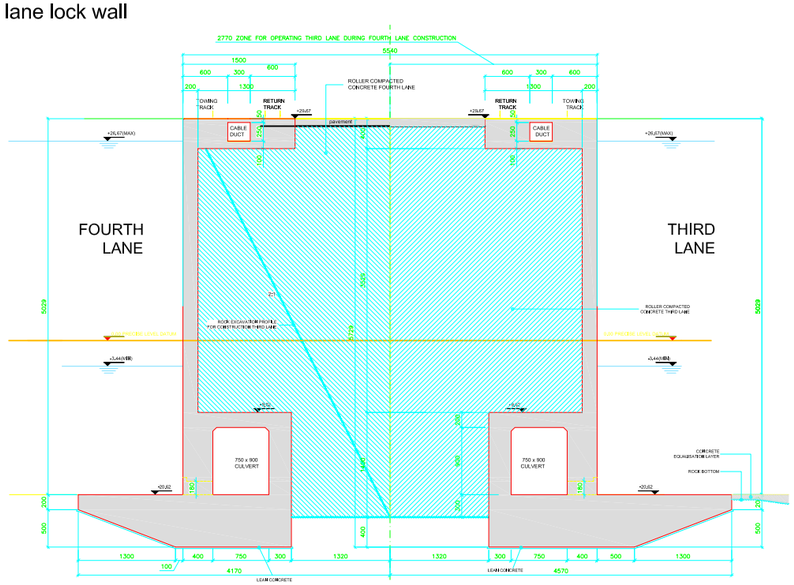


section with deviated and split culverts

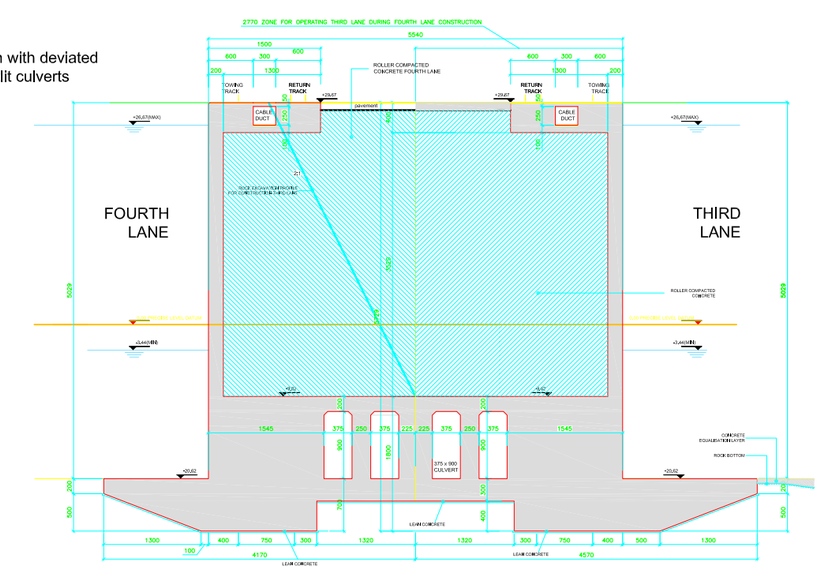


OPTION 2: towing locomotives
- separate construction of 4th lane lock wall
- RCC
- alignment P1C

section with normal culverts



section with deviated and split culverts



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ALL DIMENSIONS ARE IN CENTIMETERS

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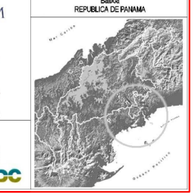
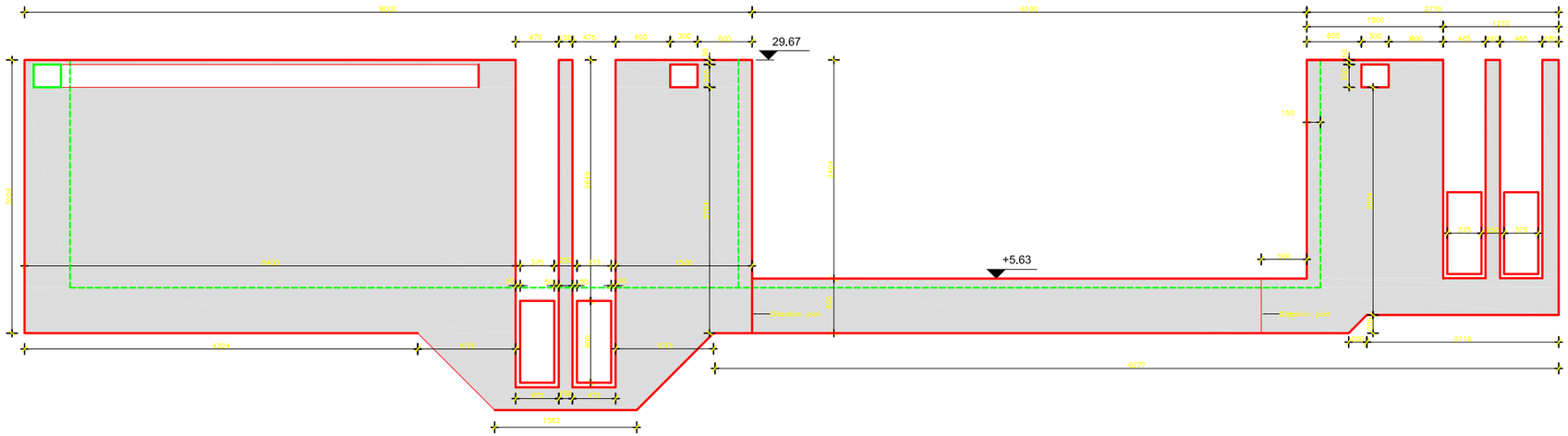


Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

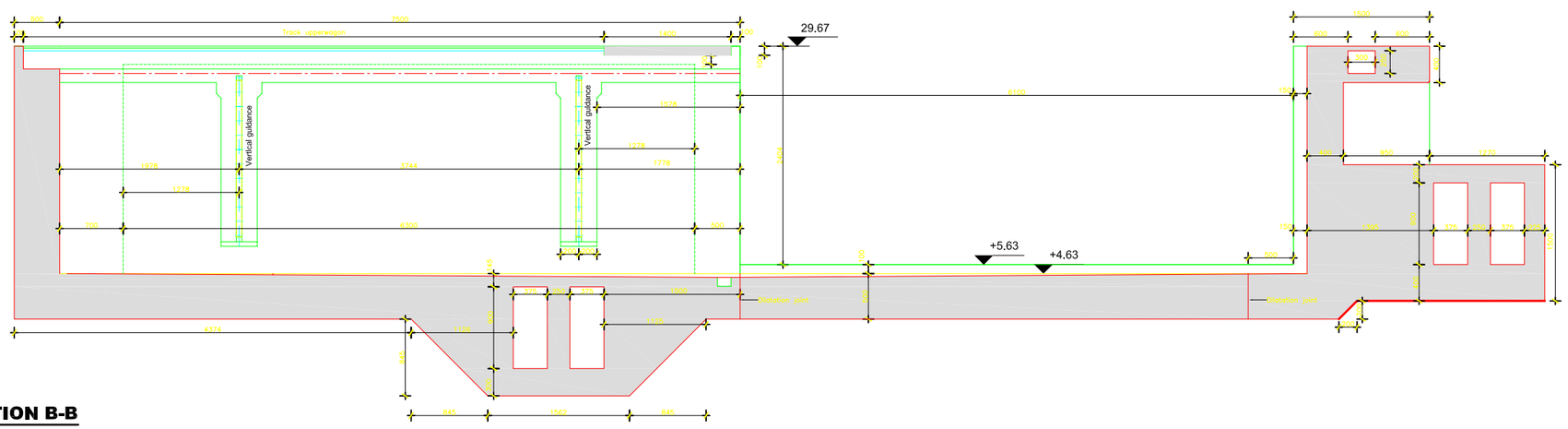
SINGLE LIFT CONFIGURATION
Cross-sections Western Lock Wall

Rev.	Date	Description	Drawn	Checked	Approved
0					
1					
2					
3	17/12/2012	Issued for review			
4	17/12/2012	Issued for review 2			
5	17/12/2012	Issued			

Contract	Scale	Drawing n°:	Rev.	Folio
SNA-07402	1/250	D4– B – 206	B	1 / 1



SECTION A-A



SECTION B-B

All dimensions are on the level of concept design and have to be checked and validated during further and detailed design.

All dimensions are in cm.

All levels are in meter and refered to PLD.

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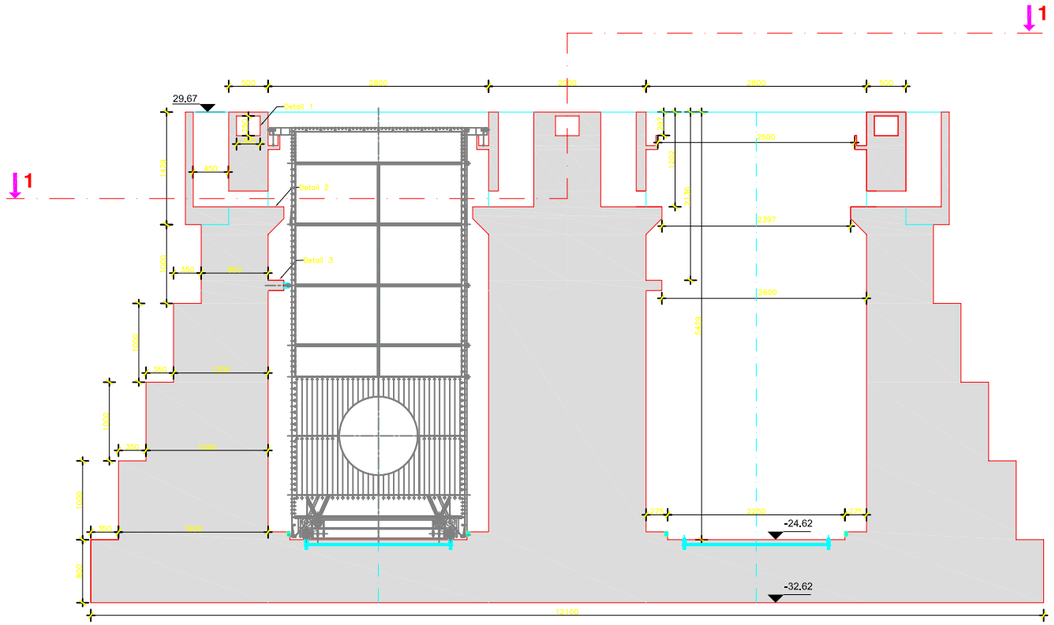
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

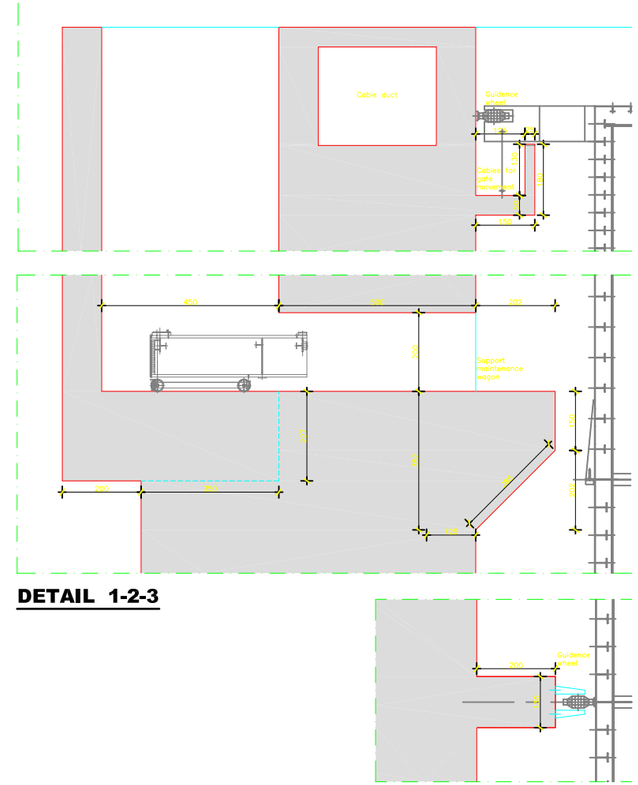
SINGLE LIFT CONFIGURATION
LOCK HEAD 1
LONGITUDINAL SECTION

NO.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
4					
3					
2					
1					
0					
A	14/04/2015	ISSUED CLAIMS DRAFT SIDE 1 FINAL REPORT	BME	JDR	JDR
	18/02/2015	FIRST EDITION	JDR	DR	DR

