

**DRAWING LIST**  
**ACTUALIZATION PACIFIC (3x3WSB)**

3/2/2006

**FINAL REPORT**

x	Rev.	Title
<b>TASK 2</b>		
D2- 0	-106	B Levels in the lock chambers
<b>TASK 3</b>		
D3- 0	-101	C Lock Alignment P1A : geotechnical situation
D3- 0	-103	A Lock Alignment P1A : nautical design
<b>TASK 4</b>		
<b>Lay-out</b>		
D4- A	-103	D General plan view
<b>Lock Walls</b>		
D4- B	-101	C Eastern Lock Wall : longitudinal view
	-102	C Western Lock Wall : longitudinal view
	-103	C Plan view on lock chamber 1
	-104	C Plan view on lock chamber 2
	-105	C Plan view on lock chamber 3
	-106	C Cross sections lock walls
	-107	B Lock head 2 : plan view
	-108	B Lock head 2 : longitudinal section
	-109	B Lock head 2 : cross section
	-110	B Lock head 1 : plan view
	-111	B Lock head 1 : longitudinal section
	-112	B Lock head 1 : cross section
	-113	B Lock head 3 : plan view
	-114	B Lock head 3 : longitudinal section
	-115	B Lock head 3 : cross section
	-116	B Lock head 4 : plan view
	-117	B Lock head 4 : longitudinal section
	-118	B Lock head 4 : cross section
	-119	B Lock wall segment
<b>Filling and Emptying System</b>		
D4- C	-103	C Side by side conduits disposition
<b>Lock operating GATES</b>		
D4- D	-100	C Rolling gate PA1, PA2, PA3, PA4 - sections
	-101	C Rolling gate PA1: general layout

## DRAWING LIST

### ACTUALIZATION PACIFIC (3x3WSB)

3/2/2006

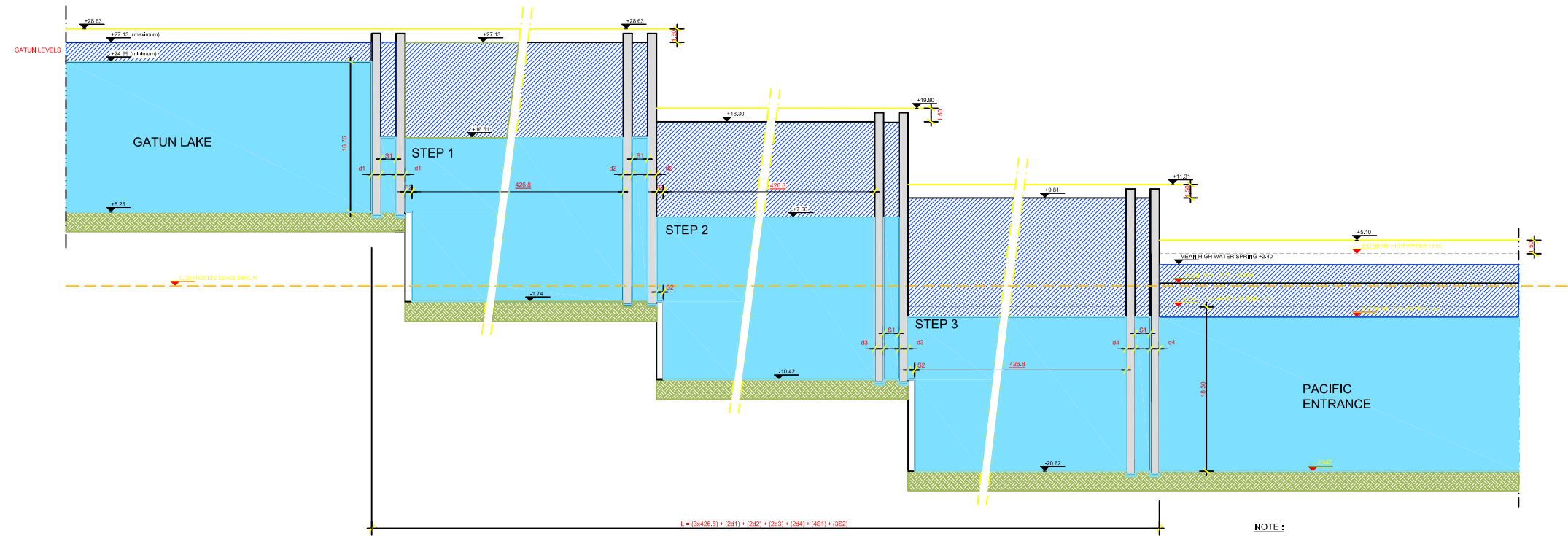
- |      |   |                                  |
|------|---|----------------------------------|
| -102 | C | Rolling gate PA2: general layout |
| -103 | C | Rolling gate PA3: general layout |
| -104 | C | Rolling gate PA4: general layout |
| -105 | B | Support rolling wagons           |

#### **Electrical power and power requirements**

- |       |      |   |   |
|-------|------|---|---|
| D4- H | -106 | A | High voltage one-line diagram alternative 5 |
|-------|------|---|---|

#### **Entrance walls**

- |       |      |   |                               |
|-------|------|---|-------------------------------|
| D4- I | -101 | C | Cross sections entrance walls |
|-------|------|---|-------------------------------|



NOTE:  
\* LEVELS ARE REFERED TO PLD

**CPP**  
Consortio Post Panamax

**Tractebel** Development Engineering

**TECHNUM**

**COYNET BELLIER**  
Compagnie Nationale de Elders

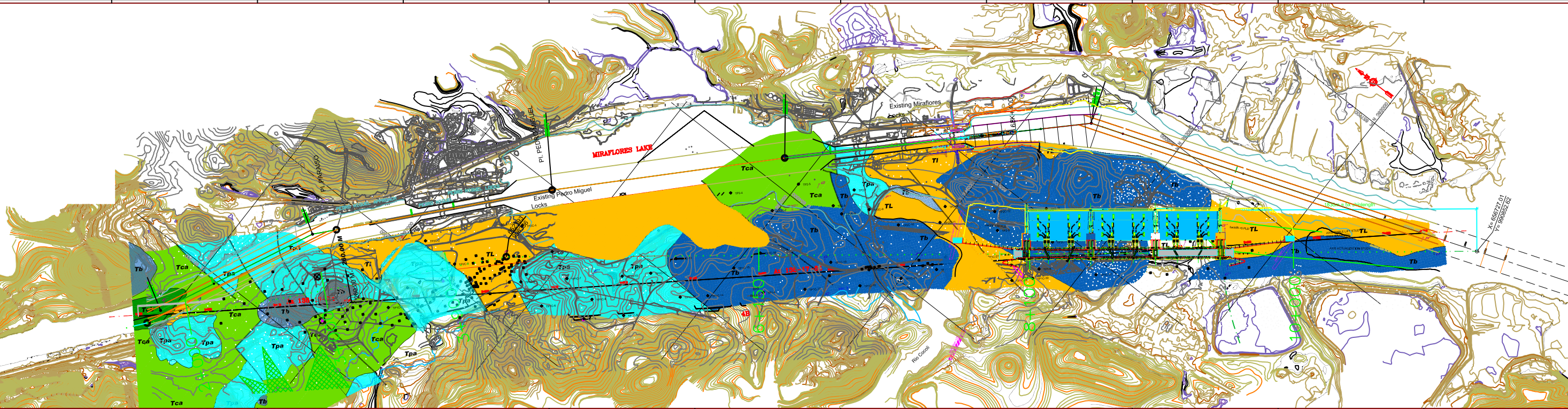
Asociación with:  
**FIA AASO**  
**SBE**

**ACP**  
Autoridad del Canal de Panamá  
ESTADO 101  
CORPUSAL  
República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax**  
**Actualization & Harmonization Study**  
**of New Lock Structure**

PACIFIC LOCKS COMPLEX (3x3 WSB)  
LEVELS IN THE LOCK CHAMBERS

Contract	Scale	Drawing n°:	Rev.:	Folio
SM-14335	1/200	D2- 0 - 106	0	1 / 1



**Simbología Formación**

Tc	Escoria y Desechos
Ta	Fuente de Agua
Tb	Grava
Tc	Carbón
Td	Medio y Grava
TL	Medio y Grava

**Simbología**

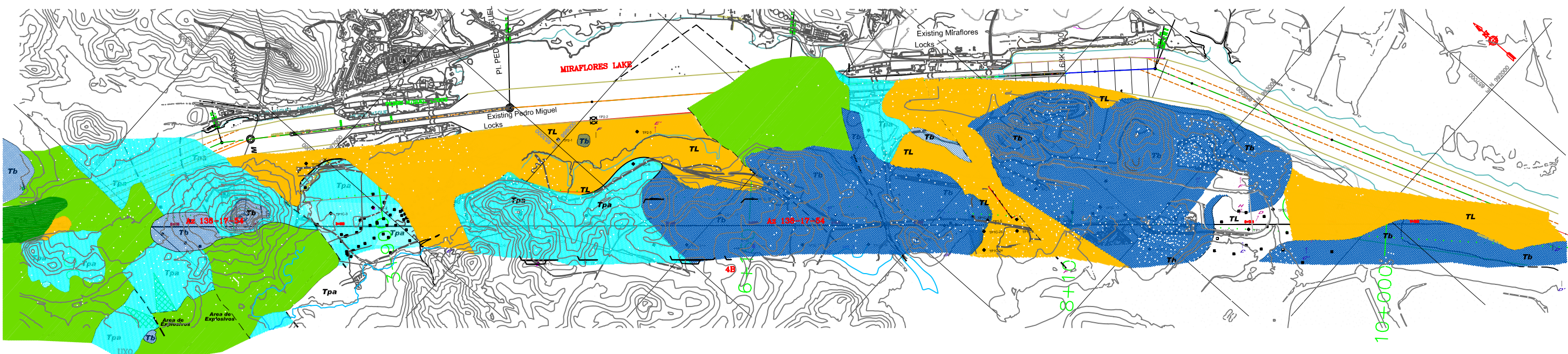
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□	Pass ControLates
●	Reservorio
○	Estadigrafo
○	Control
○	Estadigrafo
○	Estadigrafo
○	Estadigrafo
○	Estadigrafo

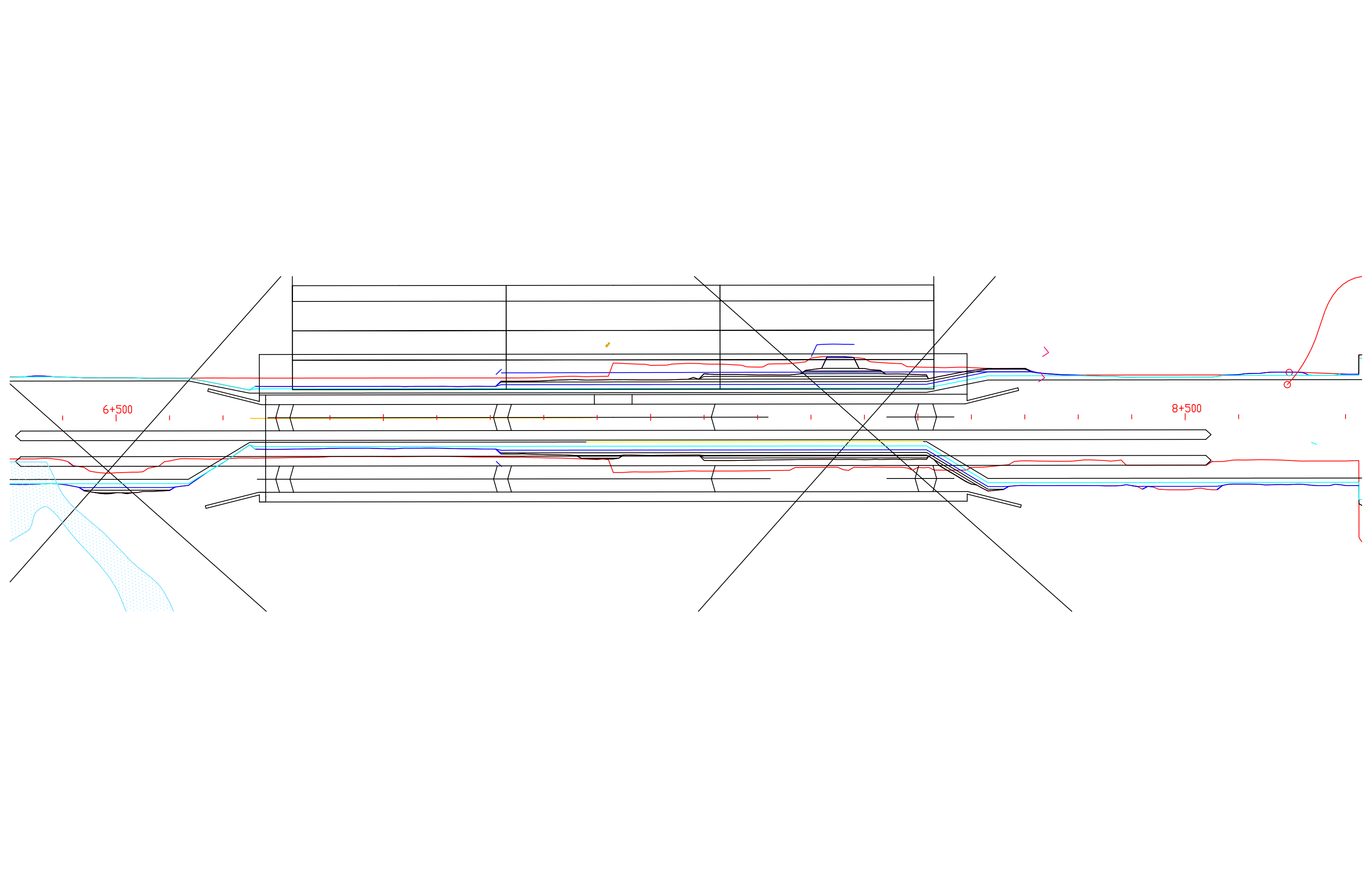


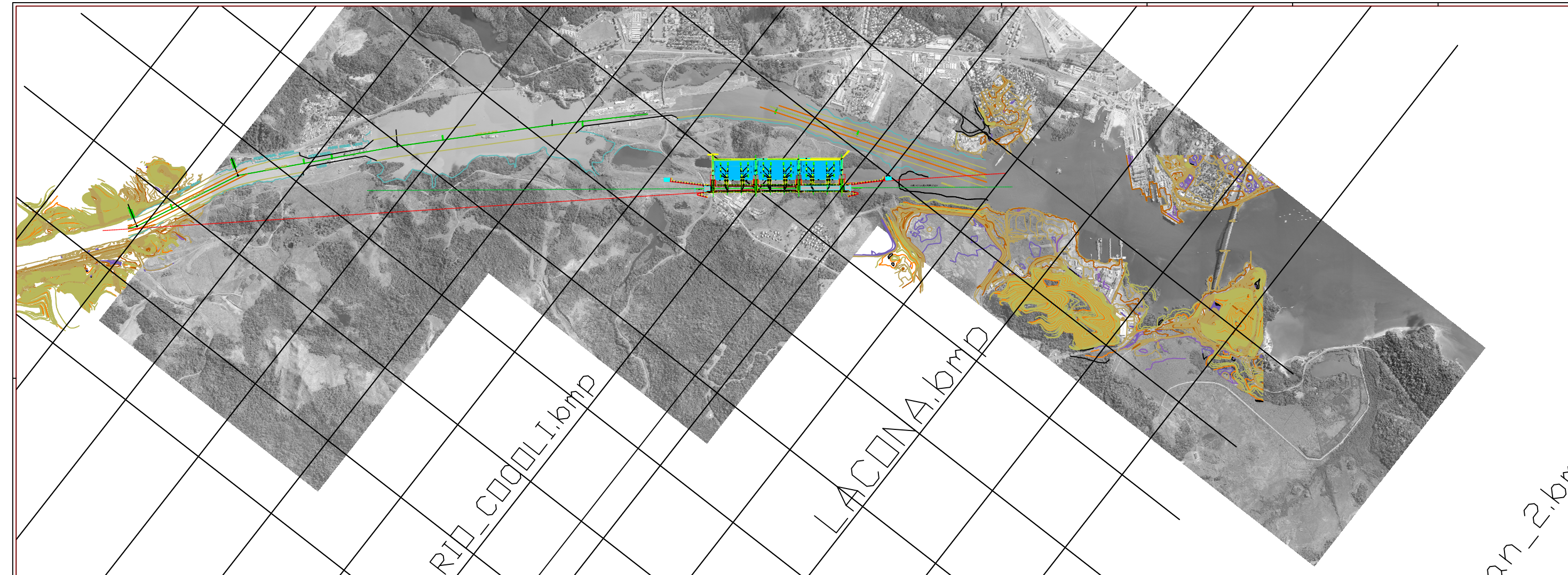
Logos for project partners: CPP (Compañía Portuaria del Canal de Panamá), Tractebel, ACP (Asociación de Usuarios de los Puertos del Canal de Panamá), TECHNIM, COMETREUER, and SBE.