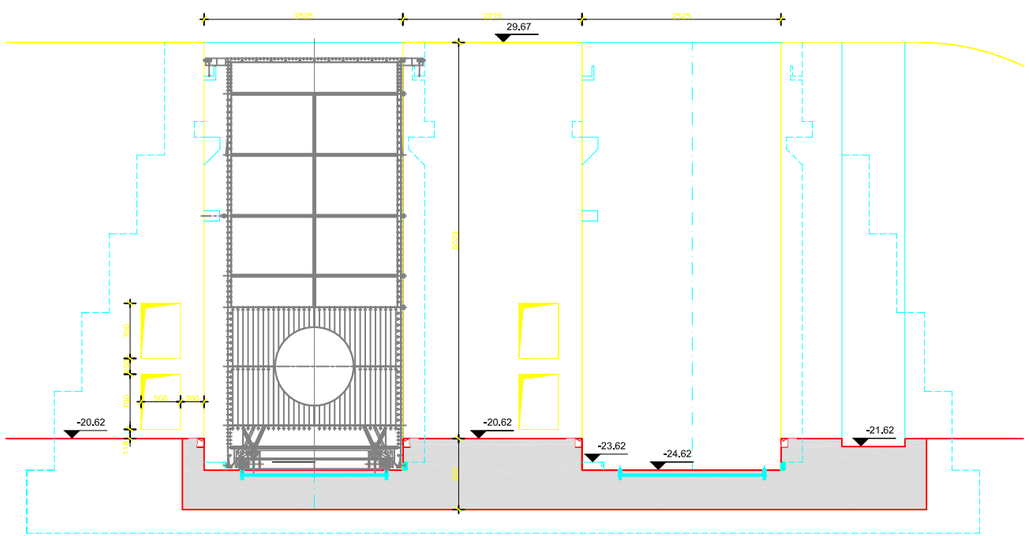
Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/200	D4-B-208	A	1/1



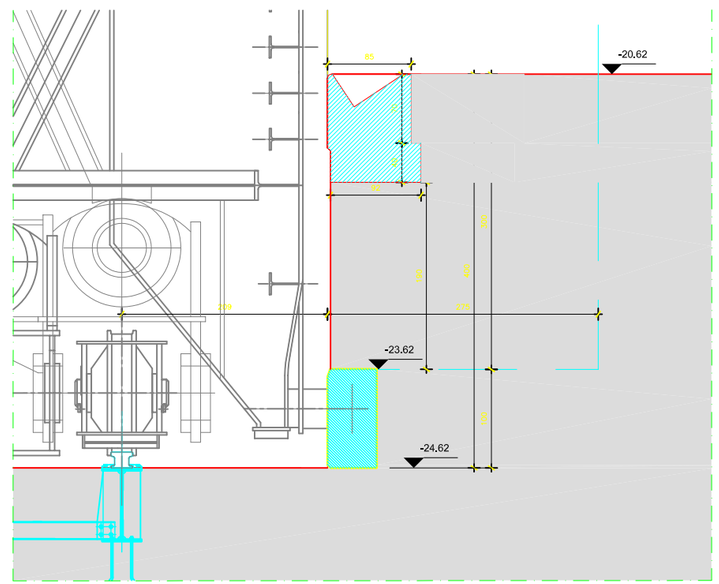
SECTION C-C



DETAIL 1-2-3



SECTION D-D



DETAIL RAIL FOR UNDERWAGON

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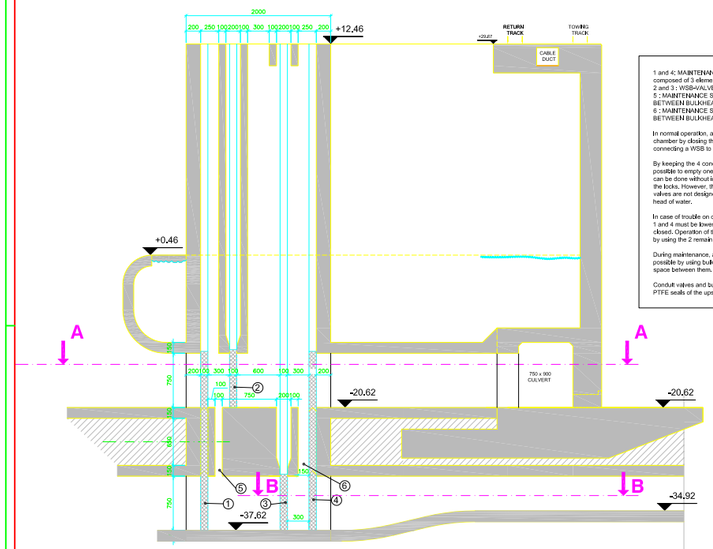
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
LOCK HEAD 2
CROSS SECTION

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
A	12/06/2015	FINAL DRAFT	MAE	JCM	JCM
B	19/06/2015	FINAL DRAFT	JDV	TD	ET
C	07/12/2015	FINAL DRAFT	JDV	TD	ET

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/200	D4-B-212	B	1/1



1 and 4: MAINTENANCE BULKHEADS (each of them is composed of 3 elements on top of each other)
2 and 3 : WSB-VALVES
5 : MAINTENANCE SHAFT TO REACH THE SPACE BETWEEN BULKHEAD 1 AND VALVE 3 AT LEVEL -37,62
6 : MAINTENANCE SHAFT TO REACH THE SPACE BETWEEN BULKHEAD 4 AND VALVE 3 AT LEVEL -37,62

In normal operation, a WSB can be isolated from the lock chamber by closing the 2x2m4 valves (there are 2x2 conduits connecting a WSB to the lock chamber).

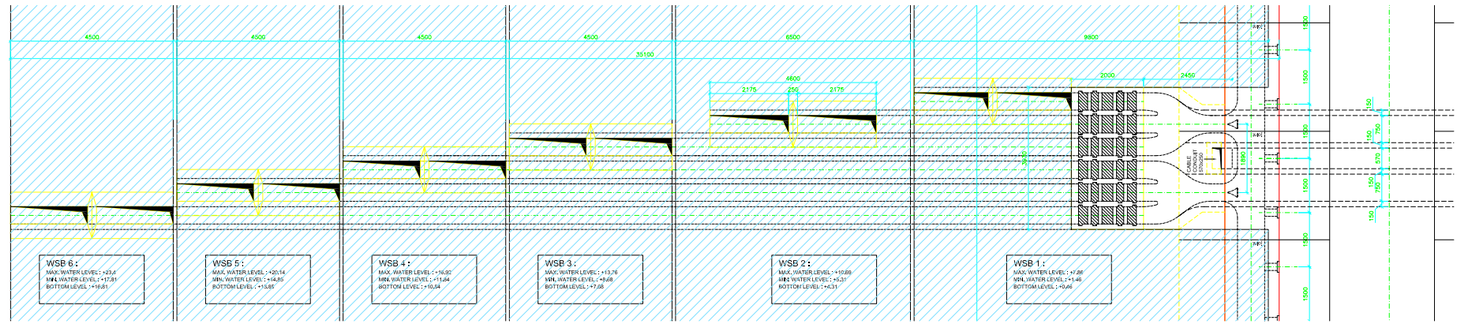
By keeping the 4 conduit valves in closed position, it is possible to empty one (or several) WSB by pumping. This can be done without interruption of the ship traffic through the locks. However, the hydraulic cylinders of the conduit valves are not designed to move the valves under such a head of water.

In case of trouble on one of the conduit valves, the bulkheads 1 and 4 must be lowered. Two WSB conduits have to be closed. Operation of the corresponding WSB can still go on by using the 2 remaining conduits.

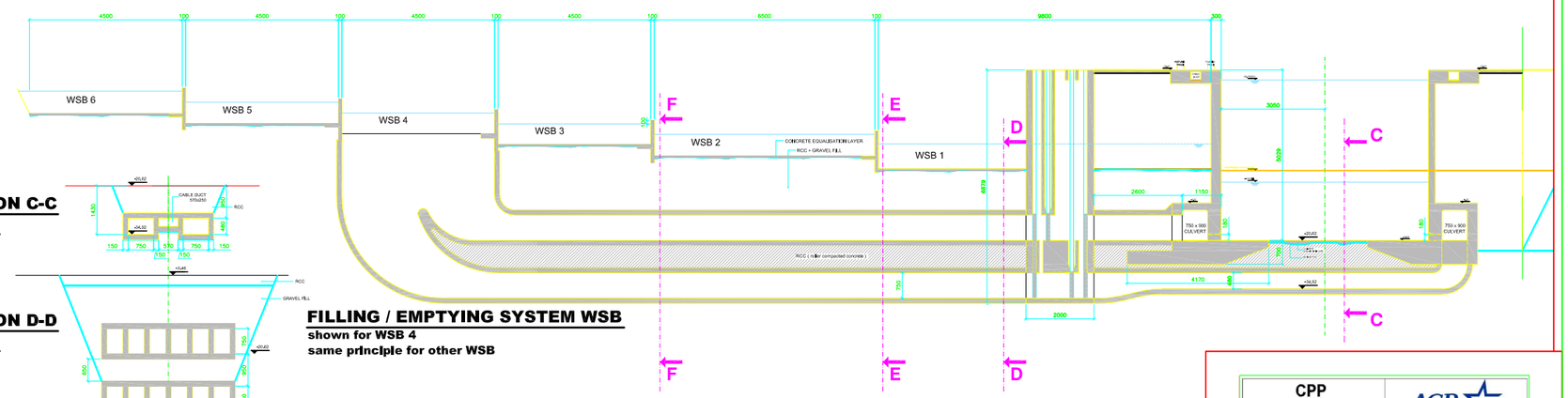
During maintenance, access on both sides of the valves is possible by using bulkheads 1 and 4 after emptying of the space between them.

Conduit valves and bulkheads are equipped with rubber / PTFE seals of the upstream and downstream type.

VALVE AND BULKHEAD DIMENSIONS (1/250)

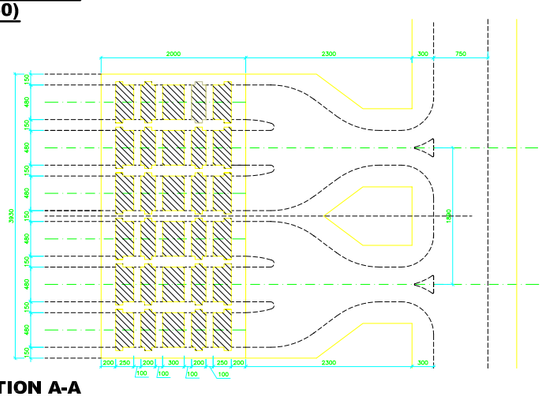


PLAN VIEW FILLING / EMPTYING SYSTEM



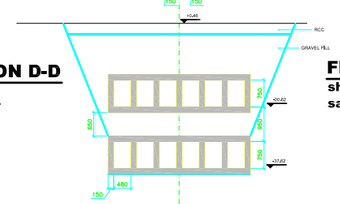
FILLING / EMPTYING SYSTEM WSB

shown for WSB 4
same principle for other WSB

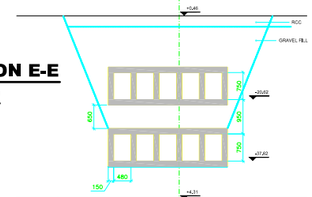


SECTION A-A (1/250)

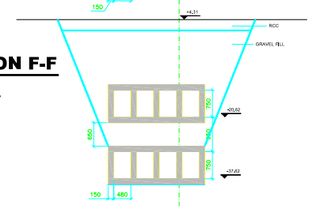
SECTION C-C (1/500)



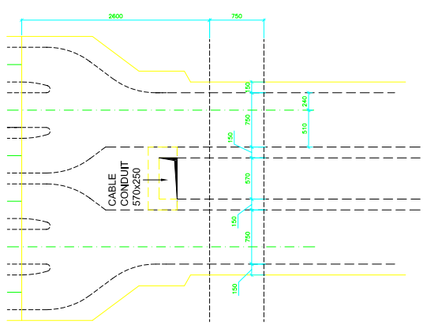
SECTION D-D (1/500)



SECTION E-E (1/500)

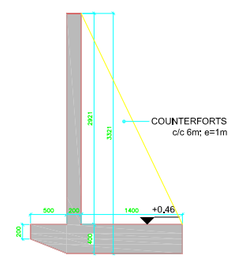


SECTION F-F (1/500)

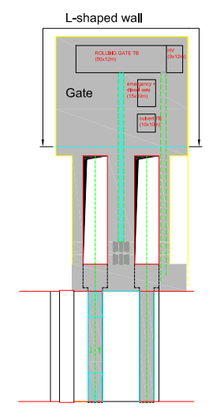


SECTION B-B (1/250)

NOTE :
SECTIONS THROUGH THE CONDUITS AT WSB 4, 5 AND 6 ACCORDING TO THE SAME PRINCIPLE



L-SHAPED WALLS BEHIND LOCK HEADS 1 AND 2 (1/250)



ALL DIMENSIONS ARE ON THE LEVEL OF CONCEPT DESIGN AND HAVE TO BE CHECKED AND VALIDATED DURING FURTHER AND DETAILED DESIGN