**Diseño Conceptual de las Bocatras Post-Panamá**  
**Actualización e Interconexión de las Nuevas Estructuras**  
PACIFIC LOCKS COMPLEX (3d) (WSB)  
LOCK ALIGNMENT : GEOTECHNICAL SITUATION

Scale	Drawing #	Page
Scale	03 - 0 - 101	121







RID - COCOULI.bmp

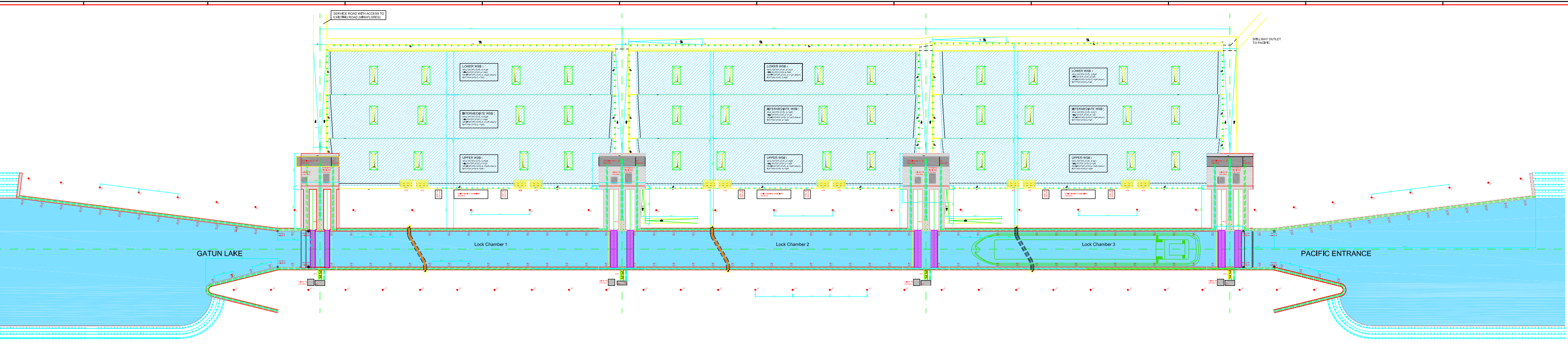
LACONA.bmp

can\_2.bmp

titleblock\_pacific.bmp

Final Conceptual Site Plan for the Pacific Lock Structure  
Concept Design of New Lock Structure

Sheet	Date	Drawing No.	Rev	Scale
03-0-103			A	1/1"



- Legend**
- FD: Fender
  - LD: Ladder
  - BD: Bollard
  - LP: Lighting Pole
  - CS: Control Building
  - TB: Technical Building
  - HY: High Voltage building
  - V1: Valve Chamber on culvert
  - V2: Valve Chamber water saving basins
  - CD: Cable Duct
  - TD: Traffic Direction

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED  
 ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED

**CPP**  
 Consorcio Post Panamax

**ACP**  
 Autoridad del Canal de Panamá

**TECHNIM**  
 Tecnimont

**COMETRELLER**  
 Cometreller

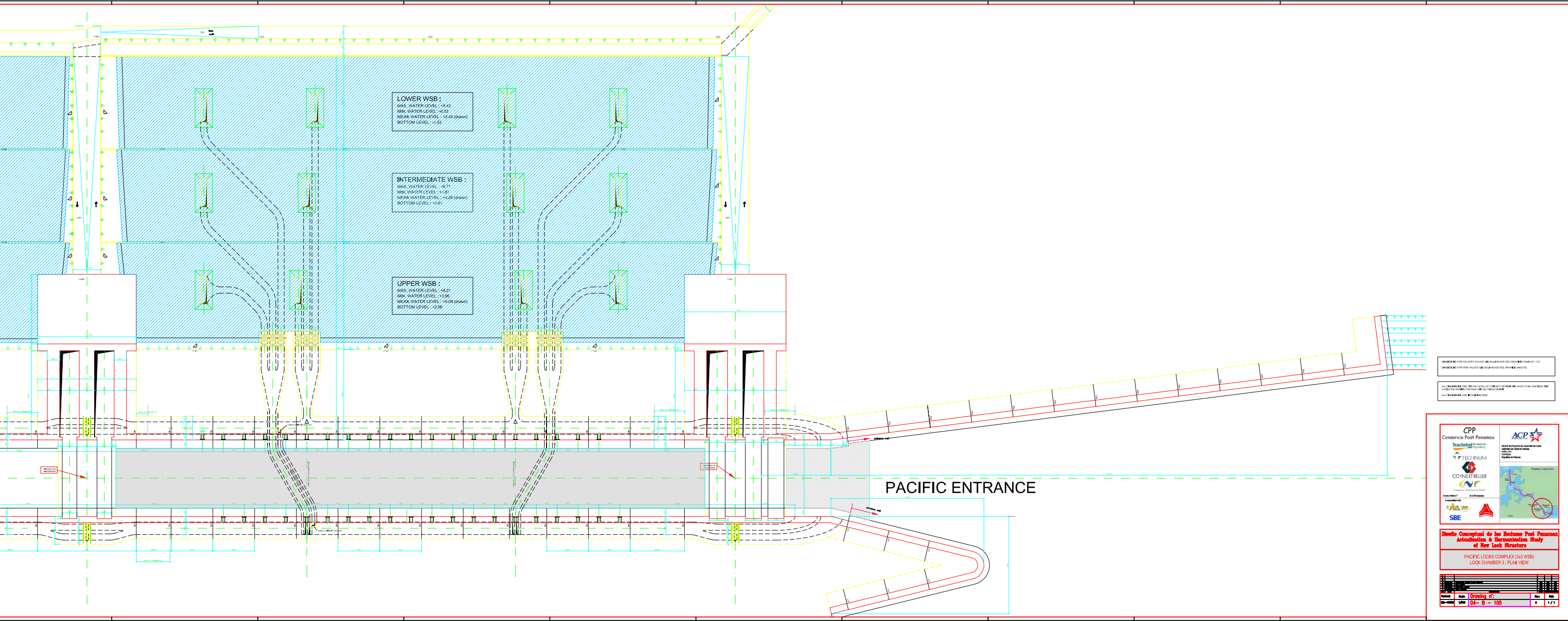
**SBE**  
 SBE

**Diseño Conceptual de las Estructuras Post Panamax  
 Actualización e Implementación de  
 el Plan de Estructuras de las Cajas de Agua**

PACIFIC LOCKS COMPLEX (3x3 WS)  
 General Plan View

Sheet	Rev	Drawing #	Scale
001	01	D4-A-103	D 1/1





**LOWER WSB :**  
 MAX. WATER LEVEL : +8.43  
 MIN. WATER LEVEL : +6.53  
 MEAN WATER LEVEL : +7.45 (80mm)  
 BOTTOM LEVEL : +1.53

**INTERMEDIATE WSB :**  
 MAX. WATER LEVEL : +7.73  
 MIN. WATER LEVEL : +1.81  
 MEAN WATER LEVEL : +4.25 (80mm)  
 BOTTOM LEVEL : +0.81

**UPPER WSB :**  
 MAX. WATER LEVEL : +8.21  
 MIN. WATER LEVEL : +3.96  
 MEAN WATER LEVEL : +6.08 (80mm)  
 BOTTOM LEVEL : +2.16

PACIFIC ENTRANCE

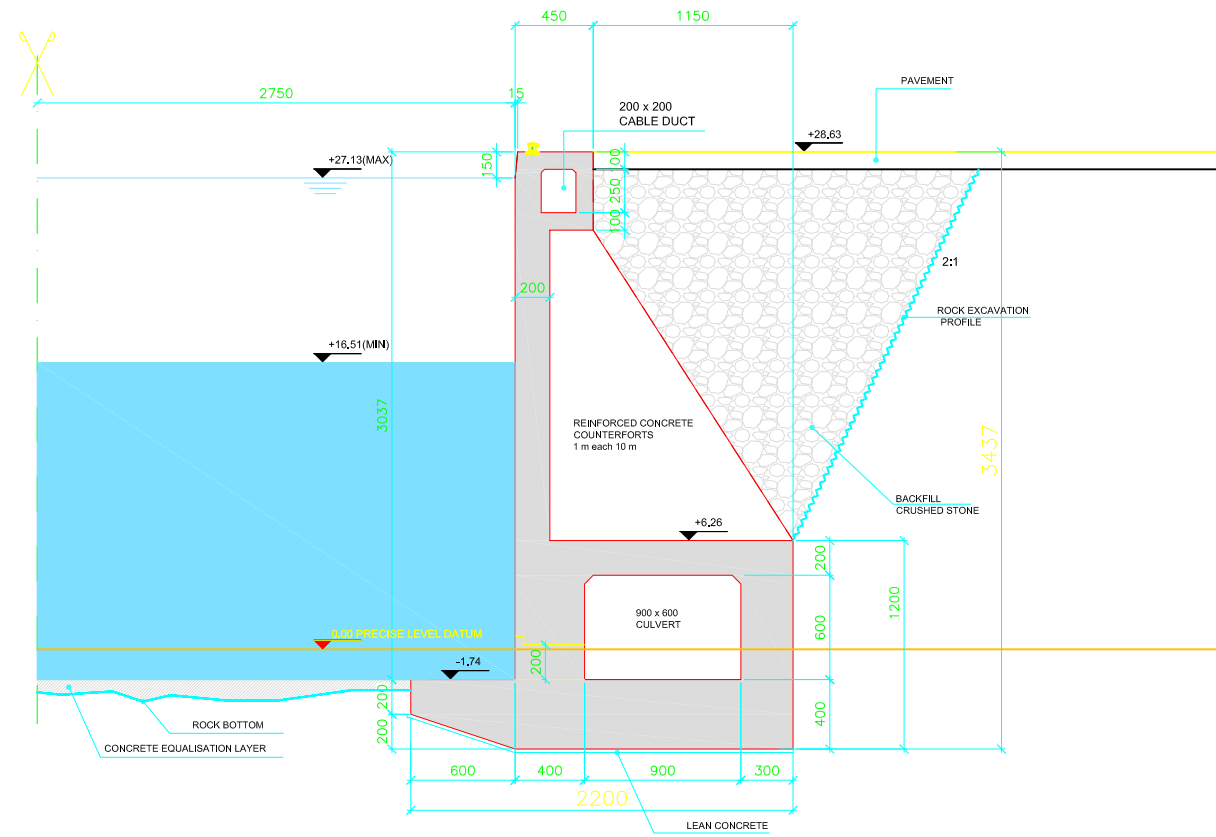
CONSIDERED FOR DESIGN VALUES AND LOADS SEE DRAWING D4-017.118  
 PROVIDED FOR THE PROJECT AND SHOWN FOR INFORMATION ONLY  
 ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED  
 ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE SPECIFIED

**Etudo Conceptual de las Bascas Post-Panamax**  
**Actualización & Reestructuración Study**  
**of New Lock Structure**

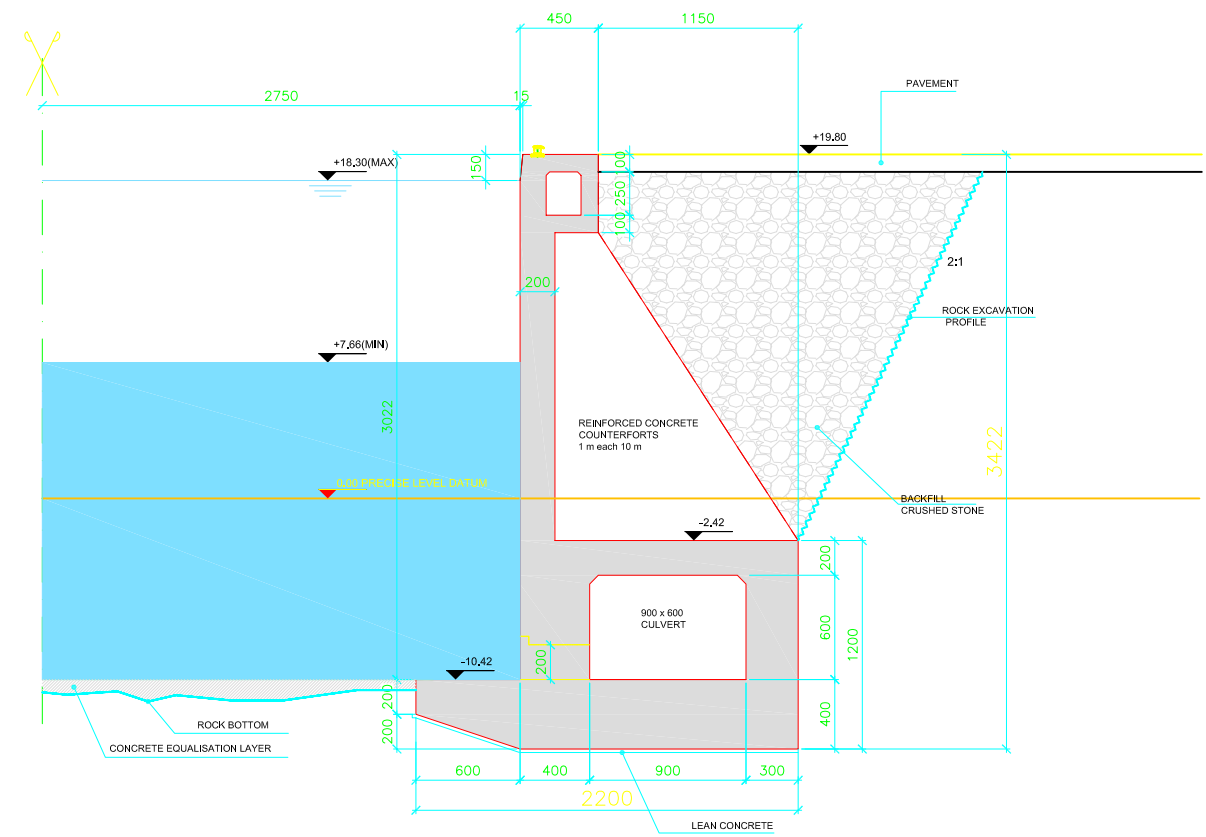
PACIFIC LOCKS COMPLEX (L3) WSB  
 LOCK CHAMBER 3; PLAN VIEW

Rev.	Date	By	Check	Scale	Sheet	Total
01	04-08-2010	...	...	1/1	1	1

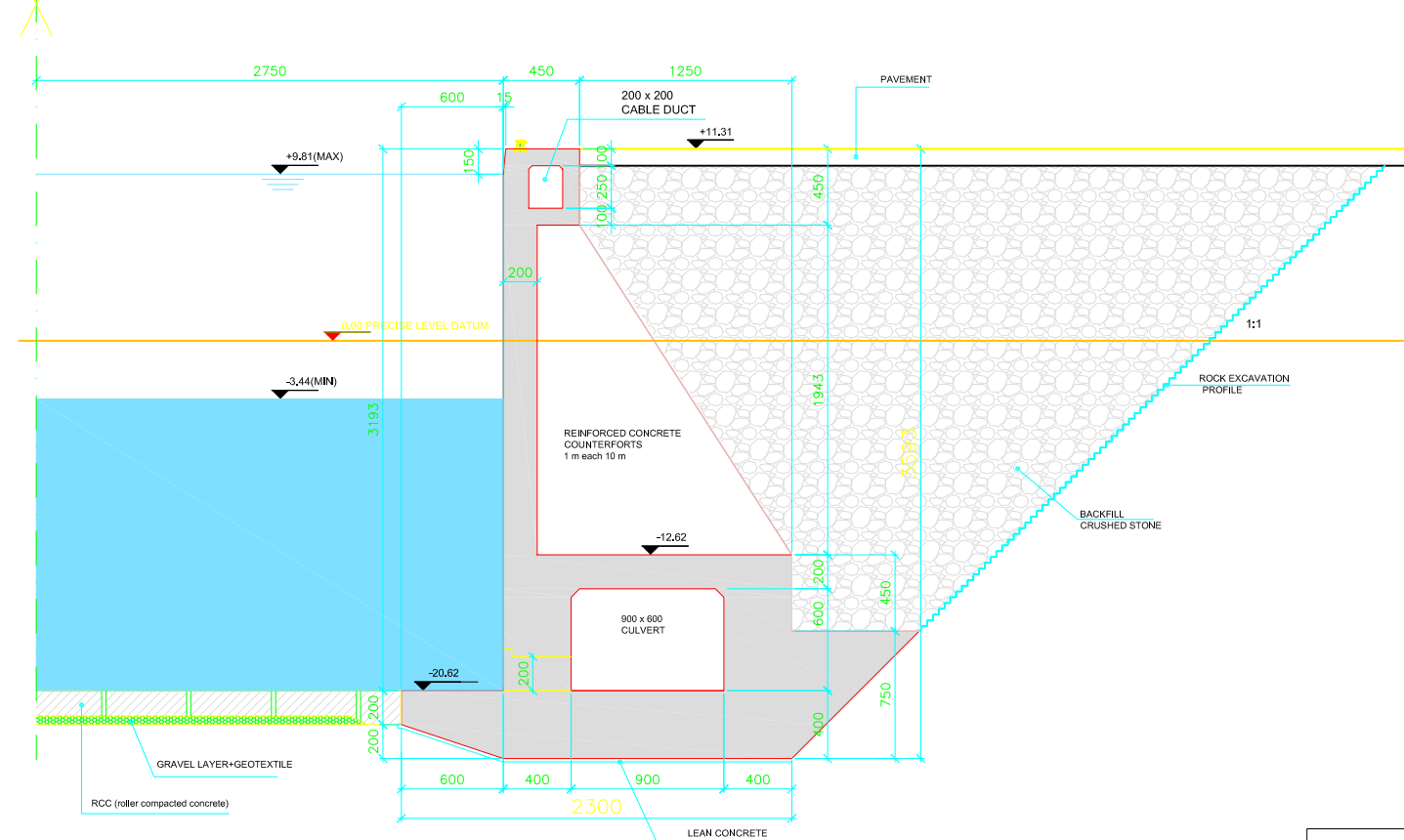
### lock chamber 1: basalt rock



### lock chamber 2: basalt rock



### lock chamber 3: la boca



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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Tractebel Development Engineering

TECHNUM

COYNE ET BELLIER  
Compagnie Nationale du Rhône

Avenue Ariane 7 B-1200 Brussels

In association with:

FIA AOSO

SBE

PORT OF ANTWERP

**ACP**  
AUTORIDAD DEL CANAL DE PANAMA

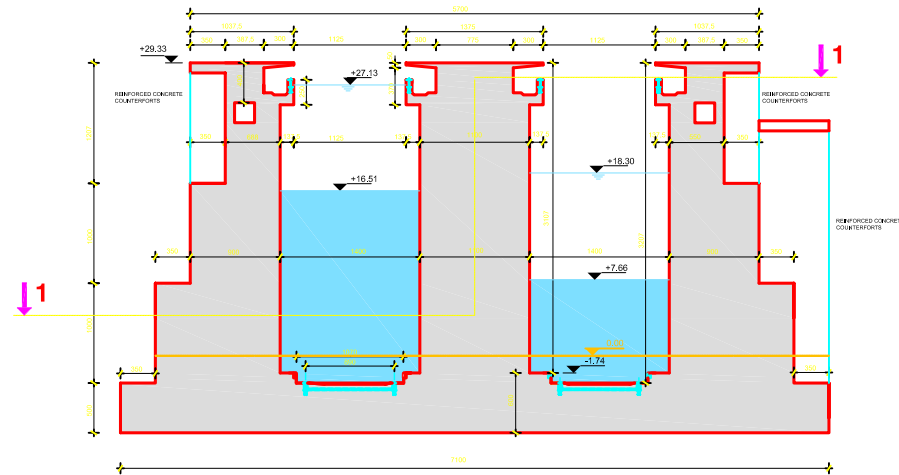
División de Proyectos de Capacidad del Canal  
Autoridad del Canal de Panamá  
Edificio 601  
CROZAL  
República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax  
Actualization & Harmonization Study  
of New Lock Structure**

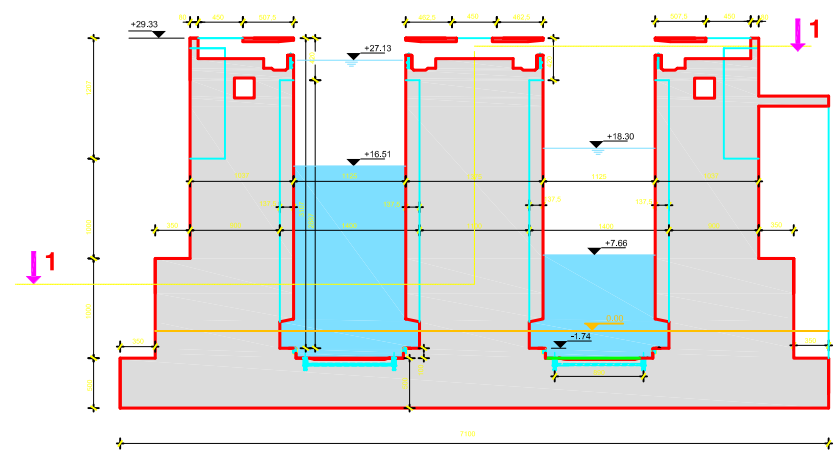
**PACIFIC LOCKS COMPLEX (3x3 WSB)  
Cross-sections Lock Walls**

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D					
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B	03-04-05	FINAL REPORT	FM	ME	JR
A	11-03-05	CONCEPT FINAL REPORT	FM	ME	JR
-	01/12/04	FIRST EDITION	FM	ME	JR

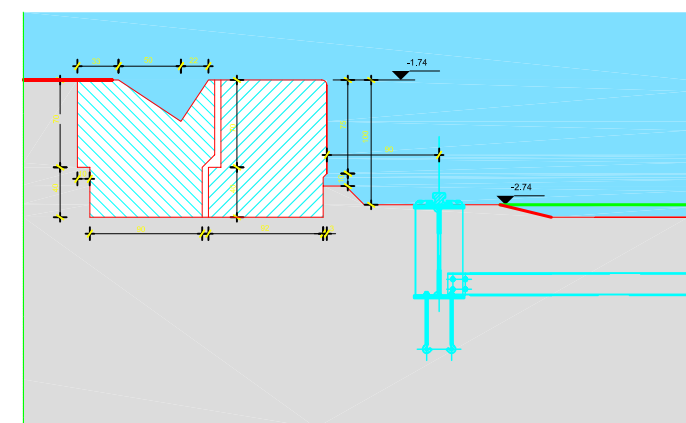
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SAA-143351	1/200	D4- B - 106	C	1 / 1



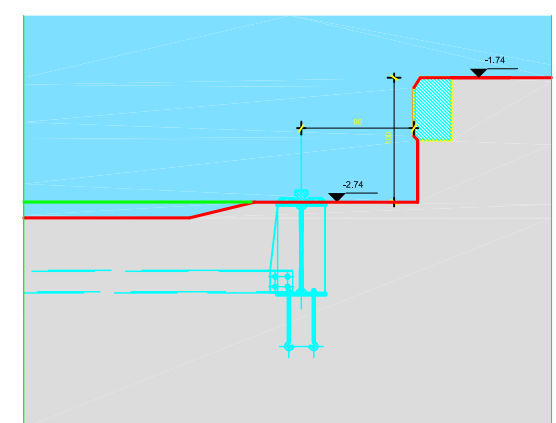
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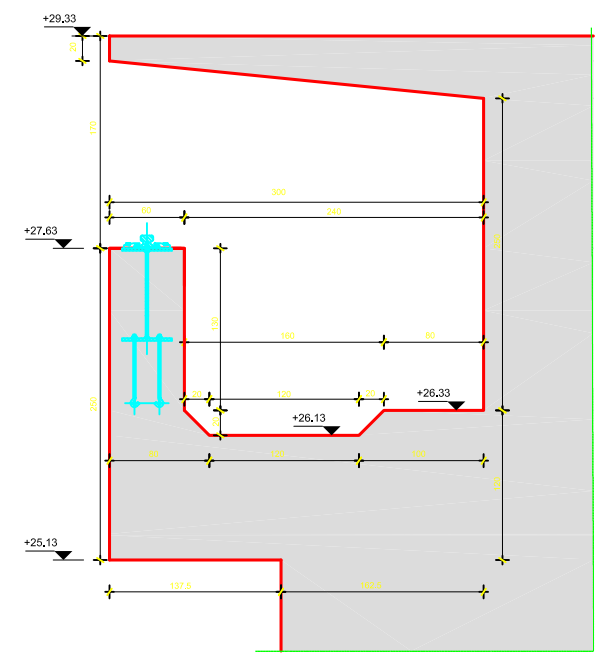
**SECTION C-C**



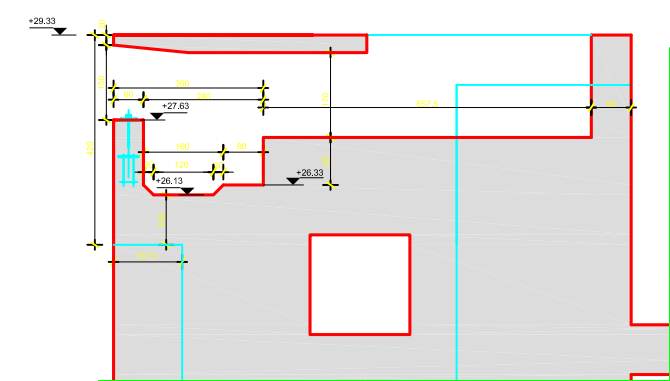
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DETAIL RAIL FOR UNDERWAGON**



**SECTION E-E  
DETAIL RAIL FOR UNDERWAGON**

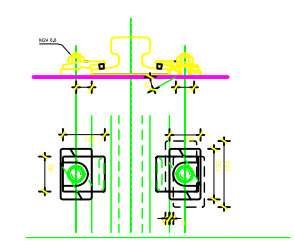


**DETAIL RAIL FOR UPPERWAGON**

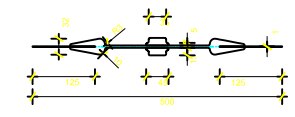


**DETAIL SHAFT FOR MAINTENANCE SUPPORT WAGON**

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 referred to PLD.