ALL DIMENSIONS ARE IN CENTIMETERS

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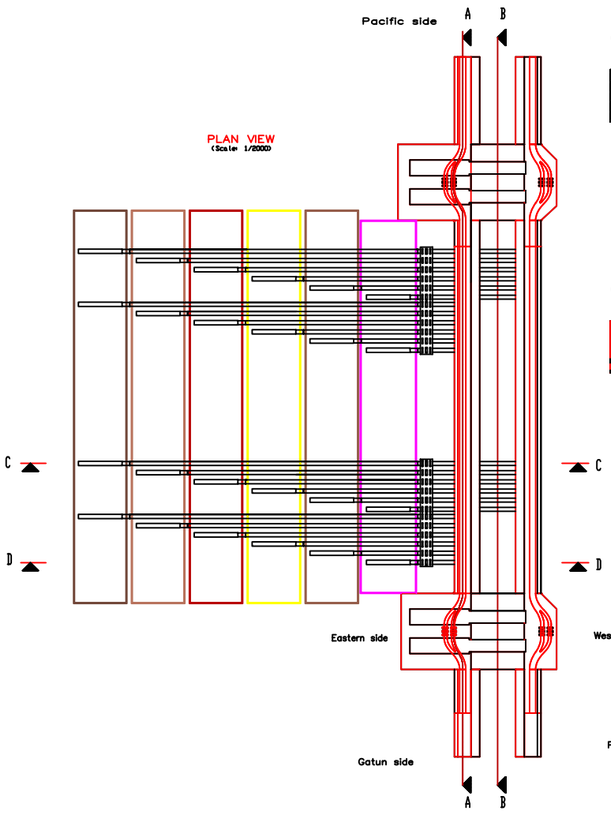
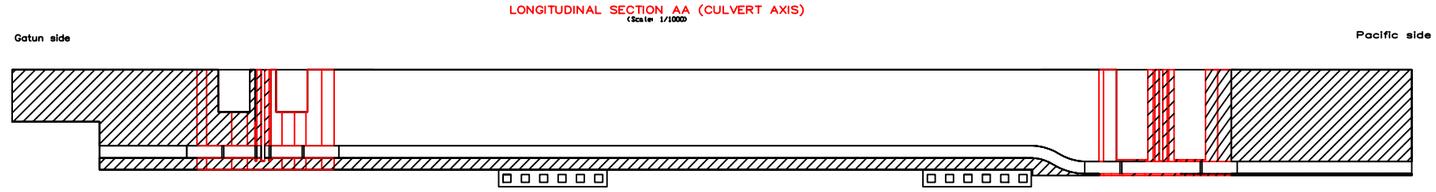
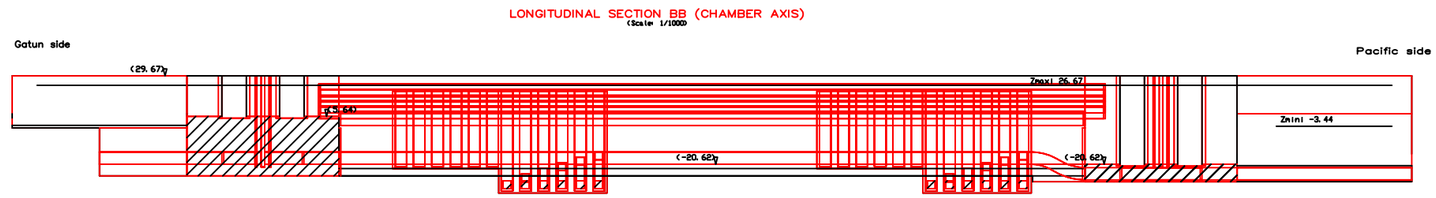
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

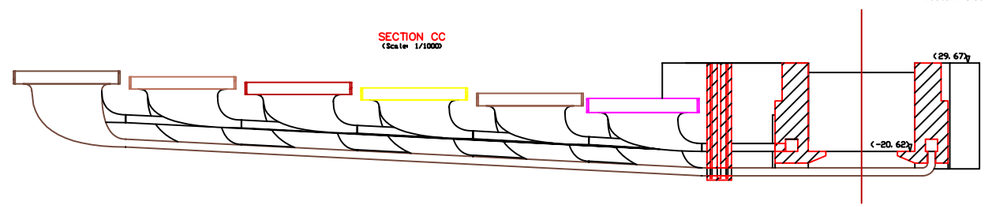
SINGLE LIFT CONFIGURATION
WATER SAVING BASINS - FILLING AND EMPTYING SYSTEM
STRUCTURAL DESIGN

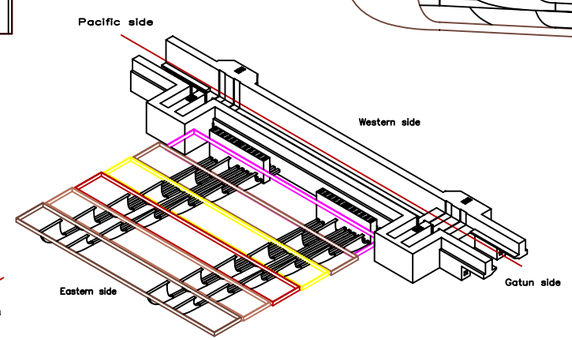
Contract	Scale:	Drawing n°:	Rev.:	Folio
SM–97462	1/250 1/500	D4– C – 201	A	1 / 1

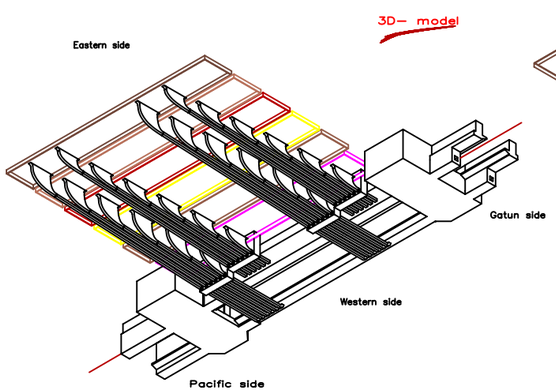


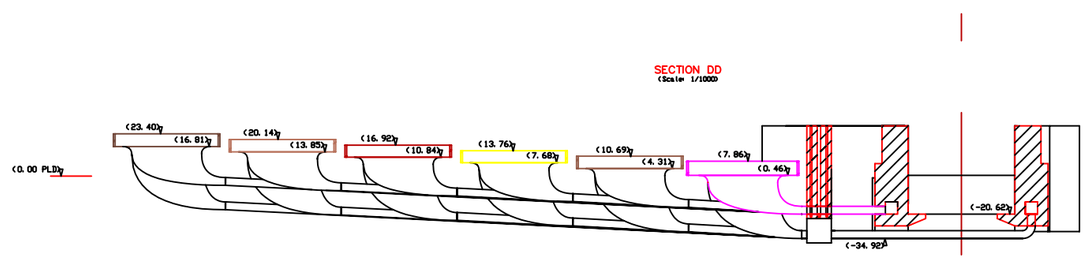












THIS DRAWING SHOWS THE HYDRAULIC CONFIGURATION OF THE FILLING / EMPTYING AND THE WSB - SYSTEM.
FOR STRUCTURAL CONCEPT SEE DRAWING D4-C-201

ALL DIMENSIONS ARE ON THE LEVEL OF CONCEPT DESIGN AND HAVE TO BE CHECKED AND VALIDATED DURING FURTHER AND DETAILED DESIGN.

ALL DIMENSIONS ARE IN METERS

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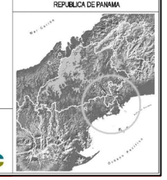
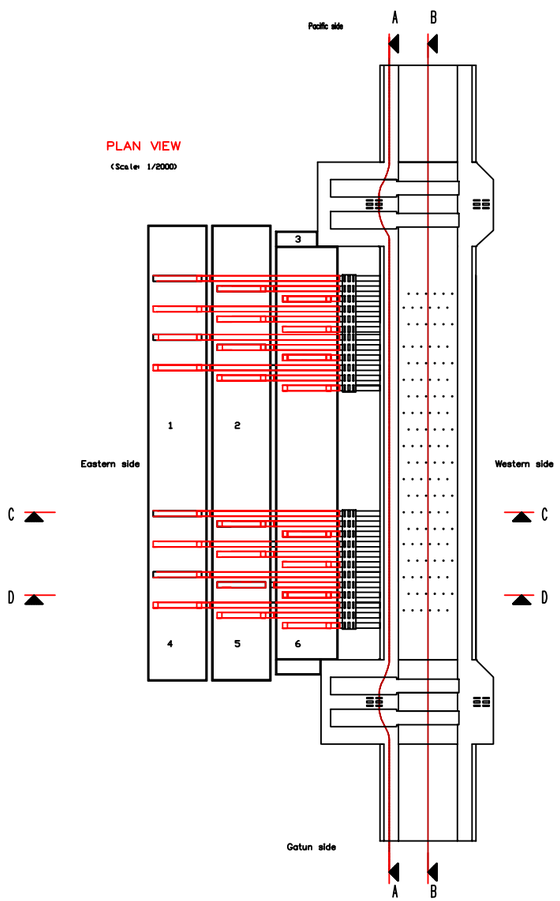


Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

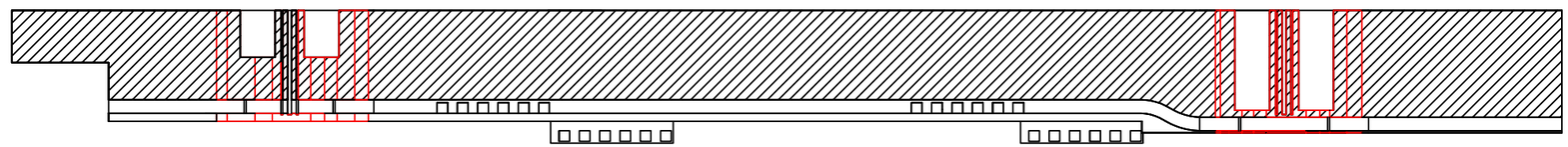
SINGLE LIFT CONFIGURATION
3D-MODEL WSB FILLING AND EMPTYING SYSTEM
HYDRAULIC DESIGN

Contract	Scale	Drawing n°:	Rev.:	Folio
SNA-07462	1/1000	D4— C — 202	A	1 / 1

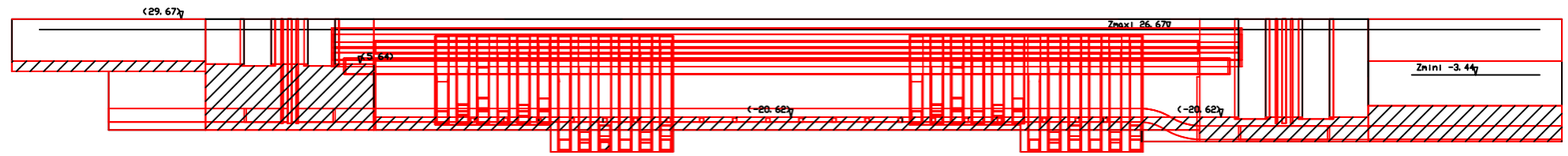
PLAN VIEW
(Scale: 1/2000)



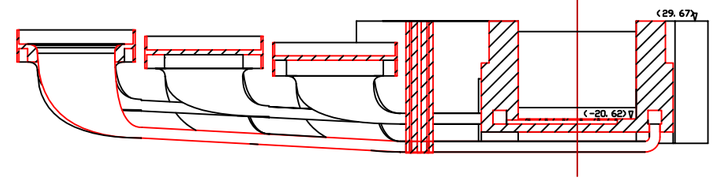
LONGITUDINAL SECTION AA (CULVERT AXIS)
(Scale: 1/2000)



LONGITUDINAL SECTION BB (CHAMBER AXIS)
(Scale: 1/1000)



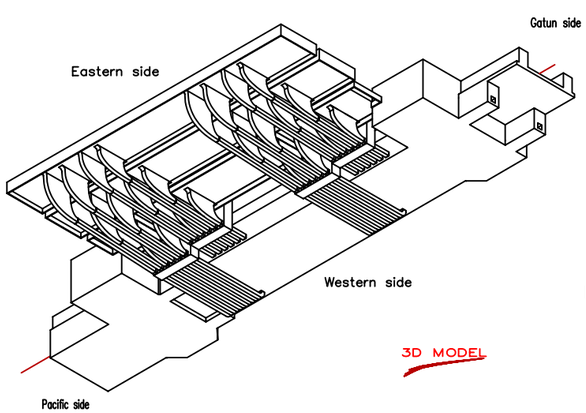
SECTION CC
(Scale: 1/1000)



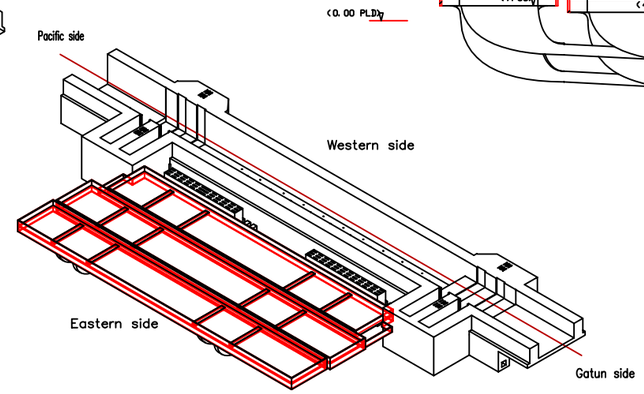
THIS DRAWING SHOWS THE HYDRAULIC CONFIGURATION OF THE FILLING / EMPTYING AND THE WSB - SYSTEM.