**DETAIL CLIP TYPE  
Scale 1/50**



**DETAIL DILATATION JOINT  
Scale 1/50**

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 Consorcio Post Panamax  
**Tractebel** Development Engineering  
**TECHNUM**  
**COYNE ET BELLIER**  
 Compagnie Nationale du Rhin  
 Avenue Mère 7 B-1208 Strassen  
 In association with:  
**FIA 450** **PORT SERVICE**  
**SBE**

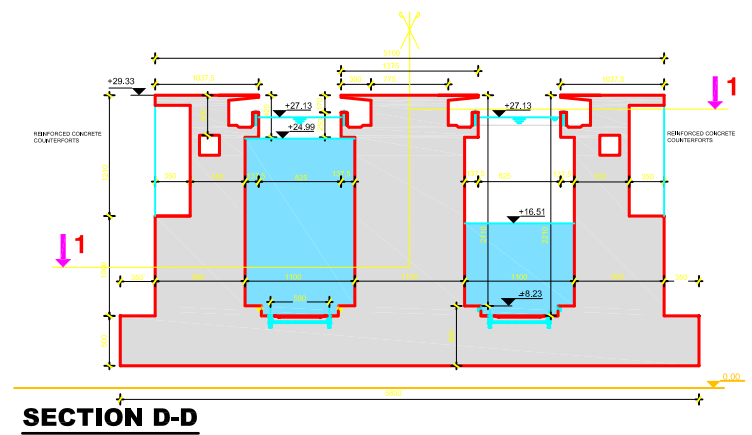
**ACP**  
 División de Proyectos de Capacidad del Canal  
 Autoridad del Canal de Panamá  
 Edificio 801  
 CORONAL  
 República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax  
Actualization & Harmonization Study  
of New Lock Structure**

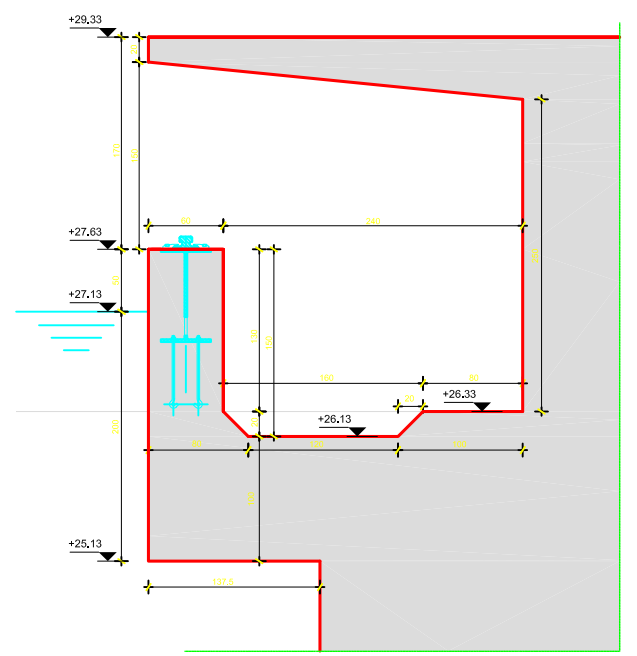
**PACIFIC LOCKS COMPLEX (3x3 WSB)  
LOCK HEAD 2  
CROSS SECTION**

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2					
3					
4					

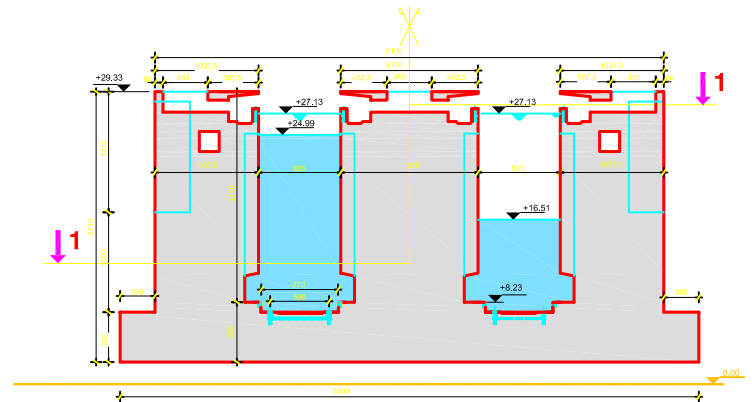
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 Rev.: B  
 Folio: 1/1



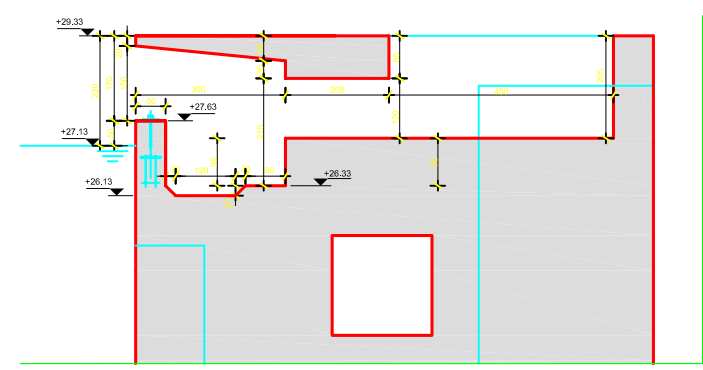
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**DETAIL RAIL FOR UPPERWAGON**

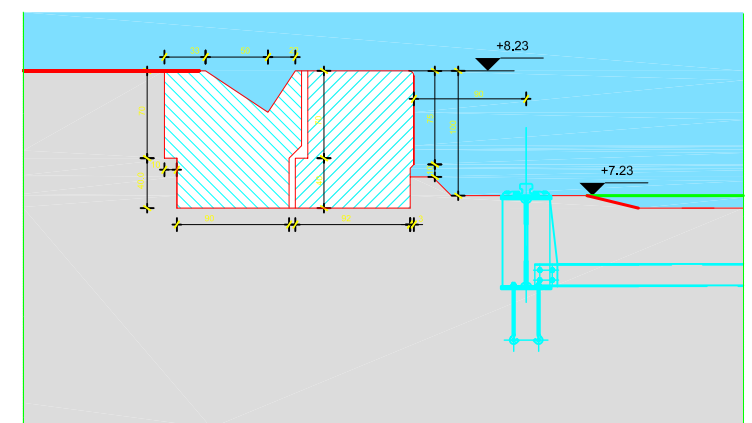


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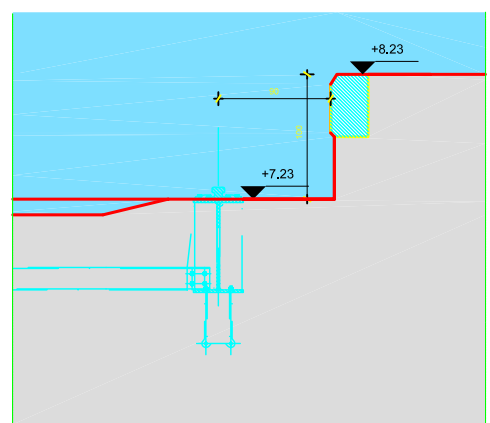


**DETAIL SHAFT FOR MAINTENANCE SUPPORT WAGON**

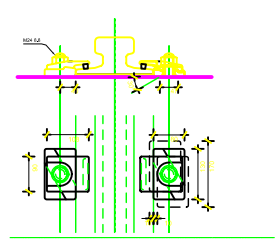
All dimensions are on the level of concept design and have to be checked and validated during further and detailed design.  
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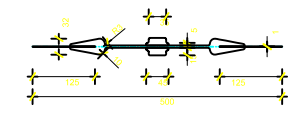
**SECTION F-F  
DETAIL RAIL FOR UNDERWAGON**



**SECTION E-E  
DETAIL RAIL FOR UNDERWAGON**



**DETAIL CLIP TYPE  
Scale 1/50**



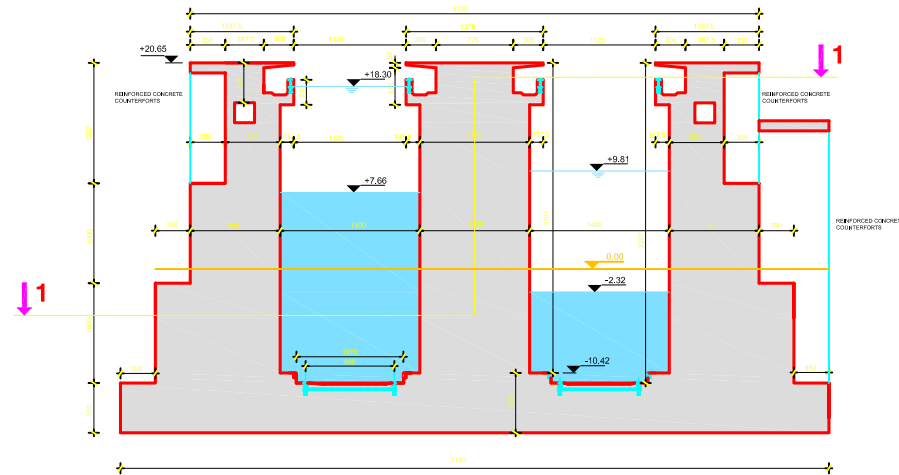
**DETAIL DILATATION JOINT  
Scale 1/50**

**Diseño Conceptual de las Esclusas Post Panamax  
 Actualization & Harmonization Study  
 of New Lock Structure**

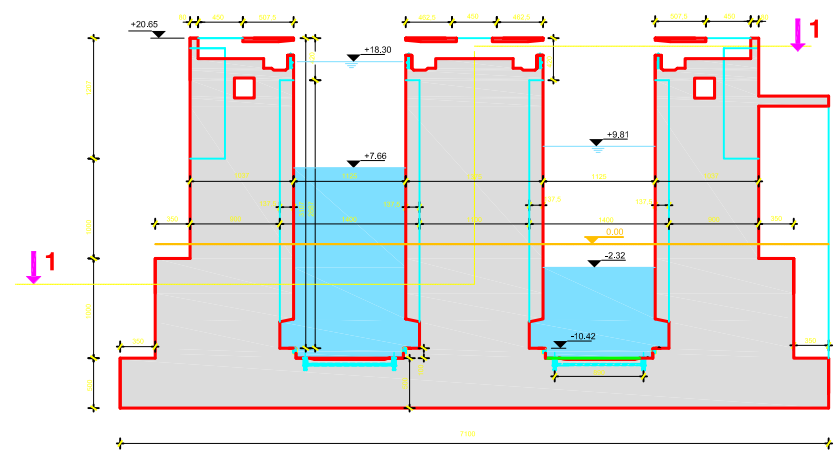
**PACIFIC LOCKS COMPLEX (3x3 WSB)  
 LOCK HEAD 1  
 CROSS SECTION**

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2	11-20-20				

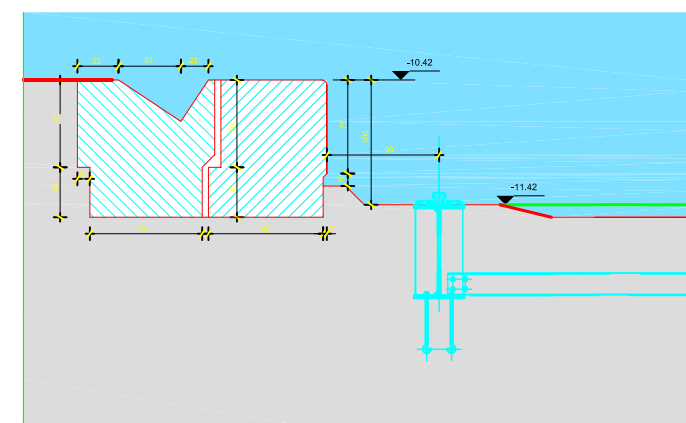
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 Rev.: B  
 Folio: 1/1



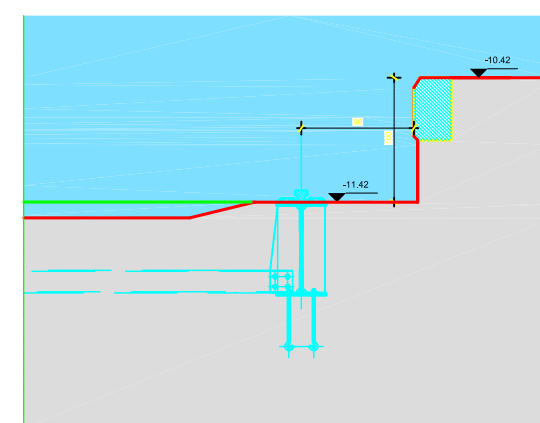
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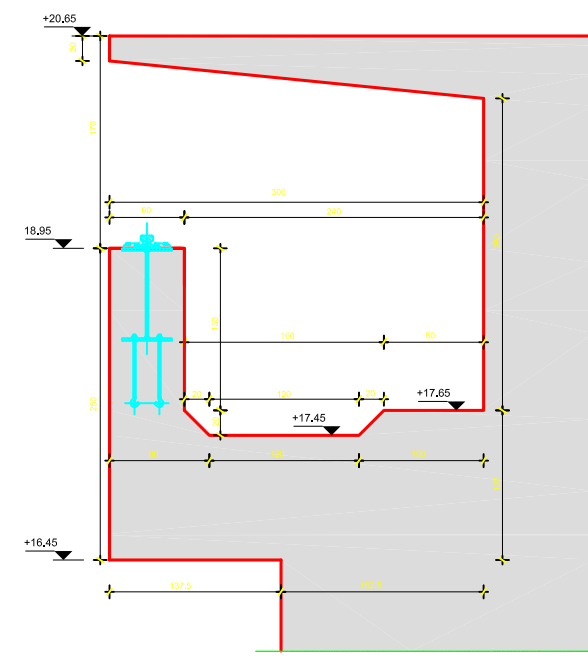
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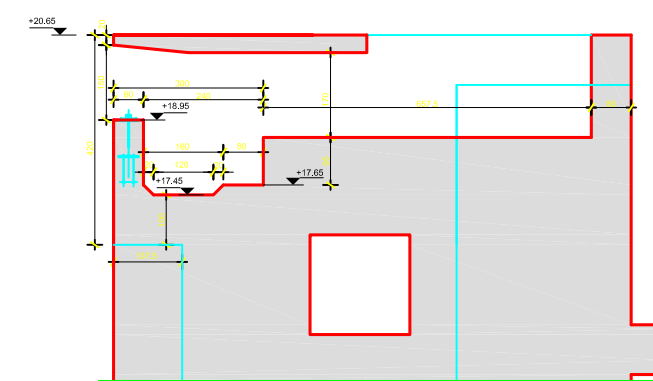
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DETAIL RAIL FOR UNDERWAGON**



**SECTION E-E  
DETAIL RAIL FOR UNDERWAGON**

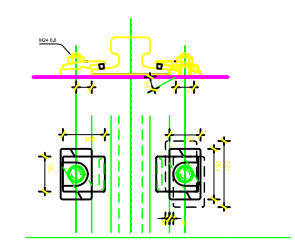


**DETAIL RAIL FOR UPPERWAGON**

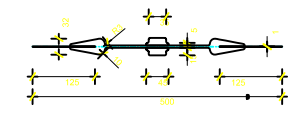


**DETAIL SHAFT FOR MAINTENANCE SUPPORT WAGON**

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 referred to PLD.



**DETAIL CLIP TYPE  
Scale 1/50**



**DETAIL DILATATION JOINT  
Scale 1/50**

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**Tractebel** Development Engineering

**TECHNUM**

**COYNE ET BELLIER**  
Compagnie Nationale du Rhin

Av. de la Mère 7 B-1208 Strassen

In association with:

**FIA 450** **PORT SERVICE**

**SBE**

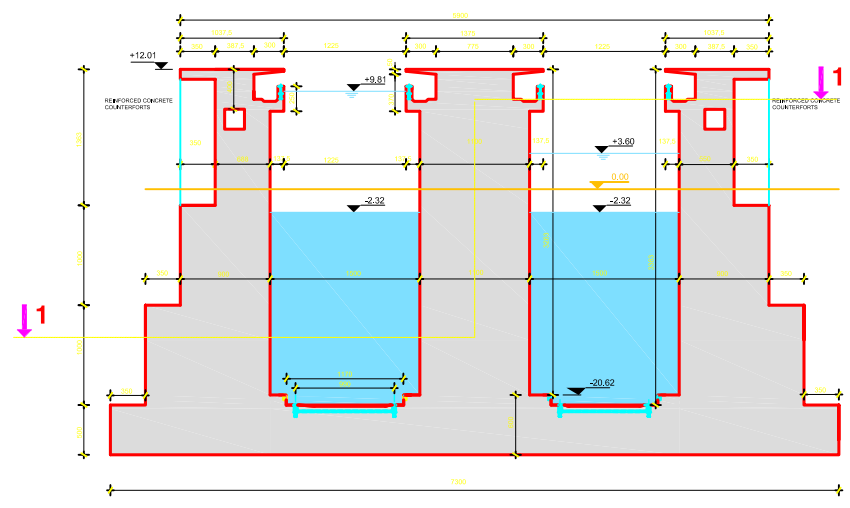
**ACP**  
Division de Proyectos de Capacidad del Canal  
Agencia del Canal de Panamá  
Edificio 801  
CORONAL  
República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax  
Actualization & Harmonization Study  
of New Lock Structure**

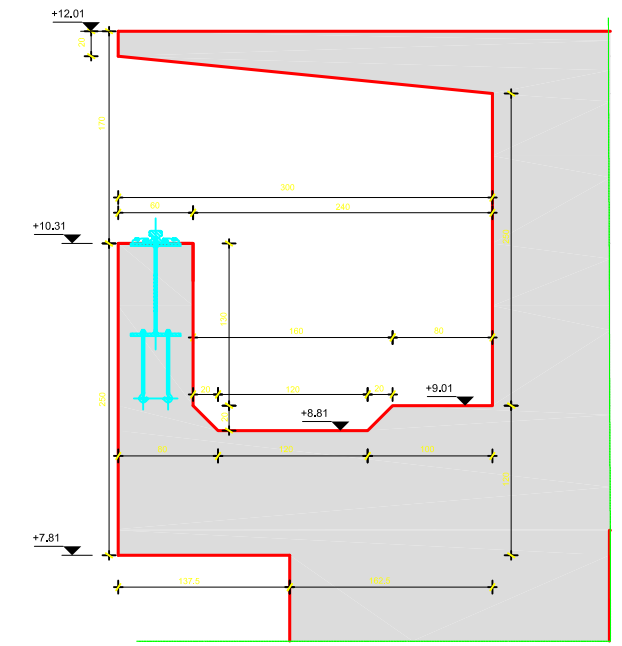
**PACIFIC LOCKS COMPLEX (3x3 WSB)  
LOCK HEAD 3  
CROSS SECTION**

NO.	DATE	DESCRIPTION	BY	CHECKED

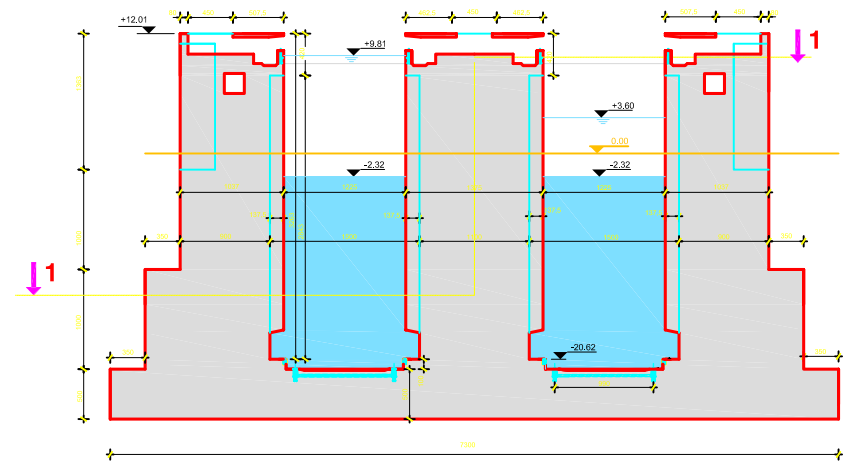
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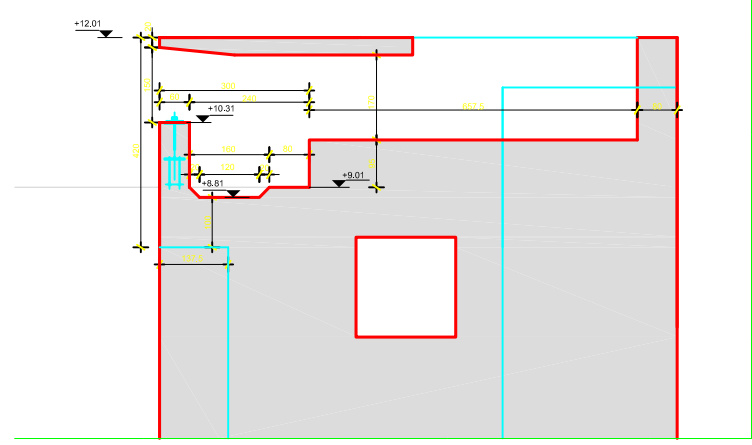
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**DETAIL RAIL FOR UPPERWAGON**

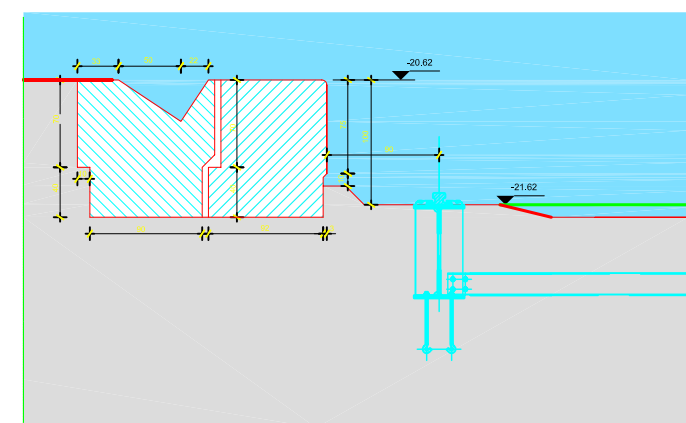


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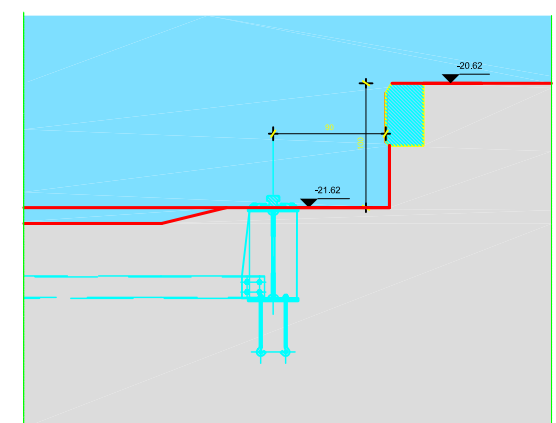


**DETAIL SHAFT FOR MAINTENANCE SUPPORT WAGON**

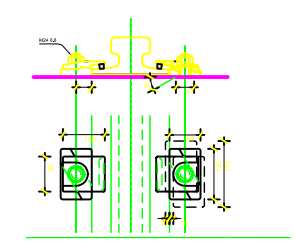
All dimensions are on the level of concept design and have to be checked and validated during further and detailed design.  
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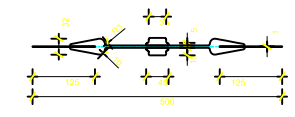
**SECTION F-F  
DETAIL RAIL FOR UNDERWAGON**



**SECTION E-E  
DETAIL RAIL FOR UNDERWAGON**



**DETAIL CLIP TYPE  
Scale 1/50**



**DETAIL DILATATION JOINT  
Scale 1/50**

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**Tractebel** Development Engineering  
**TECHNUM**  
**COYNE ET BELLIER**  
 Compagnie Nationale du Rhin  
 Avenida México 7 B-1208 Panama  
 In asociación with:  
**FIA** **ASO** **SBE**

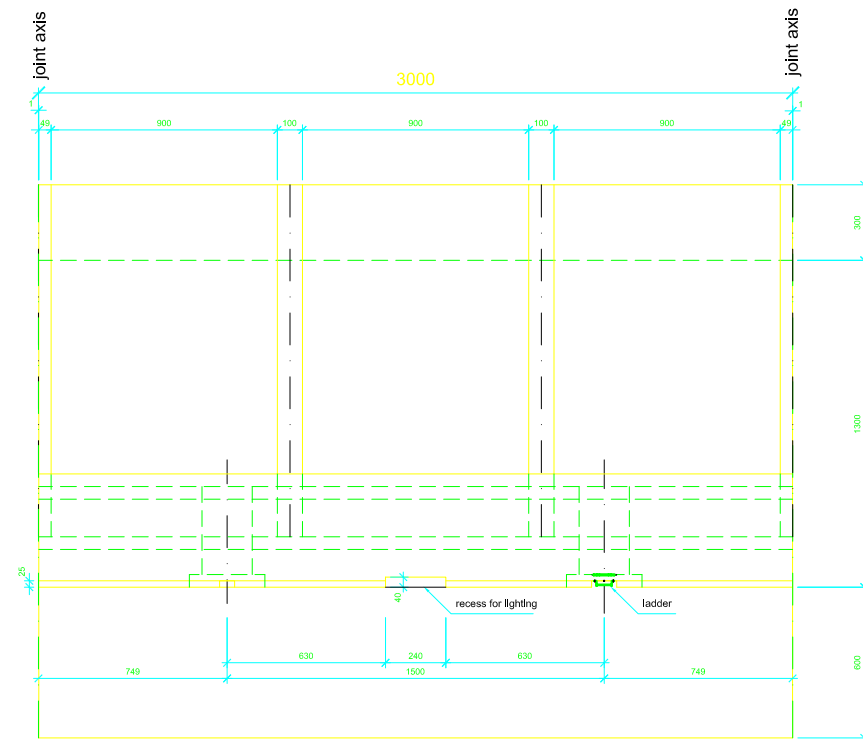
**ACP**  
 División de Proyectos de Capacidad del Canal  
 Autoridad del Canal de Panamá  
 Edificio 801  
 CORONAL  
 República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax  
 Actualization & Harmonization Study  
 of New Lock Structure**

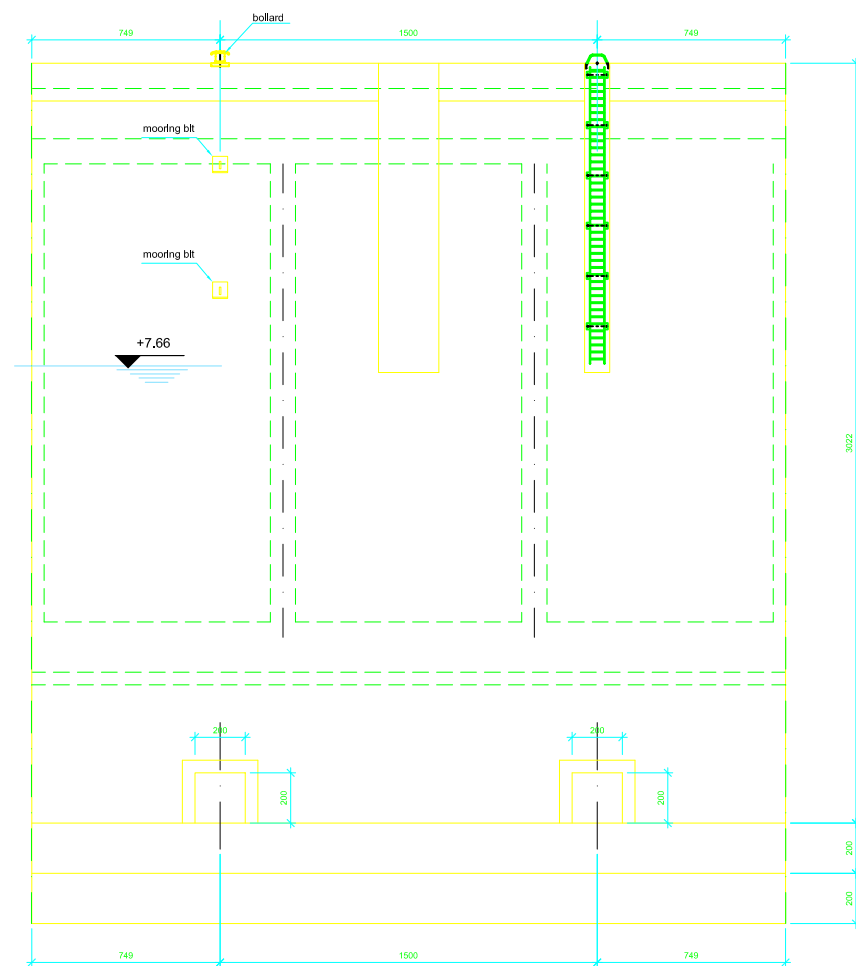
**PACIFIC LOCKS COMPLEX (3x3 WSB)  
 LOCK HEAD 4  
 CROSS SECTION**

NO.	DATE	BY	CHKD	APPV	DESCRIPTION	REV.	DATE	BY	CHKD	APPV	DESCRIPTION
1											

Contract: SA-143351  
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 Drawing n°: D4-B-118  
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 Folio: 1/1