ALL DIMENSIONS ARE ON THE LEVEL OF CONCEPT DESIGN AND HAVE TO BE CHECKED AND VALIDATED DURING FURTHER AND DETAILED DESIGN

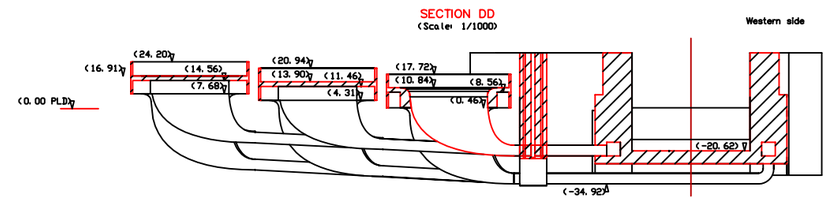
ALL DIMENSIONS ARE IN METERS



3D MODEL



SECTION DD
(Scale: 1/1000)



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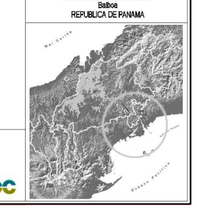
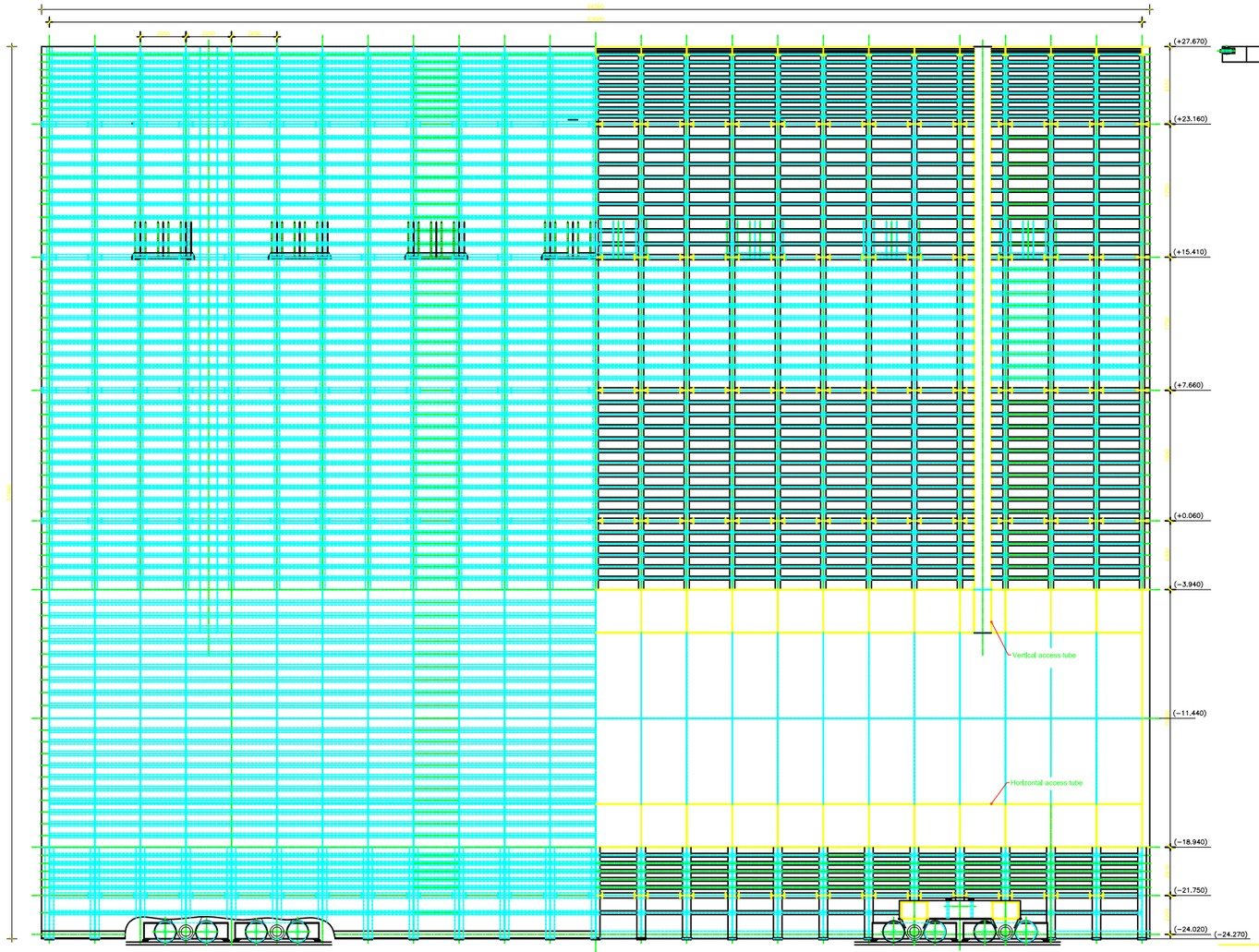


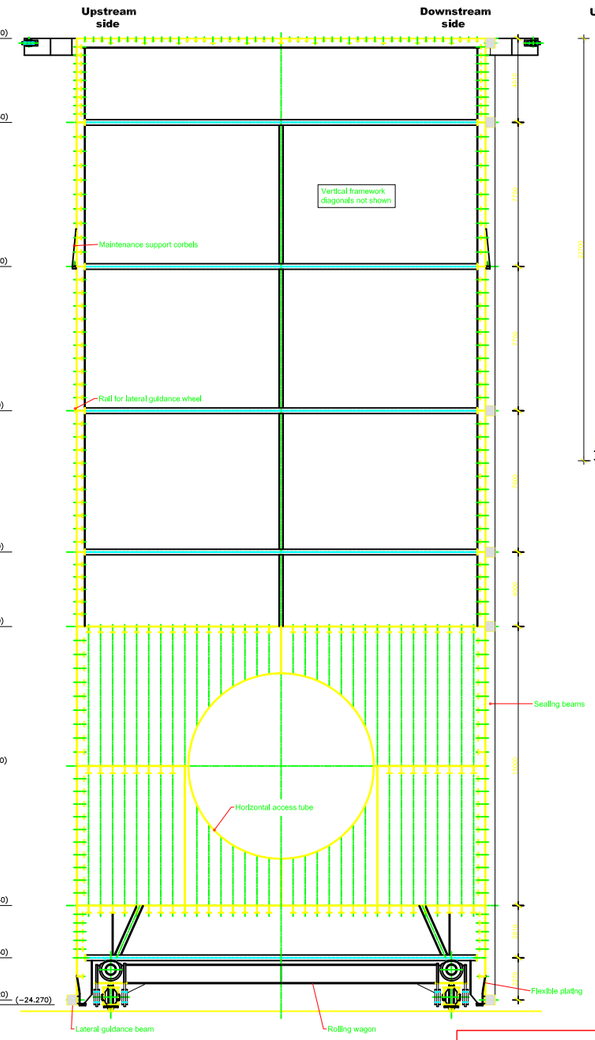
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

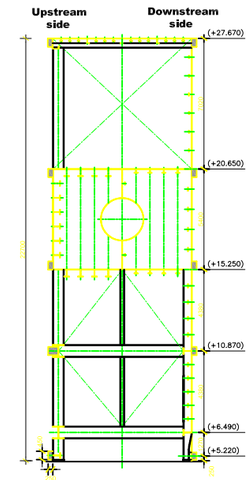
SINGLE LIFT CONFIGURATION
3D-MODEL WSB FILLING AND EMPTYING SYSTEM
OPTION WITH STACKED WSB : HYDRAULIC DESIGN

No.	Date	Description	Drawn	Chk.	Appr.
A	14/07/06	FINAL REPORT	MRE	JBB	JBB
01	11/12/05	FIRST ISSUE	MRE	JBB	JBB

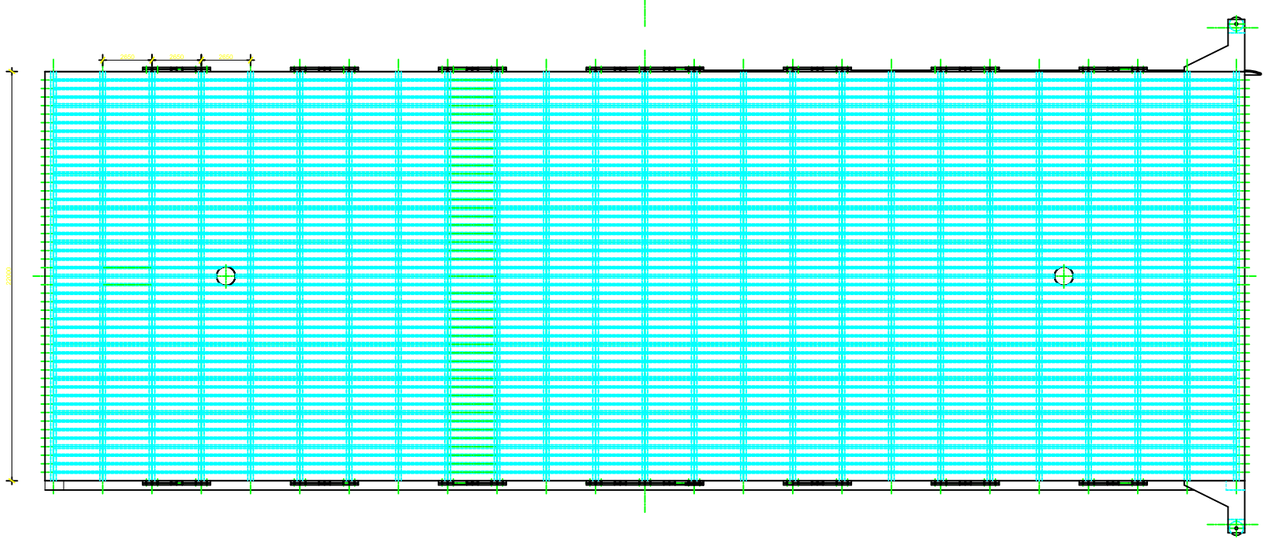
Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/1000	D4– C – 203	A	1 / 1







Rolling gate S1



Rolling gate S2

All dimensions are on the level of concept design and have to be checked and validated during further and detailed design.

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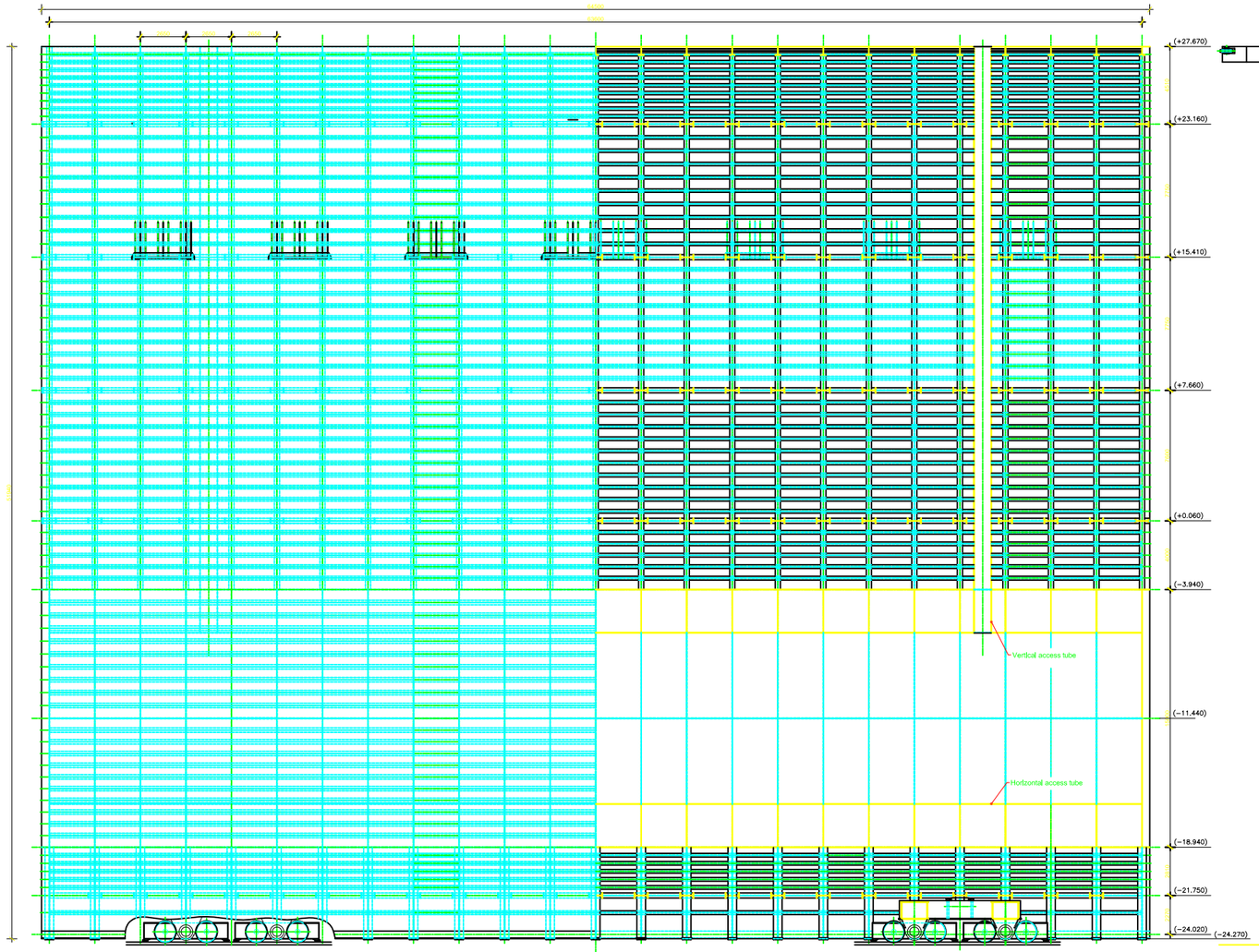
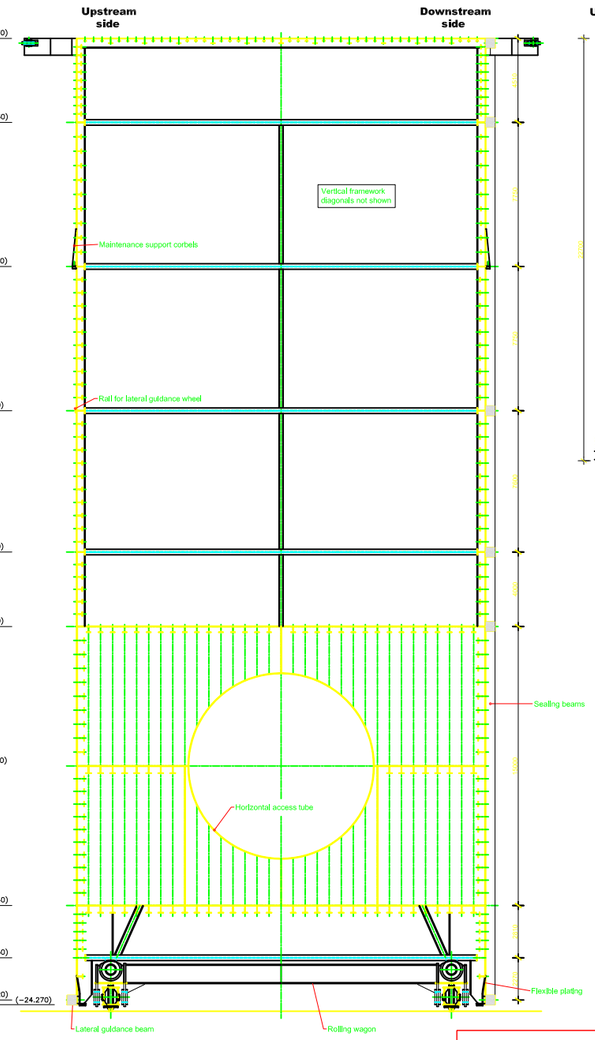
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

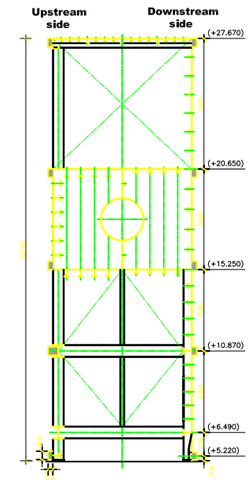
SINGLE LIFT CONFIGURATION
ROLLING GATE S1 - S2: SECTIONS
ROLLING GATE S2: SIDE VIEW-TOP VIEW

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
A	15.04.08	FOR REVIEW	BRE	JOR	JOR

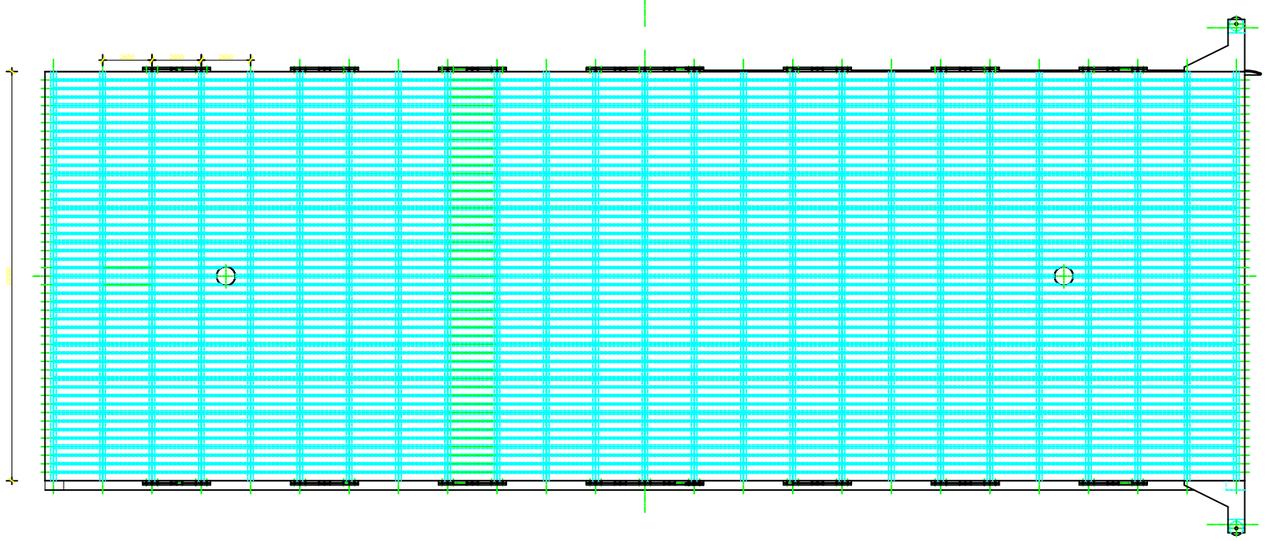
Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/100	D4-D-201	A	1/1







Rolling gate S1



Rolling gate S2

All dimensions are on the level of concept design and have to be checked and validated during further and detailed design.

All dimensions are in mm.

All levels are in meter and refered to PLD.

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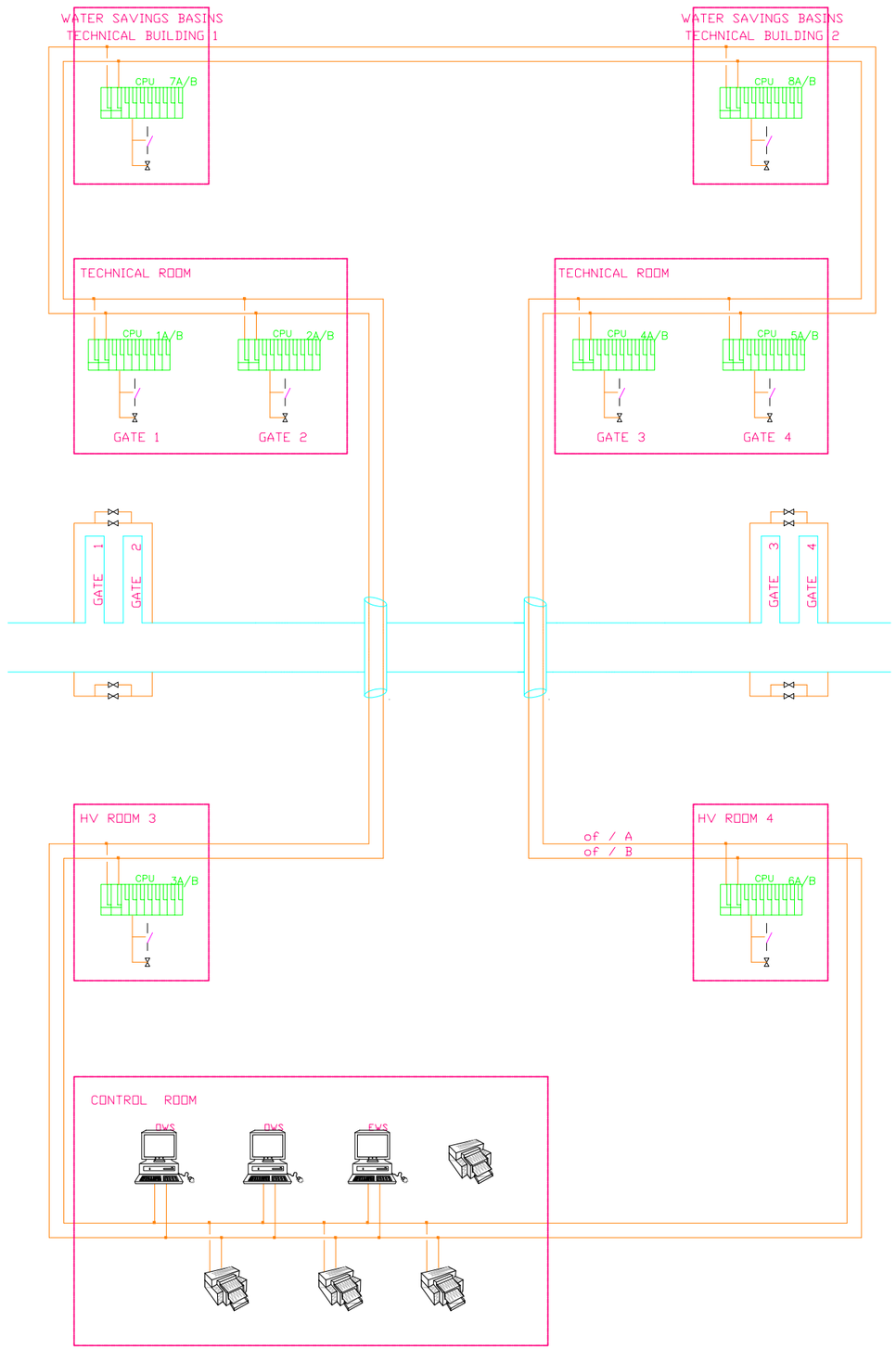
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
ROLLING GATE S1 - S2: SECTIONS
ROLLING GATE S2: SIDE VIEW-TOP VIEW

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
A	15.04.08	FOR REVIEW	BRE	JOR	JOR

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/100	D4-D-201	A	1/1



OWS	OPERATING WORKSTATION
EWS	ENGINEERING WORKSTATION
OF	OPTICAL FIBRE (REDUNDANT : A/B)
CPU	CONTROL PROCESS UNIT (REDUNDANT : A/B)
LCP	LOCAL CONTROL PANEL (IN CASE OF DOUBLE CPU FAILURE)
	EQUIPMENT (SWITCHBOARD, VALVES, ...)

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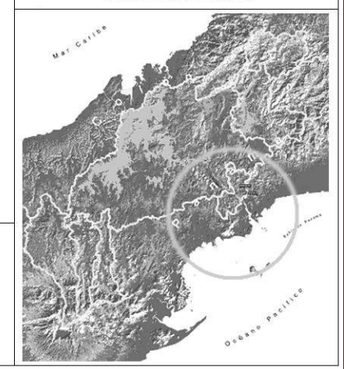
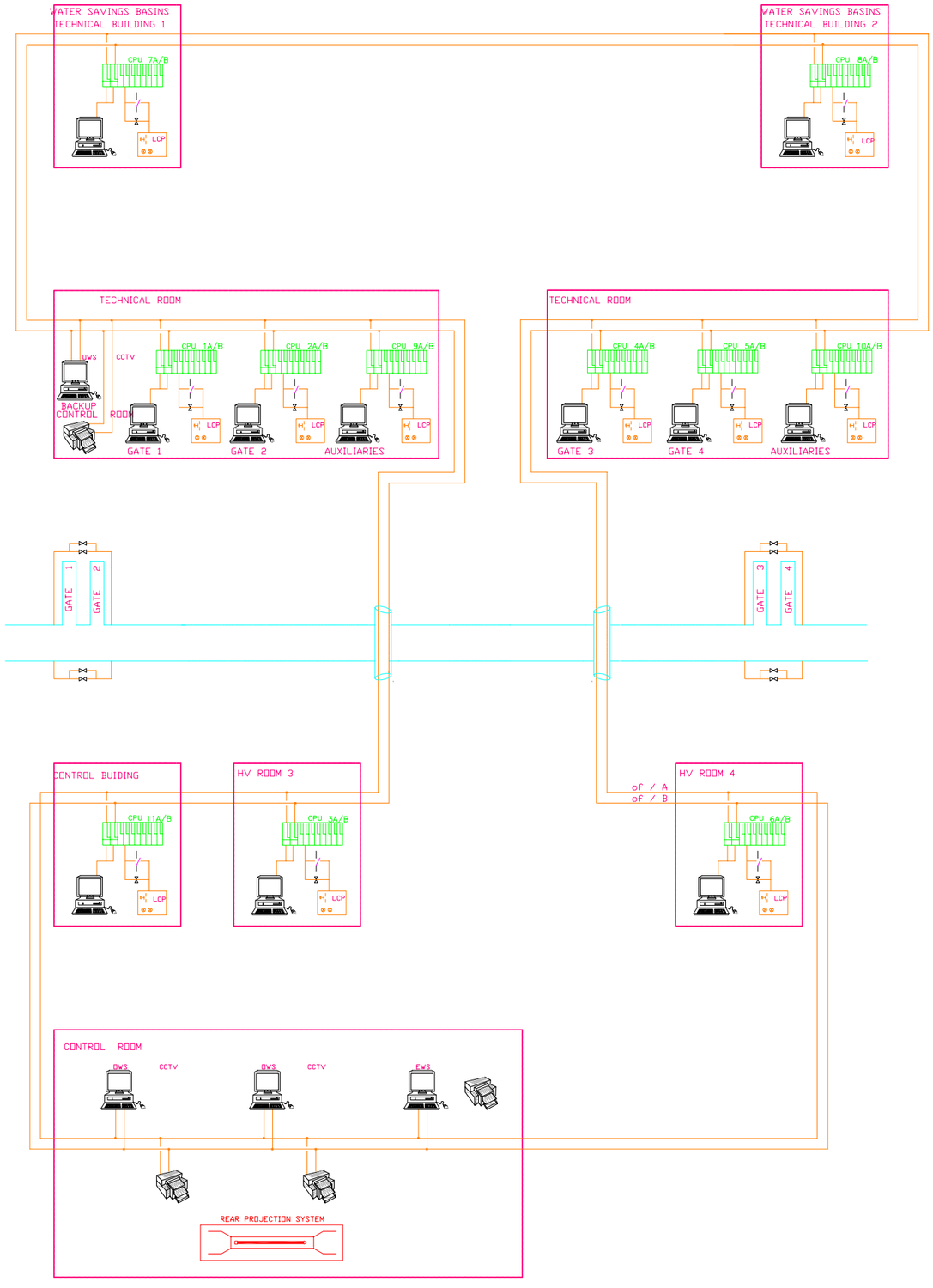


Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
CONTROL SYSTEM ARCHITECTURE
BASIC CONFIGURATION

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B					
A	14/03/03	FINAL REPORT	BME	JDR	JDR
–	10/01/03	FIRST EDITION	VEM	FCL	VPS

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	–	D4- F - 201	A	1 / 1



OWS	OPERATING WORKSTATION
EWS	ENGINEERING WORKSTATION
OF	OPTICAL FIBRE (REDUNDANT : A/B)
CPU	CONTROL PROCESS UNIT (REDUNDANT : A/B)
LCP	LOCAL CONTROL PANEL (IN CASE OF DOUBLE CPU FAILURE)
	EQUIPMENT (SWITCHBOARD, VALVES, ...)