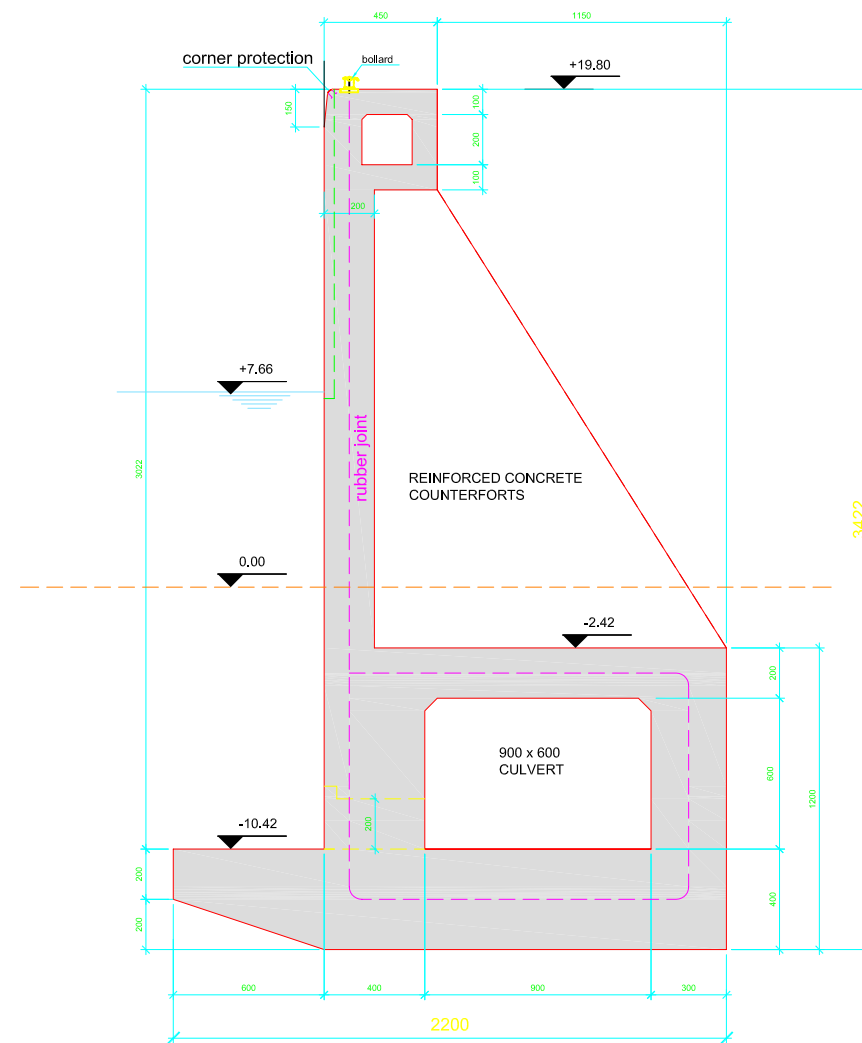


plan view



front view

lock chamber 2 (basalt rock)



cross section

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

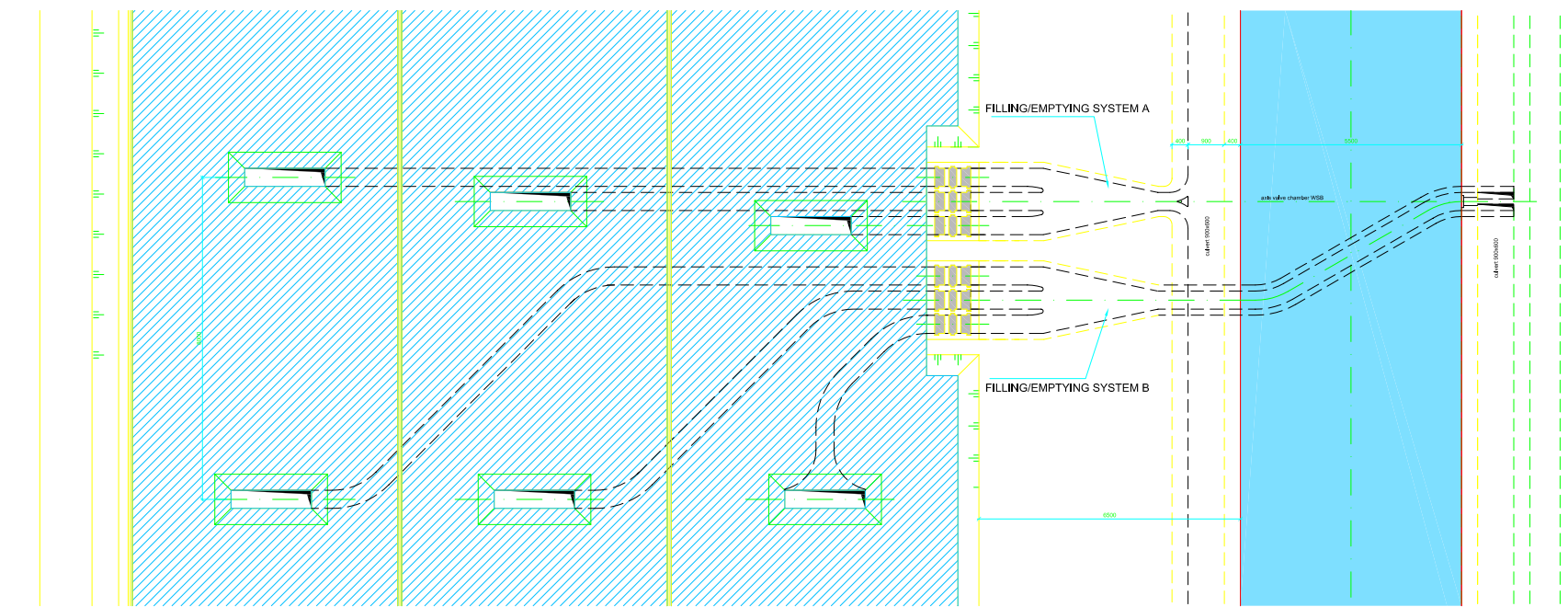
**CPP**  
 Consorcio Post Panamax  
**Tractebel** Development Engineering  
**TECHNUM**  
**COYNET BELLIER**  
 Compagnie Nationale de Bâti  
 Avenue Adrien 7 B-1200 Brussels  
 In association with:  
**FIR** **ASO**  
**SBE**

**ACP**  
 Autoridad del Canal de Panamá  
 Edificio 601  
 Corozal  
 República de Panamá

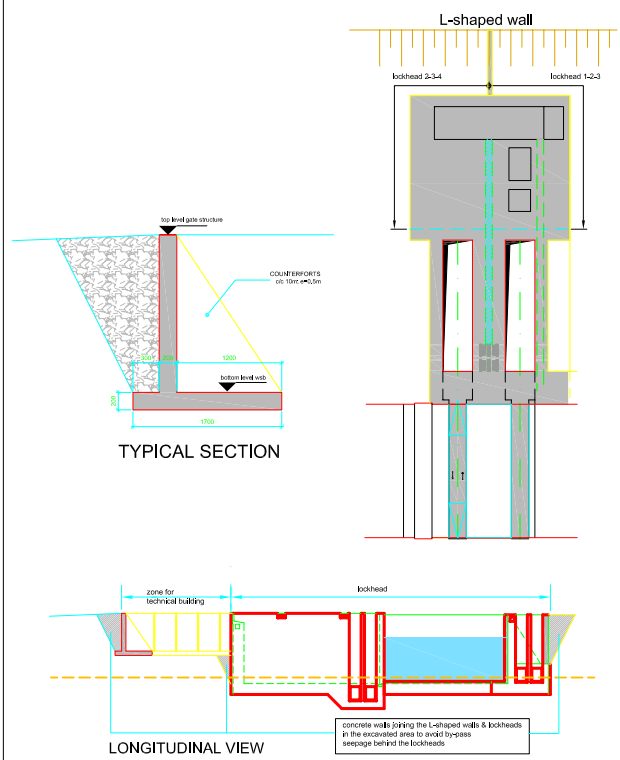
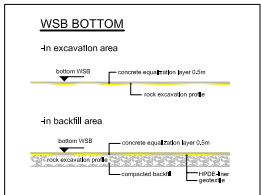
Panamá Canal Area  
 Canal Locks  
 Gatun  
 Pedro Miguel  
 Colon  
 Panama Canal Area

**Diseño Conceptual de las Esclusas Post Panamax**  
**Concept Design of New Lock Structure**  
 PACIFIC LOCKS COMPLEX (3x3 WSB)  
 Lock Wall Segment

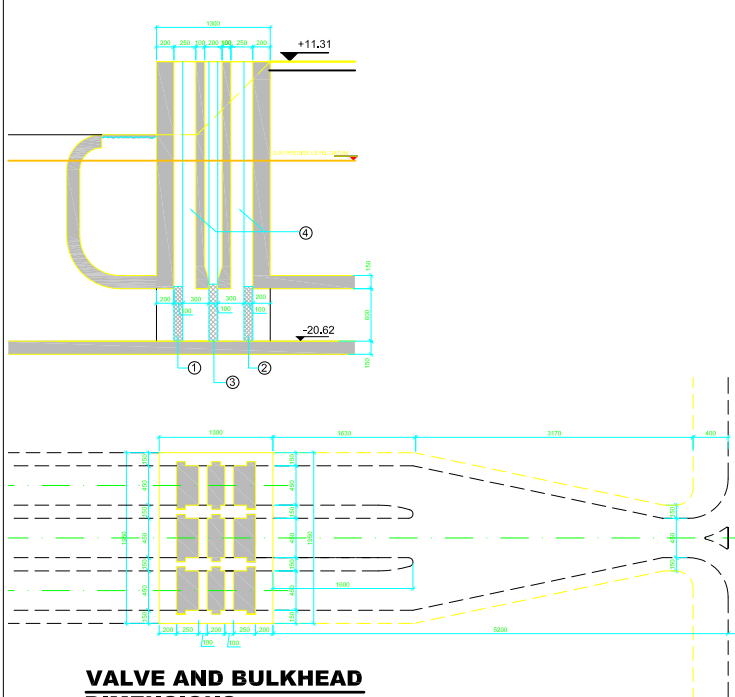
Contract	Scale	Drawing n°:	Rev.:	Folio
SMA-14335	1/100	D4- B - 119	B	1 / 1



**PLAN VIEW FILLING / EMPTYING SYSTEM**



**L-SHAPED WALLS BEHIND LOCK HEADS 1, 2,3 and 4 (1/00)**



1 and 2: MAINTENANCE BULKHEADS  
 3: WSB-VALVE  
 4: MAINTENANCE SHAFTS TO REACH THE SPACE BETWEEN BULKHEADS AND VALVE

In normal operation, a WSB can be isolated from the lock chamber by closing the 4 valves (there are 4 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 2 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.

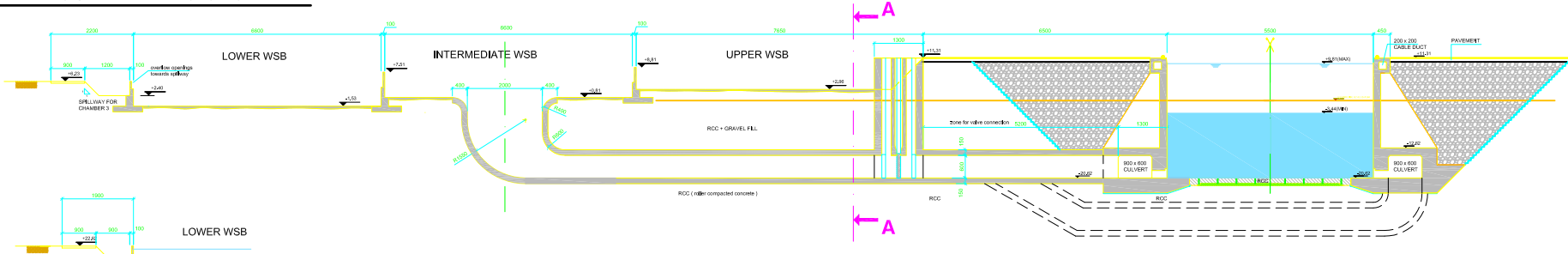
During maintenance, access on both sides of the valves is possible by using bulkheads 1 and 2 after emptying of the space between them.

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

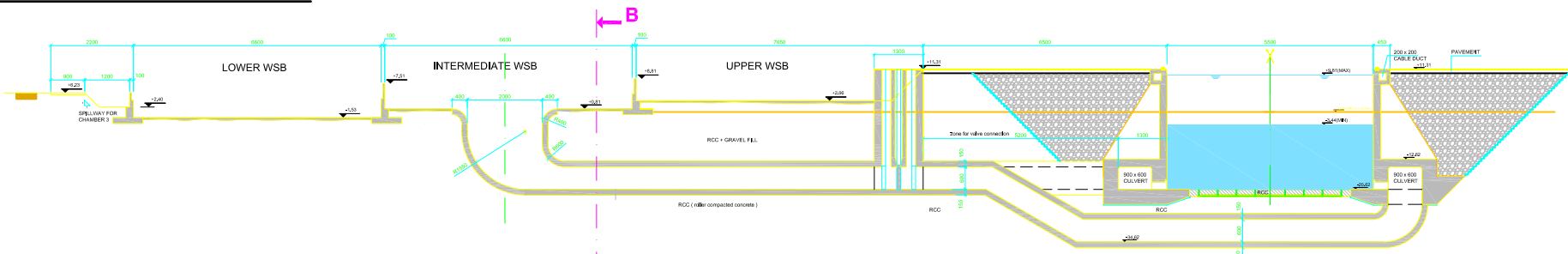
**NOTE :**  
 THE FILLING AND EMPTYING SYSTEM IS SHOWN WITH LEVELS FOR CHAMBER 3