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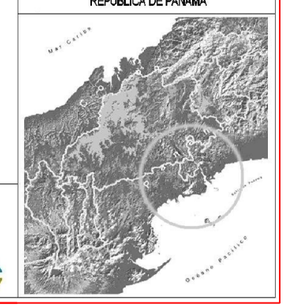
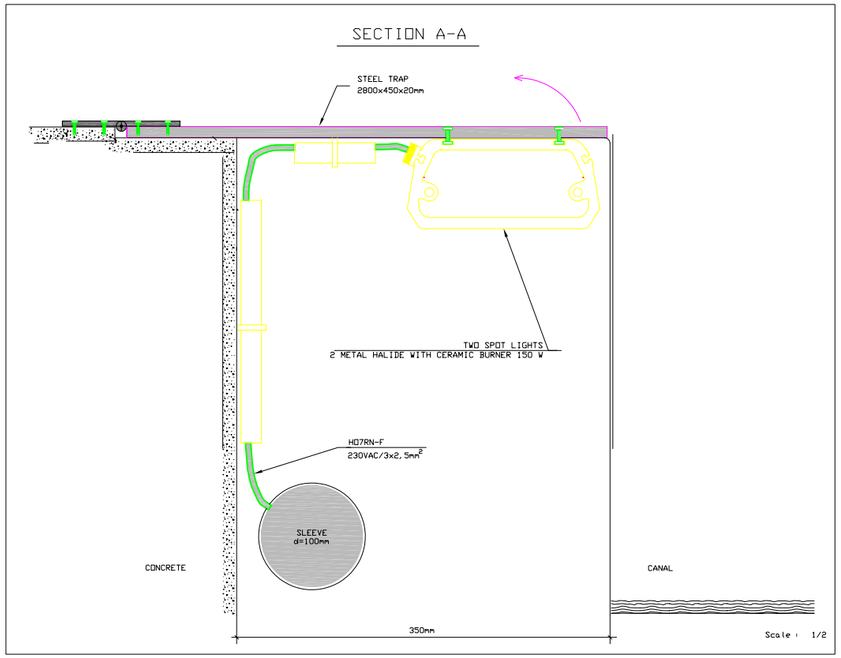


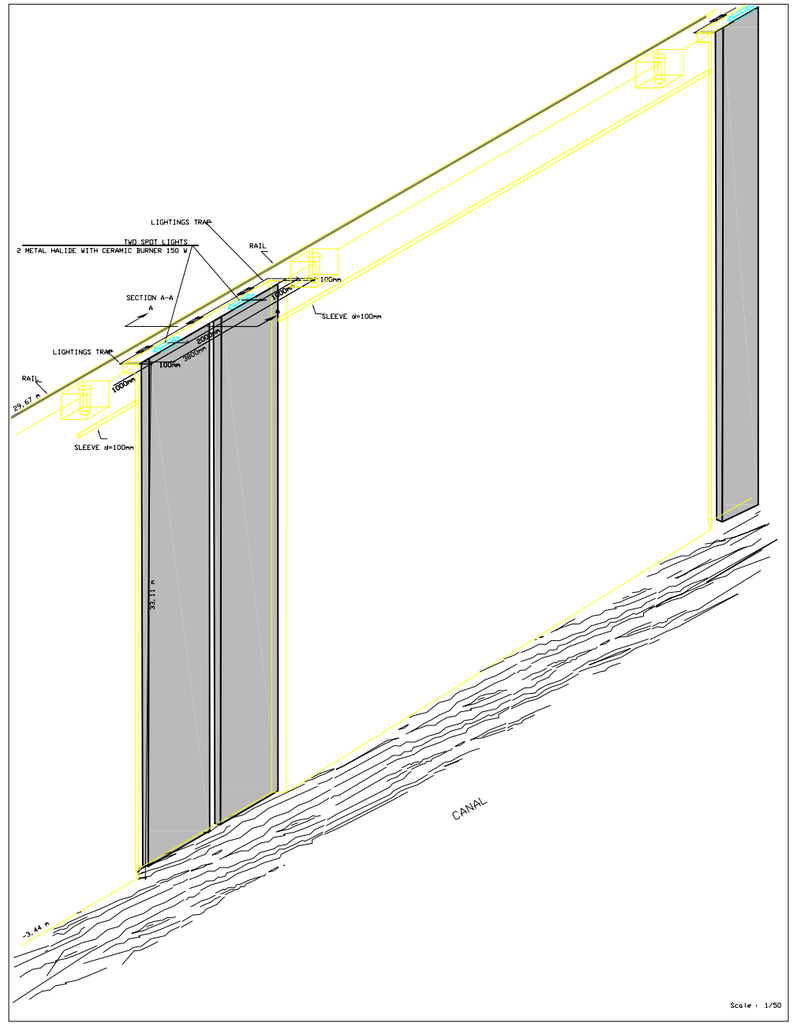
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

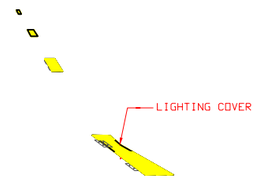
SINGLE LIFT CONFIGURATION
CONTROL SYSTEM ARCHITECTURE
FINAL CONFIGURATION PROPOSAL

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B					
A	14/03/03	FINAL REPORT	BME	JDR	JDR
–	10/01/03	FIRST EDITION	VEM	VEM	VDP

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	–	D4- F - 202	A	1 / 1







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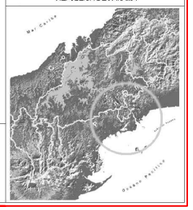

Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
LOCK WALLS LIGHTING
FLOODLIGHTS SOLUTION

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
E					
D					
C					
B					
A	14/05/03	FINAL REPORT	MJB	JGB	JGB
-	13/01/03	FIRST EDITION	AJ	MP	MP

Contract	Scale:	Drawing n°:	Rev.:	Folio
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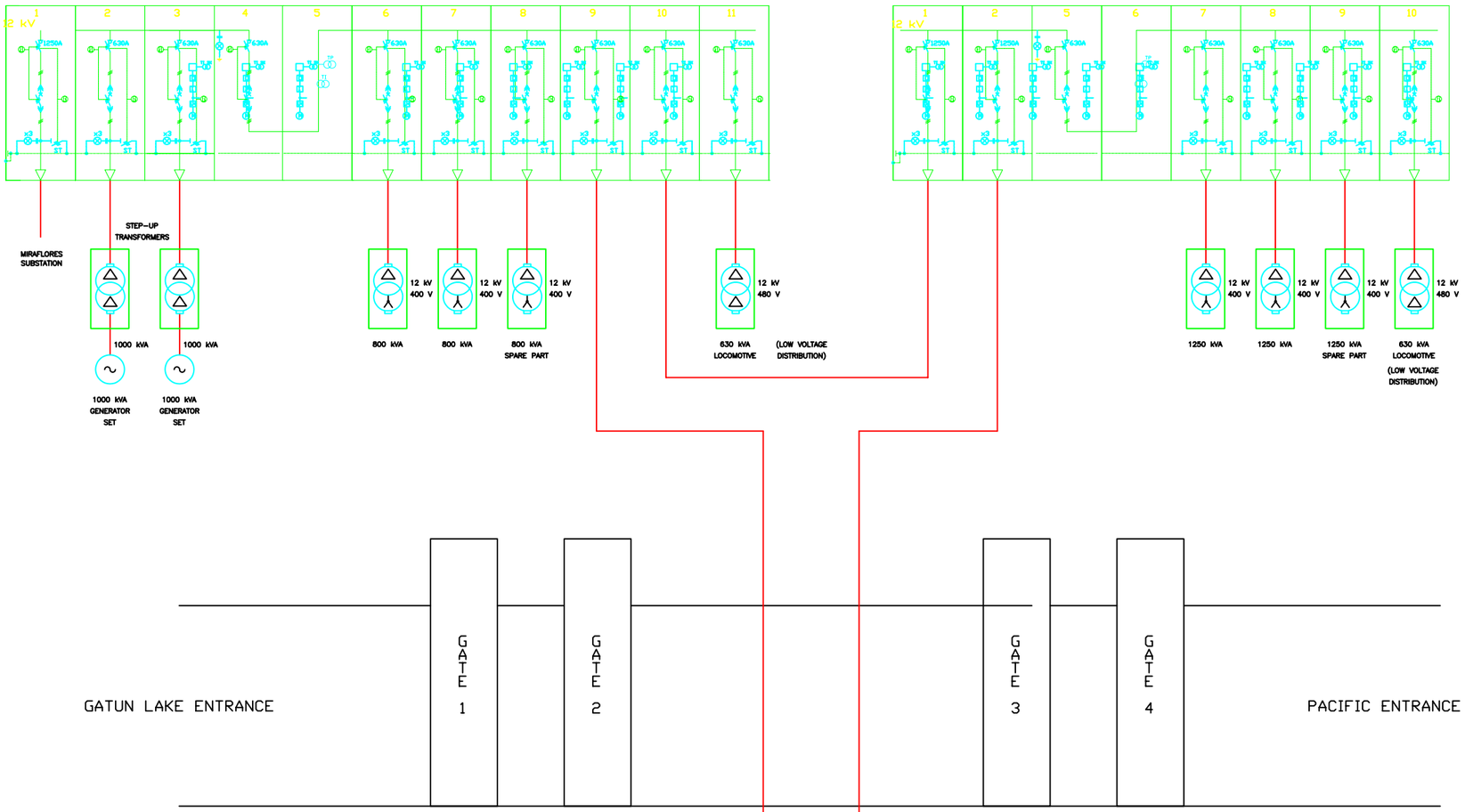
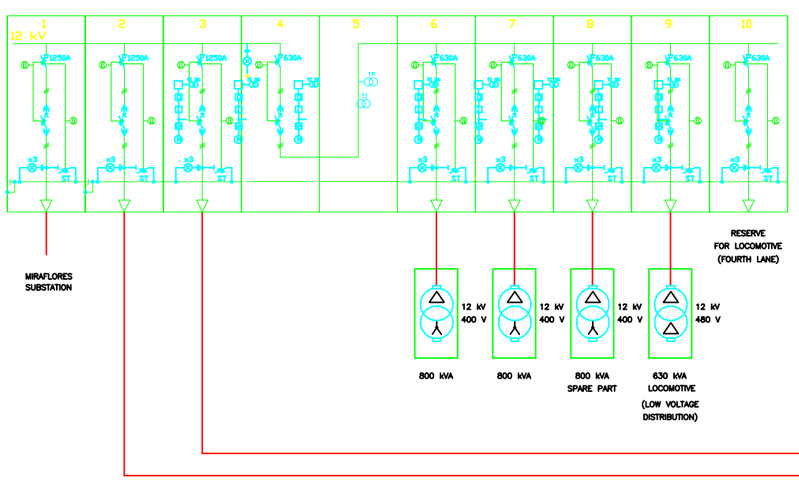
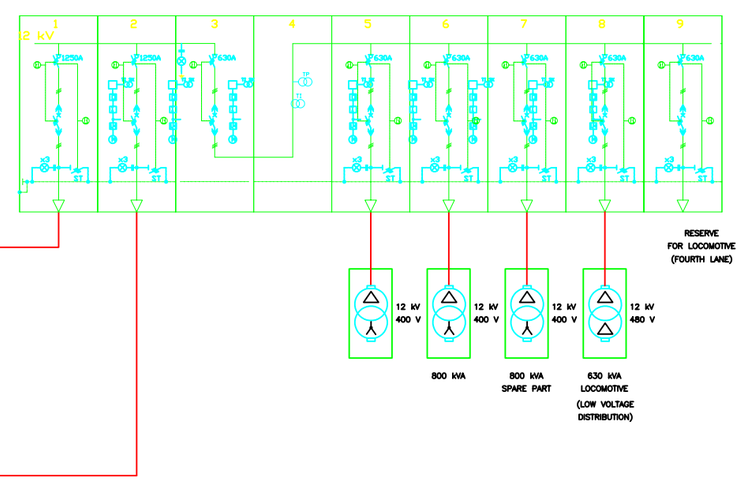


H.V. SWITCHGEAR 3



H.V. SWITCHGEAR 4



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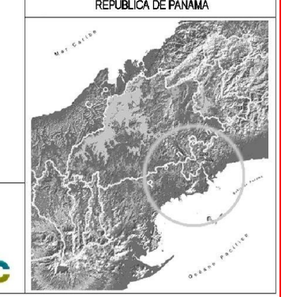
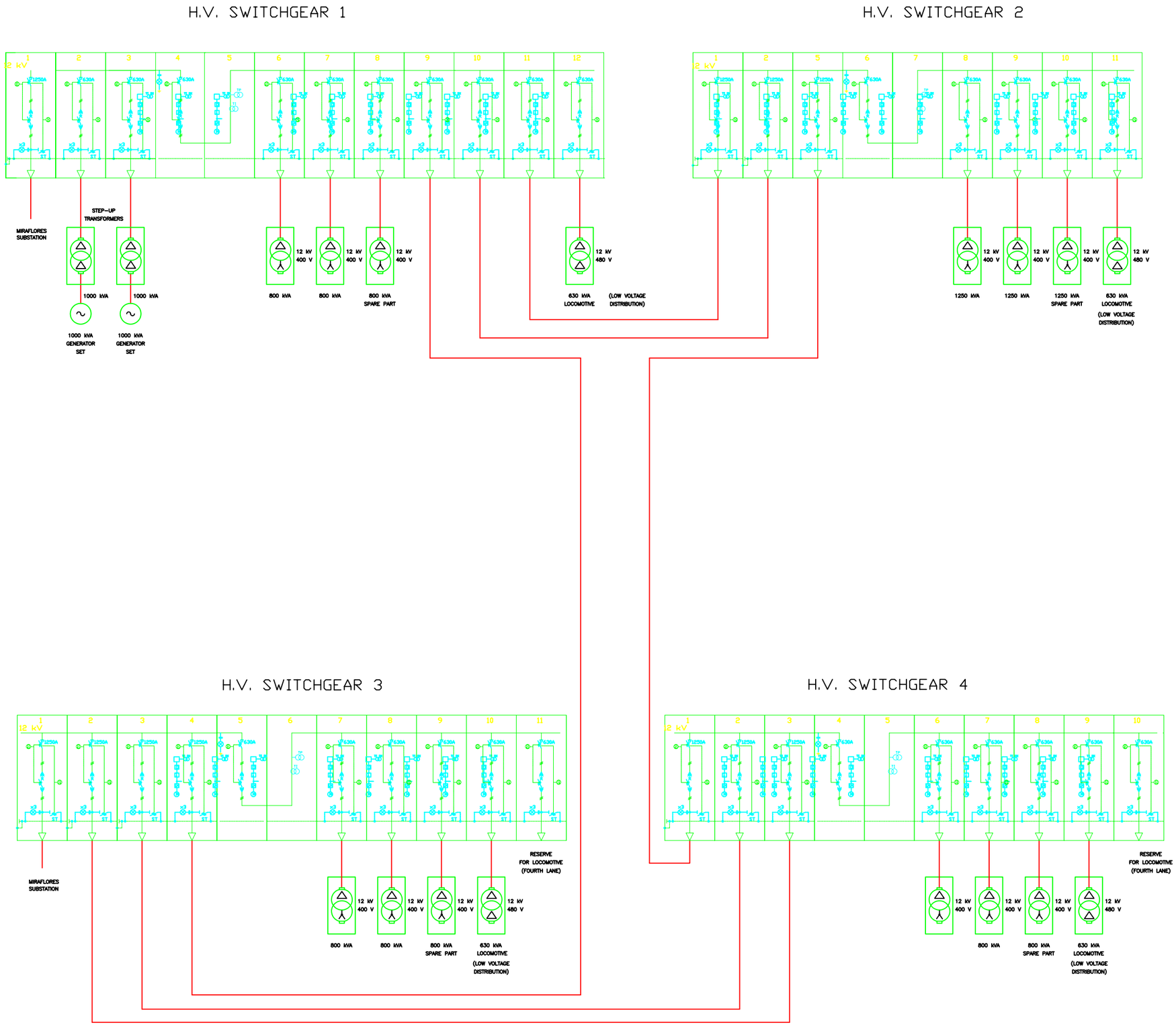


Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
HIGH VOLTAGE ONE-LINE DIAGRAM
ALTERNATIVE 1

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B					
A	14/03/03	FINAL REPORT	BME	JDR	JDR
–	13/01/03	FIRST EDITION	ALT	VGP	VGP

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	–	D4– H – 204	A	1 / 1



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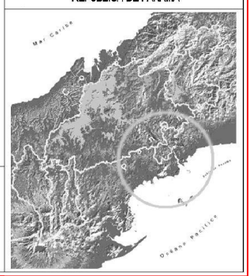


Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

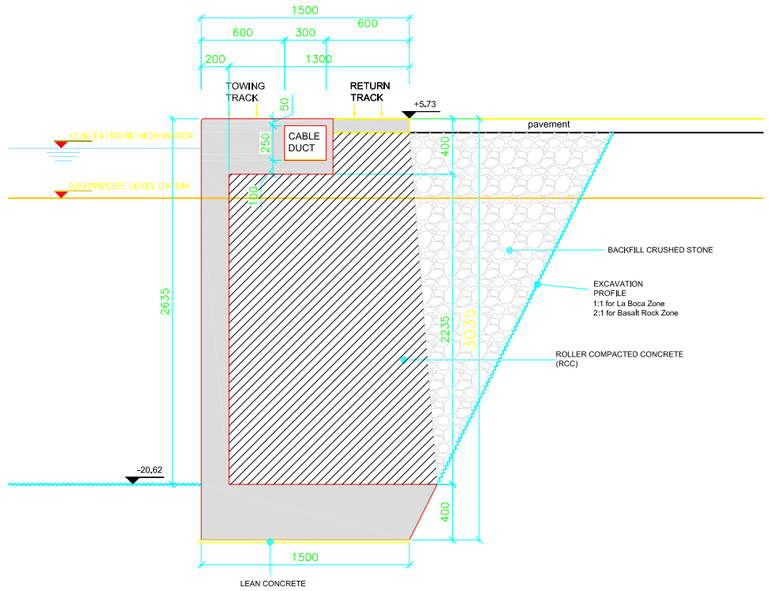
SINGLE LIFT CONFIGURATION
HIGH VOLTAGE ONE-LINE DIAGRAM
ALTERNATIVE 2

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B					
A	14/03/03	FINAL REPORT	BME	JSB	JSB
–	13/01/03	FIRST EDITION	AJ	VIP	VIP

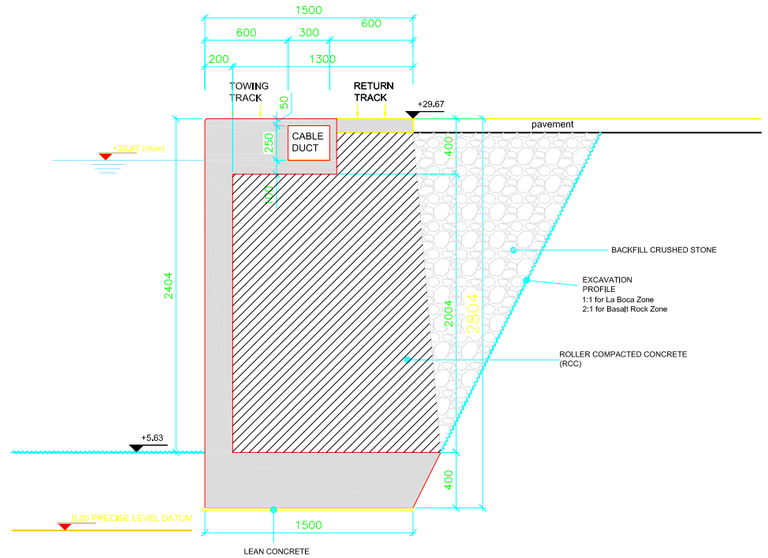
Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	–	D4- H – 206	A	1 / 1

type a (RC+RCC)

Pacific entrance

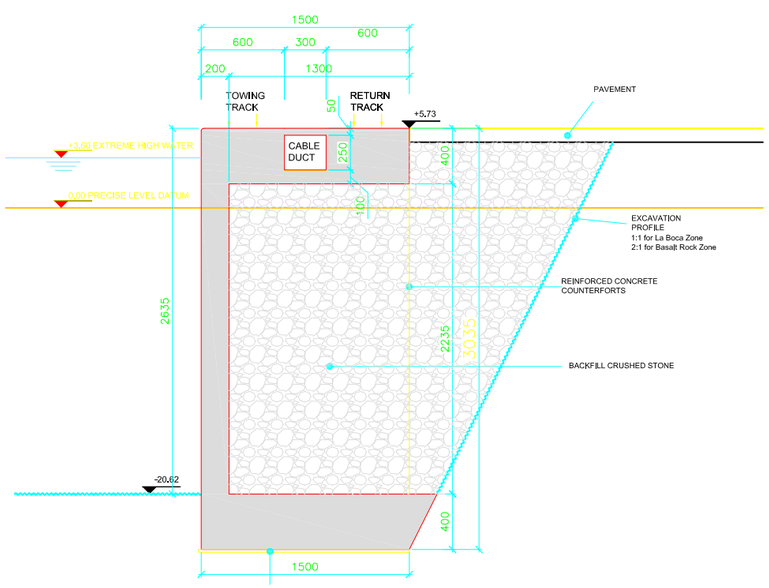


Gatun Lake side

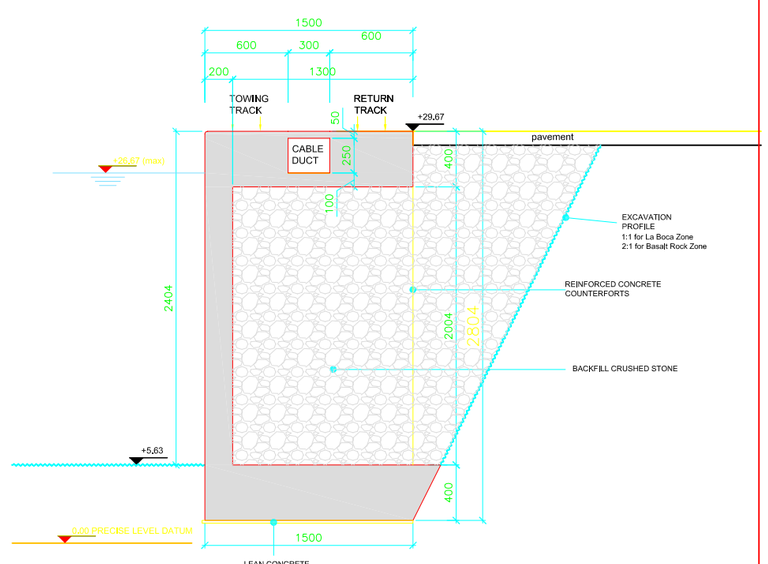


type b (RC)

Pacific entrance



Gatun Lake side



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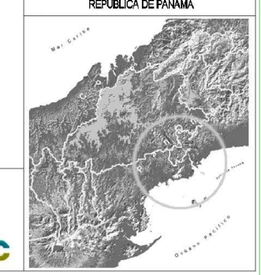

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Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
CROSS SECTIONS ENTRANCE WALLS

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
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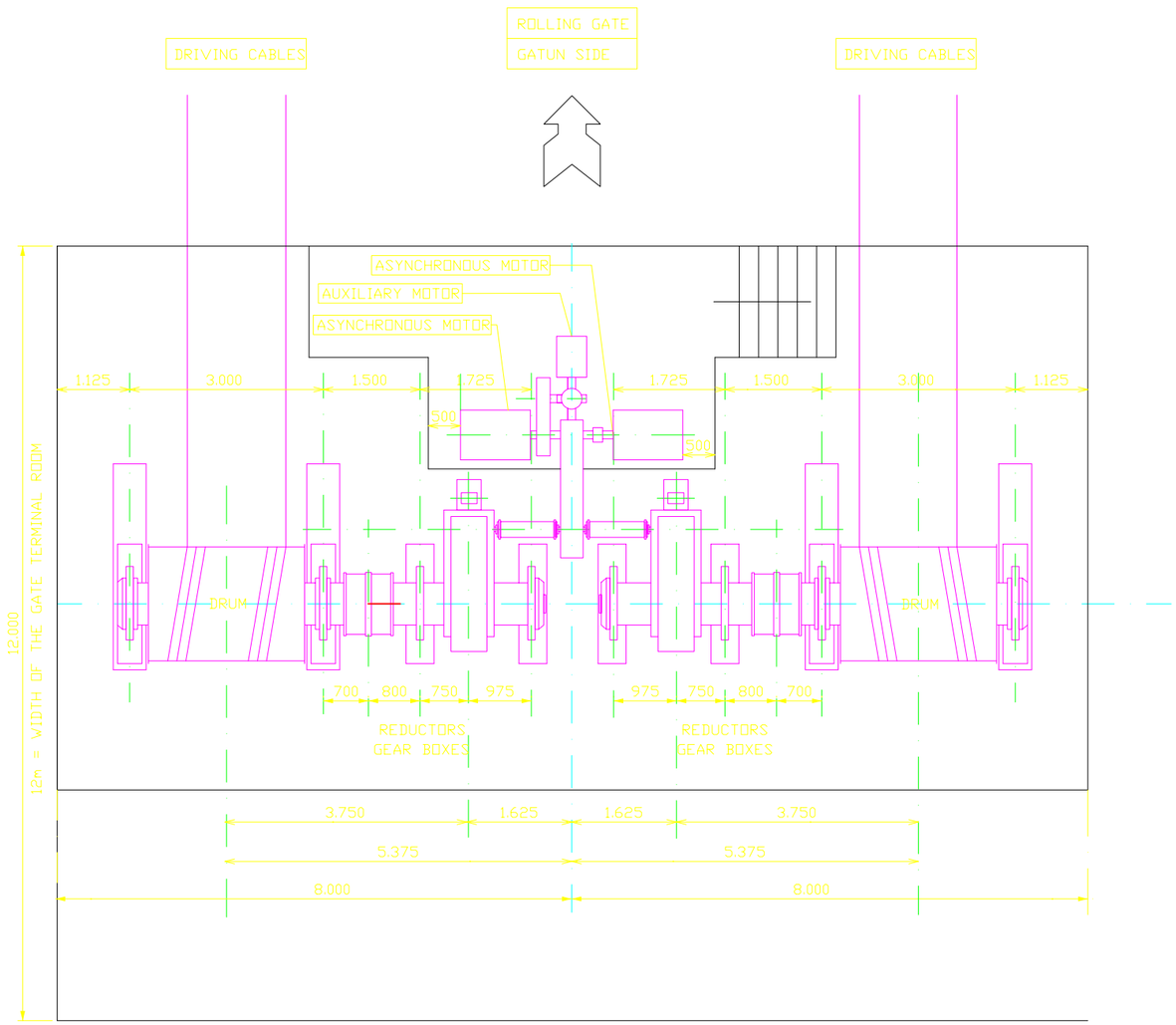
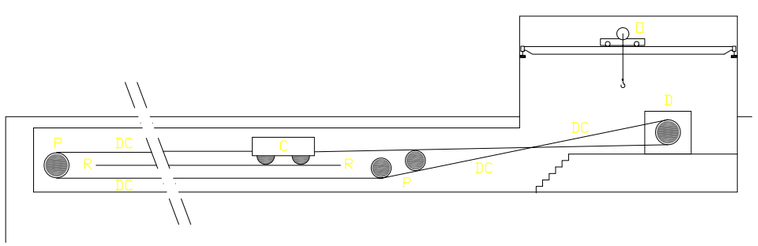
E					
D					
C					
B					
A	14/03/03	FINAL REPORT	BME	JDR	JDR
–	16/12/02	FIRST EDITION	BME	JDR	JDR