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

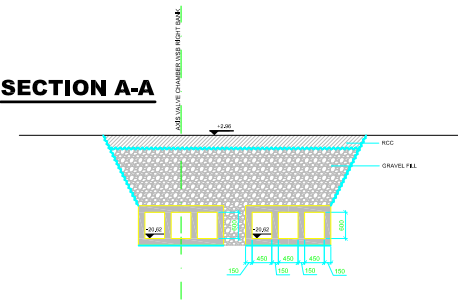
**FILLING / EMPTYING SYSTEM A**



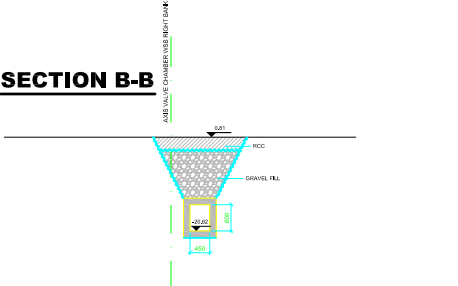
**FILLING / EMPTYING SYSTEM B**



**SECTION A-A**



**SECTION B-B**

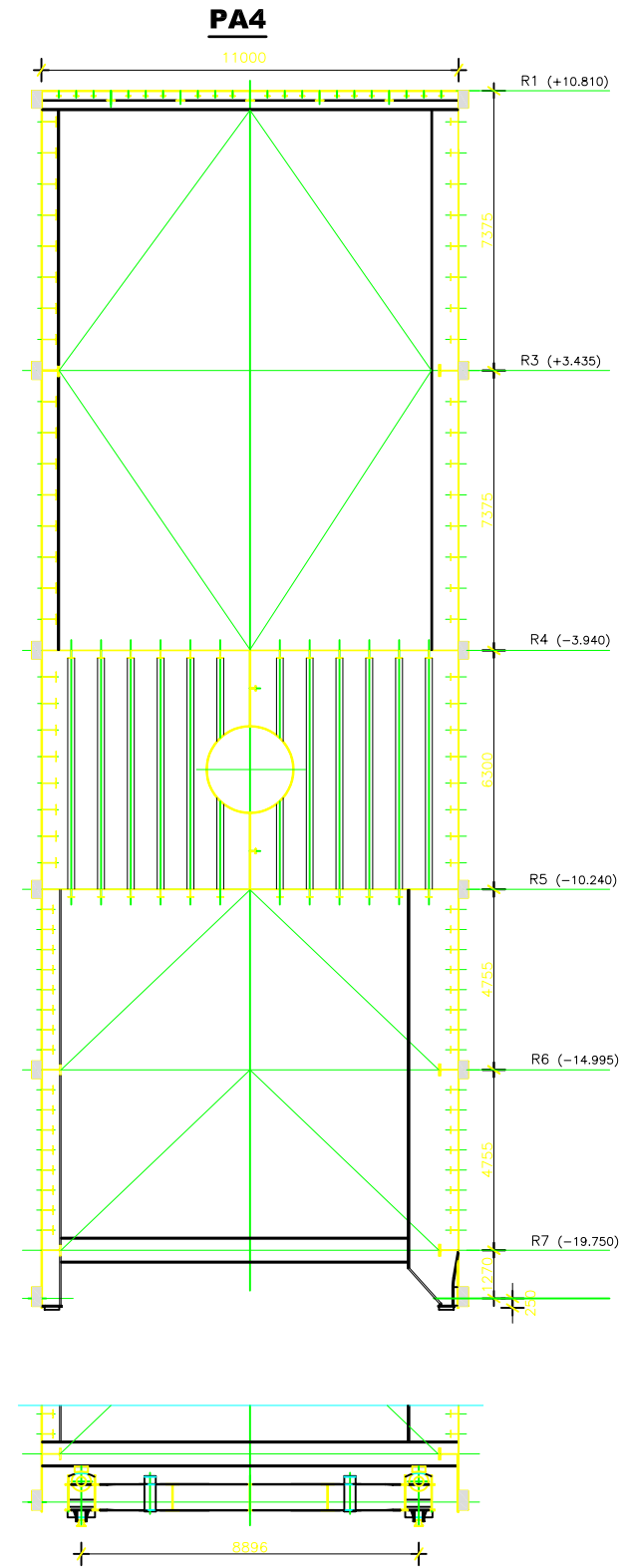
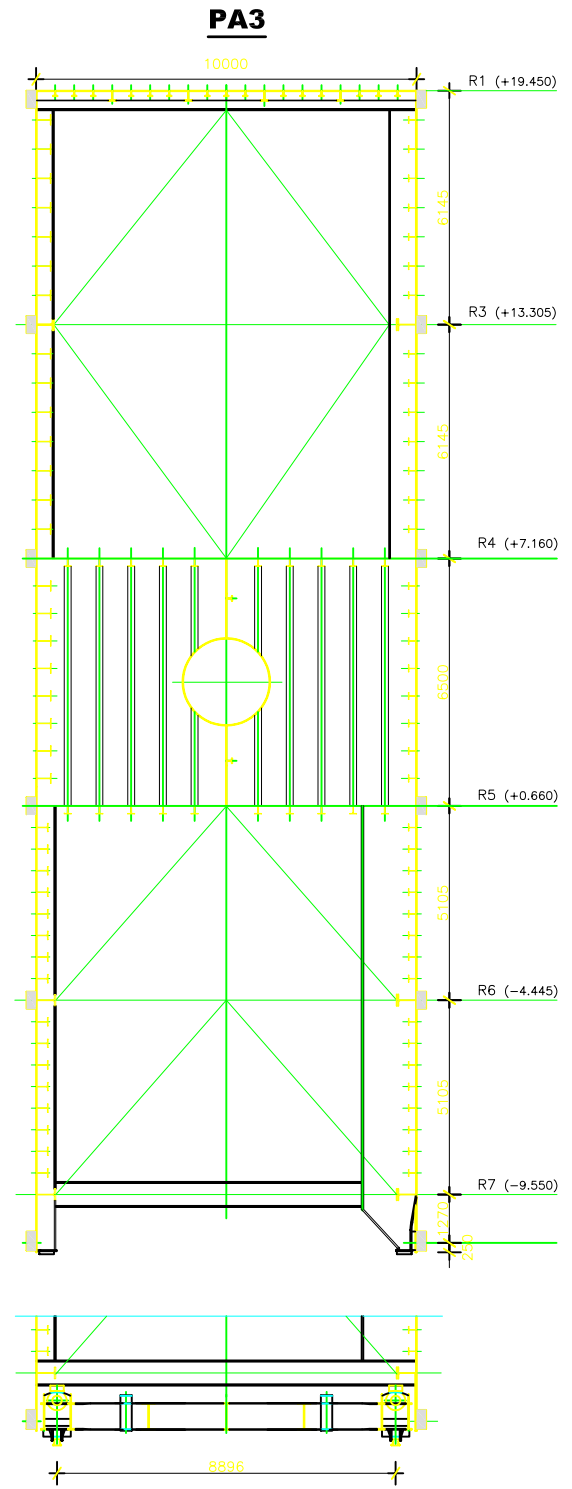
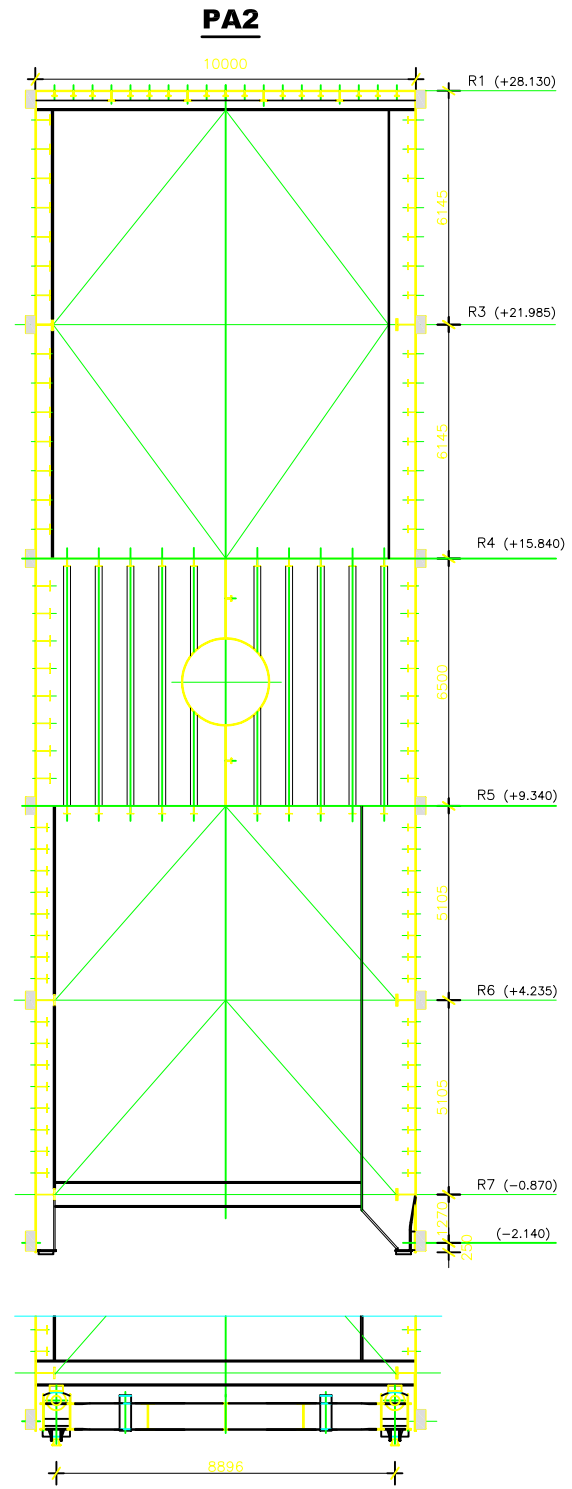
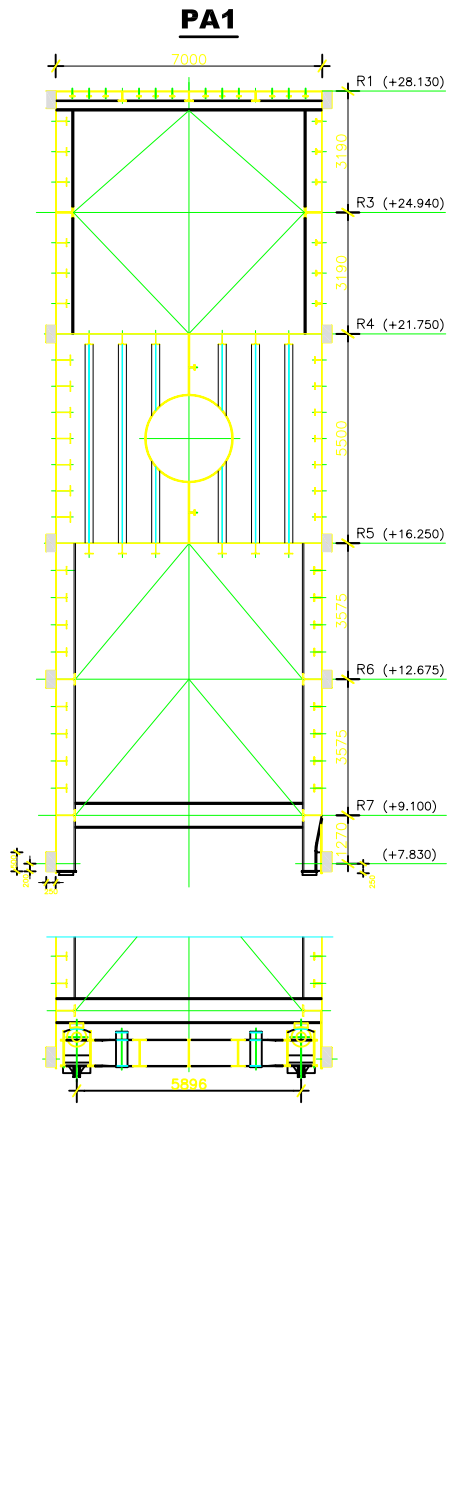


**Diseño Conceptual de las Esclusas Post Panamax Actualization & Harmonization Study of New Lock Structure**

PACIFIC LOCKS COMPLEX (3x3 WSB)  
 WATER SAVING BASINS - FILLING AND EMPTYING SYSTEM  
 SIDE BY SIDE CONDUITS DISPOSITION

Contract	Scale	Drawing n°:	Rev.:	Folio
SM-14330	1/500	D4- C - 103	C	1 / 1





Gate structures PA2 and PA3 are identical

Layout of lower upstream stiffened skin plating panels to be adapted to flow openings required to minimize delay in equalization of water level between a pair of lock gates.

Gate structure possibly to be adapted for valves built in the gate.

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 referred to PLD.

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Consorcio Post Panamax

**Tractebel** Development Engineering

**TECHNUM**

**COYNE ET BELLIER**  
Compagnie Nationale du Rhône

Avenue Ariane 7 B-1200 Brussels

In association with:

**FITA** **AOSO**

**SBE**

**PORT OF ANTWERP**

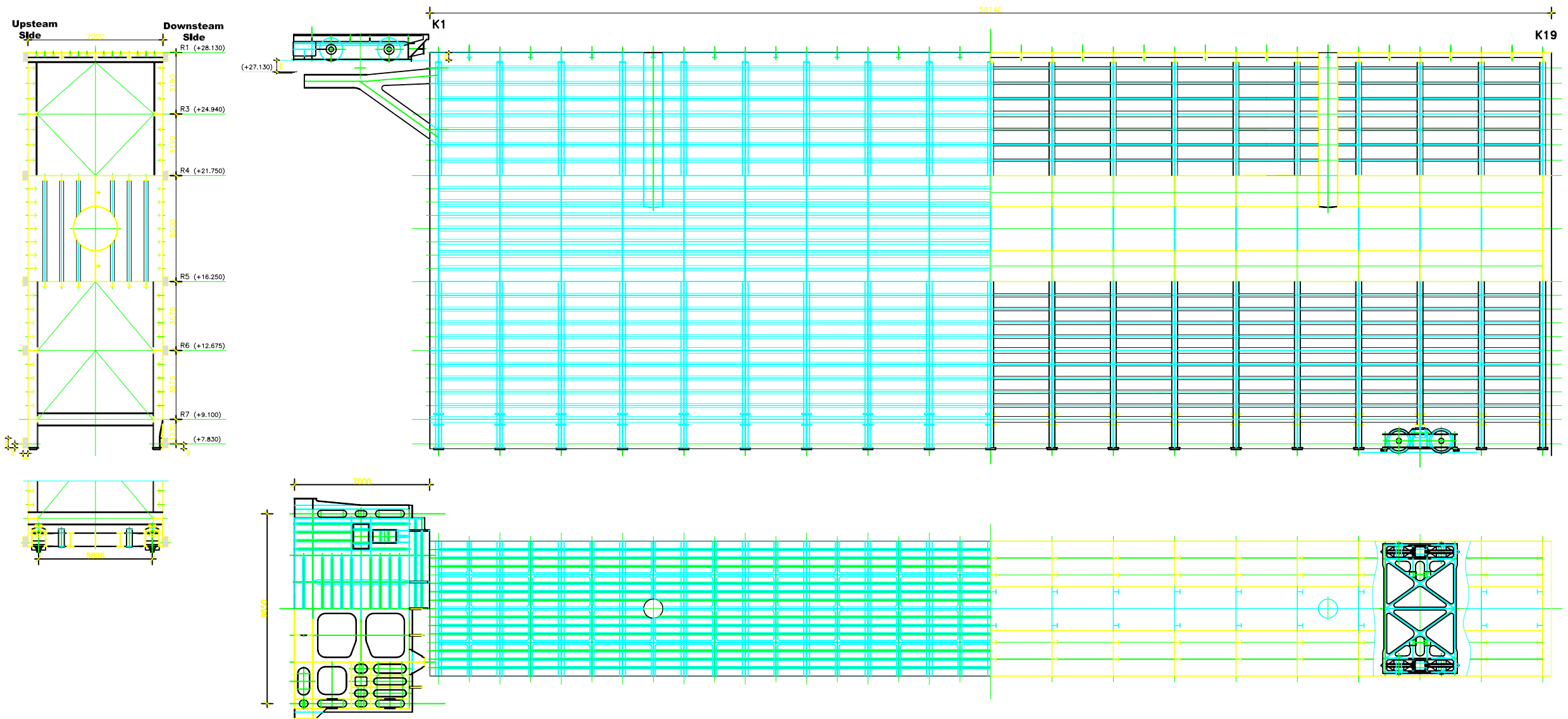
**ACP**  
AUTORIDAD DEL CANAL DE PANAMA

División de Proyectos de Capacidad del Canal  
Autoridad del Canal de Panamá  
Edificio 601  
COROZAL  
República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax  
Actualization & Harmonization Study  
of New Lock Structure**

**PACIFIC LOCKS COMPLEX (3x3 WSB)  
ROLLING GATE PA1,PA2,PA3,PA4 - SECTIONS**

F					
E					
D					
C	22-04-05	FINAL REPORT			
B	11-03-05	DRAWING FINAL REPORT			
A	09/03/05	Modified concept maintenance supports			
	06/03/05	FIRST EDITION			
REV.	DATE	DESCRIPTION	ADG	DRWN	CHECKED APPROVED
Contract	Scale:	Drawing n°:	Rev.:	Folio	
SAA-143351	1/100	D4-D-100	C	1/1	



Layout of lower upstream stiffened skin plating panels to be adapted to flow openings required to minimize delay in equalization of water level between a pair of lock gates.