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	1/200	D4- I - 201	A	1 / 1





C = UPPER ROLLING CARRIAGE (FIXED ON TOP OF THE ROLLING GATE)
D = DRIVING SYSTEM (DRUM, GEAR BOXES, ASYNCHRONOUS MOTOR OF ROLLING GATE - SEE ABOVE)
DC = DRIVING CABLE
D = OVERHEAD CRANE
P = PULLEYS
R = RAILWAY

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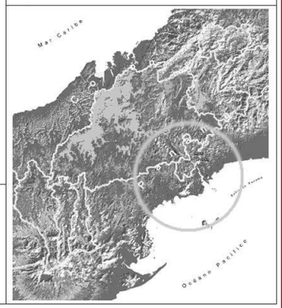
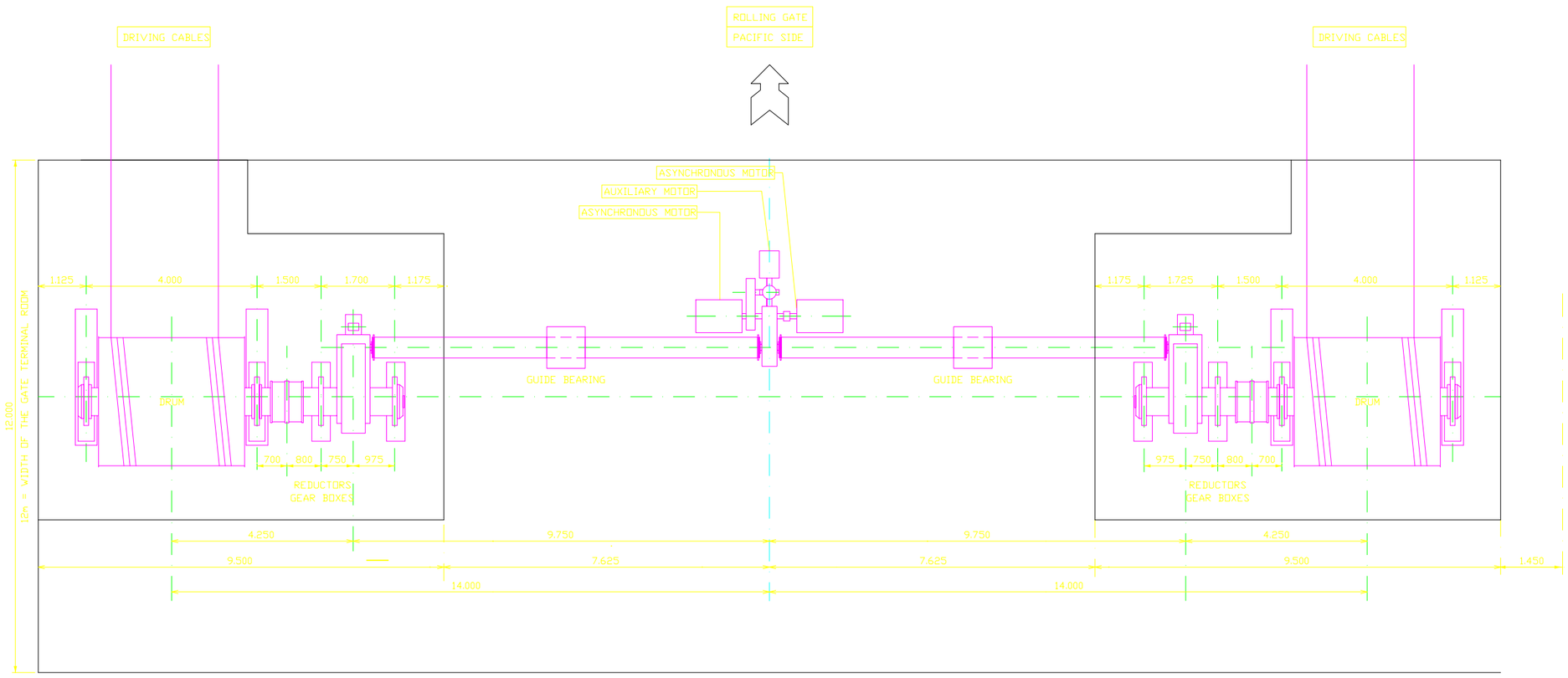


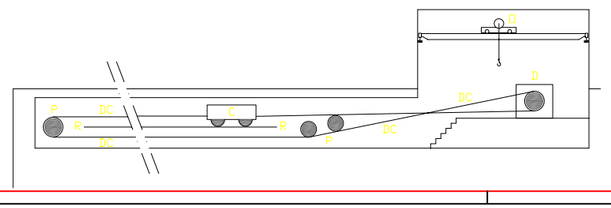
Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
ROLLING GATES TECHNICAL ROOM
GATUN SIDE

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B					
A	14/03/03	FINAL REPORT	BME	JDR	JDR
–	10/01/03	FIRST EDITION	VEM	VP	VPS

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-97462	–	D4- J - 201	A	1 / 1





C = UPPER ROLLING CARRIAGE (FIXED ON TOP OF THE ROLLING GATE)
D = DRIVING SYSTEM (DRUM, GEAR BOXES, ASYNCHRONOUS MOTOR OF ROLLING GATE - SEE ABOVE)
DC = DRIVING CABLE
O = OVERHEAD CRANE
P = PULLEYS
R = RAILWAY

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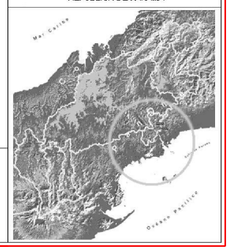

Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
ROLLING GATES TECHNICAL ROOM
PACIFIC SIDE

REV.	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B					
A	14/03/03	FINAL REPORT	BME	JSR	JSR
–	10/01/03	FIRST EDITION	NSM	VP	WPS

Contract	Scale:	Drawing n°:	Rev.:	Folio
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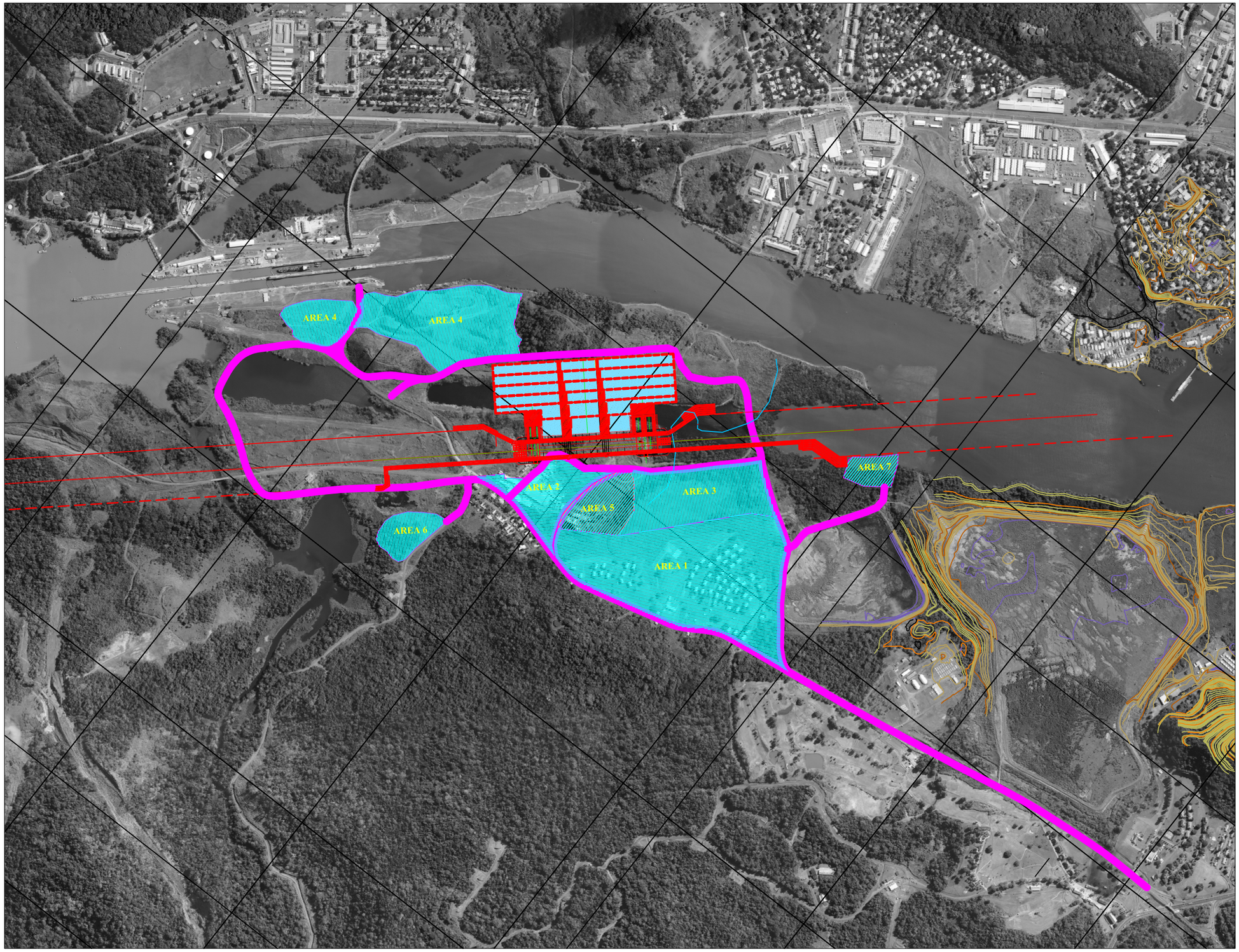

Area 1 (398,553.757 m2)
Project Management and Engineering Offices
Main Toilets, Showers, Changing Facilities and Clothing Storage Lockers
Main Dining Facilities
Health Office, First Aid Station, and Ambulance
Environmental Protection, Air Pollution Control and Pest Control Office
Equipment Storage Facilities - Indoor and outdoor
Temperature-controlled Storage Warehouse
Main Material and Parts Warehouse
Heavy Equipment Maintenance and Repair Shops
Light Equipment and Vehicles Maintenance and Repair Shops
Fuel Dispensing Facility
Metal and Reinforcement Steel Shops
Concrete Forms Shop
Outdoor Parking and Staging Area for Heavy and Light Construction Equipment, and Vehicles

Area 2 (82,899.436 m2)
Compresses Air Facility
Shotcrete Facilities
First Aid Station
Toolroom

Area 3 (143,258.481 m2)
Concrete Production Facility - Batching Plant
Fuel and Lubricants Dispensing Facility
Toilets, showers, changing facilities and clothing storage lockers
Dining Facilities
Field Office
Quality Control Laboratory

Area 4 (236,472.232 m2)
Toolroom
Toilets, showers, changing facilities and clothing storage lockers
Dining Facilities
Firefighting Equipment
Branch Warehouse
Auxiliary Repair Facility
Fuel Dispensing Station
First Aid Station

Area 5 (61,437.719 m2)
Aggregate Processing Plant
Fuel and Lubricants Storage Facility

Area 6 (39,449.574 m2)
Powder Magazine

Area 7 (26,540.283 m2)
Quay dock site for unloading materials

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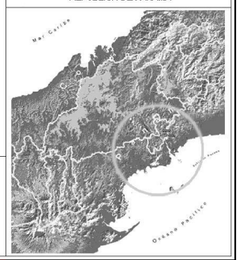

Diseño Conceptual de las Esclusas Post Panamax
Concept Design of New Lock Structure

SINGLE LIFT CONFIGURATION
CONSTRUCTION PLAN

REV	DATE	DESCRIPTION	DRAWN	CHECKED	APPROVED
F					
E					
D					
C					
B					
A	14/03/03	FINAL REPORT	BBE	JZR	JZR
–	28/02/03	FIRST EDITION	SJR	NGR	FC

Contract	Scale:	Drawing n°:	Rev.:	Folio
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