Gate structure possibly to be adapted for valves built in the gate.

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 referred to PLD.

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**Tractebel** Development Engineering

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Compagnie Nationale du Rhin

Avenue Adama 7 B-1200 Brussels

In association with:

**SBE** **FOUR LE ARCADES**

**ACP**  
Autoridad del Canal de Panamá

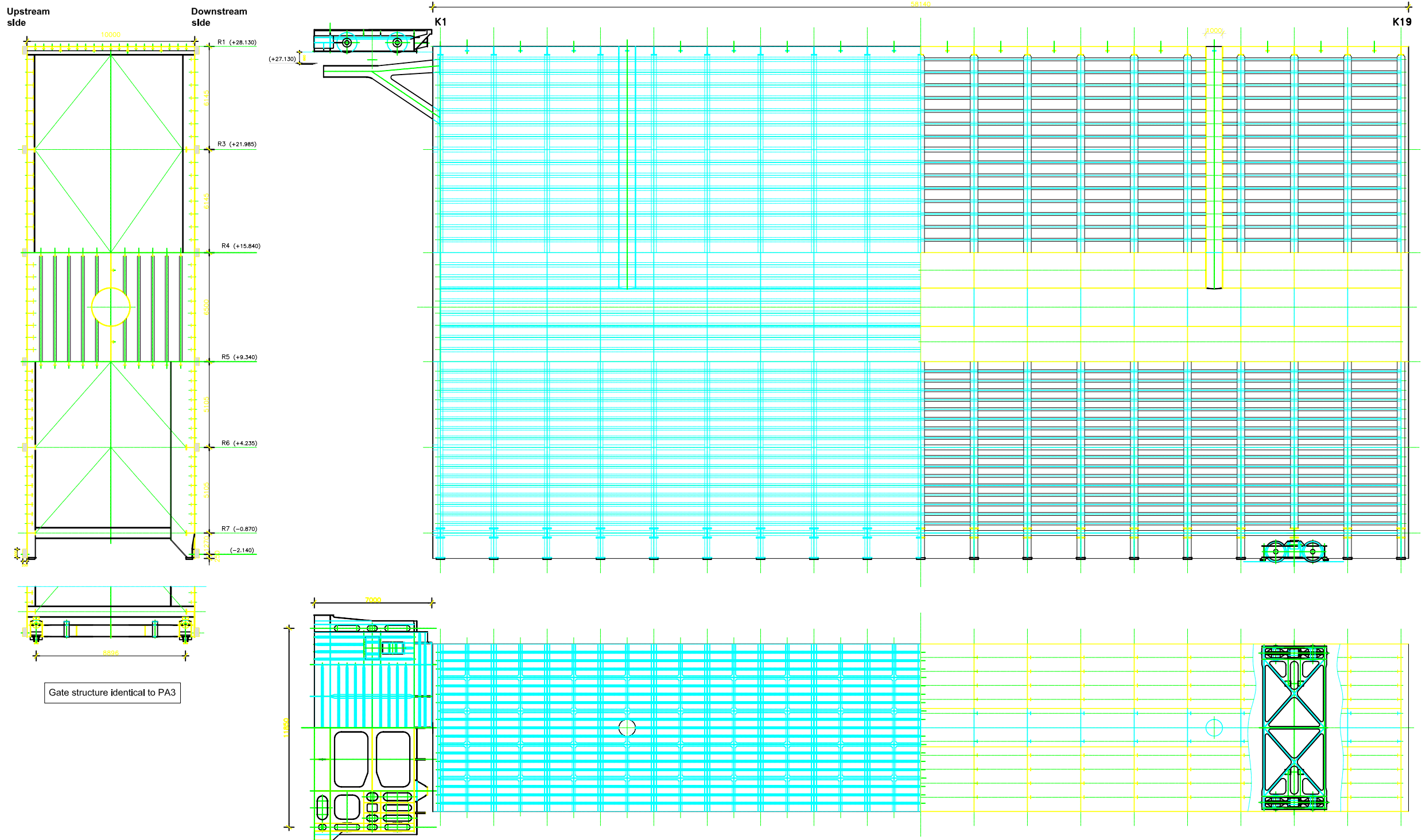
Division de Proyectos de Capacidad del Canal  
Edificio 801  
COROZAL  
República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax**  
**Actualization & Harmonization Study**  
**of New Lock Structure**

**PACIFIC LOCKS COMPLEX (3x3 WSB)**  
**ROLLING GATE PA1 : GENERAL LAY OUT**

REV.	DATE	DESCRIPTION	BY	CHECKED	APPROVED
F					
E					
D					
C	25-01-20	FINAL REPORT			
B	17-01-20	START FINAL REPORT			
A	08/03/19	Issued final concept maintenance supports	EP		
-	08/03/19	FIRST EDITION	ADP		

Contract:	Scale:	Drawing n°:	Rev.:	Folio:
SMA-143351	1/100	D4-D-101	c	1/1



Layout of lower upstream stiffened skin plating panels to be adapted to flow openings required to minimize delay in equalization of water level between a pair of lock gates.

Gate structure possibly to be adapted for valves built in the gate.

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 referred to PLD.

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**Tractebel** Development Engineering

**TECHNUM**

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Compagnie Nationale du Rhône

Avenue Adone 7 B-1200 Brussels

In asociación with:

**FIA ANSO**

**SBE**

**ACP**  
Autoridad del Canal de Panamá

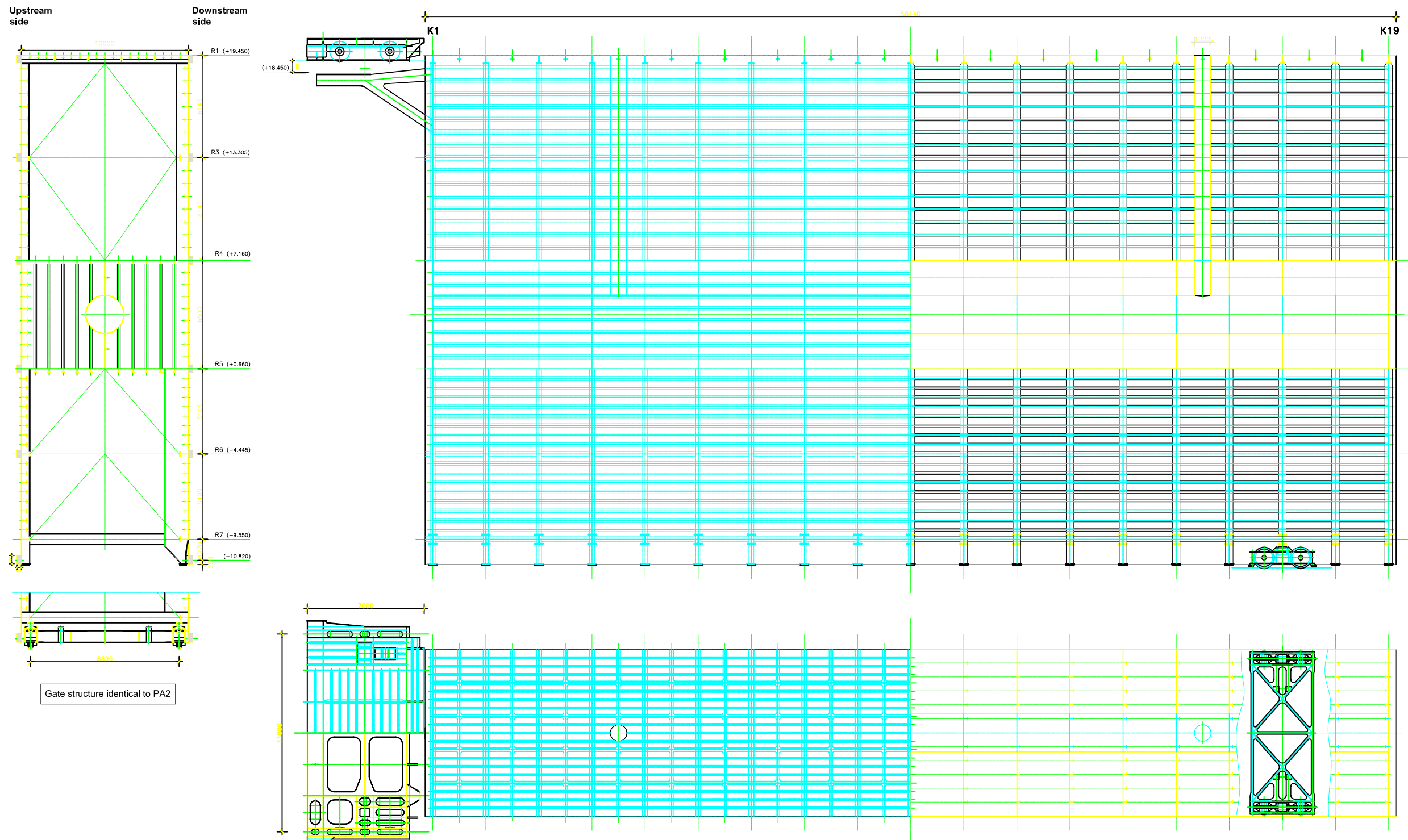
Dirección de Proyectos de Capacidad del Canal  
Edificio 601  
CORROZAL  
República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax  
Actualization & Harmonization Study  
of New Lock Structure**

**PACIFIC LOCKS COMPLEX (3x3 WSB)  
ROLLING GATE PA2 : GENERAL LAY OUT**

NO.	DATE	DESCRIPTION	BY	CHKD	APPROVED
1	20-04-08	Final design	PSB	MSB	JMB
2	15-05-08	Client final approval	PSB	MSB	JMB
3	05/06/08	Final design	PSB	MSB	JMB
4	05/06/08	Final design	PSB	MSB	JMB

Contract: SA-143351    Scale: 1/100    Drawing n°: D4-D-102    Rev.: C    Folio: 1/1



Layout of lower upstream stiffened skin plating panels to be adapted to flow openings required to minimize delay in equalization of water level between a pair of lock gates.

Gate structure possibly to be adapted for valves built in the gate.

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 referred to PLD.

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**Tractebel** Development Engineering

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Compagnie Nationale du Rhône

Avenue Adama 7 B-1200 Brussels

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Autoridad del Canal de Panamá

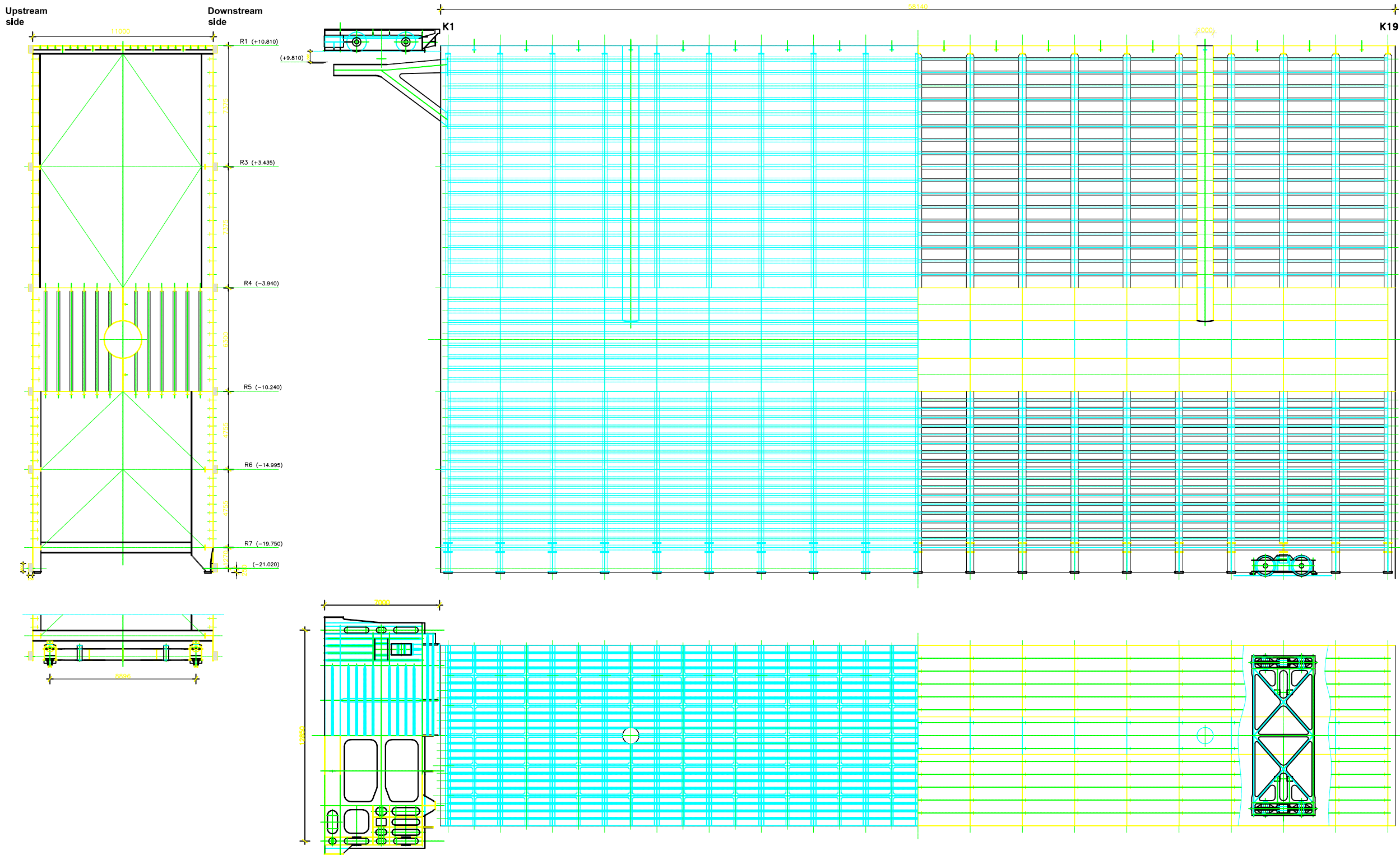
Dirección de Proyectos de Capacidad del Canal  
Edificio 601  
CORROZAL,  
República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax  
Actualization & Harmonization Study  
of New Lock Structure**

**PACIFIC LOCKS COMPLEX (3x3 WSB)  
ROLLING GATE PA3 : GENERAL LAY OUT**

NO.	DATE	DESCRIPTION	BY	CHKD	APPROV
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Contract: SA-143351 Scale: 1/100 Drawing n': D4-D-103 Rev.: C Folio: 1/1



Layout of lower upstream stiffened skin plating panels to be adapted to flow openings required to minimize delay in equalization of water level between a pair of lock gates.

Gate structure possibly to be adapted for valves built in the gate.

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 referred to PLD.

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In association with:

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**ACP**  
Autoridad del Canal de Panamá

Dirección de Proyectos de Capacidad del Canal  
Edificio 601  
CORONAL  
República de Panamá

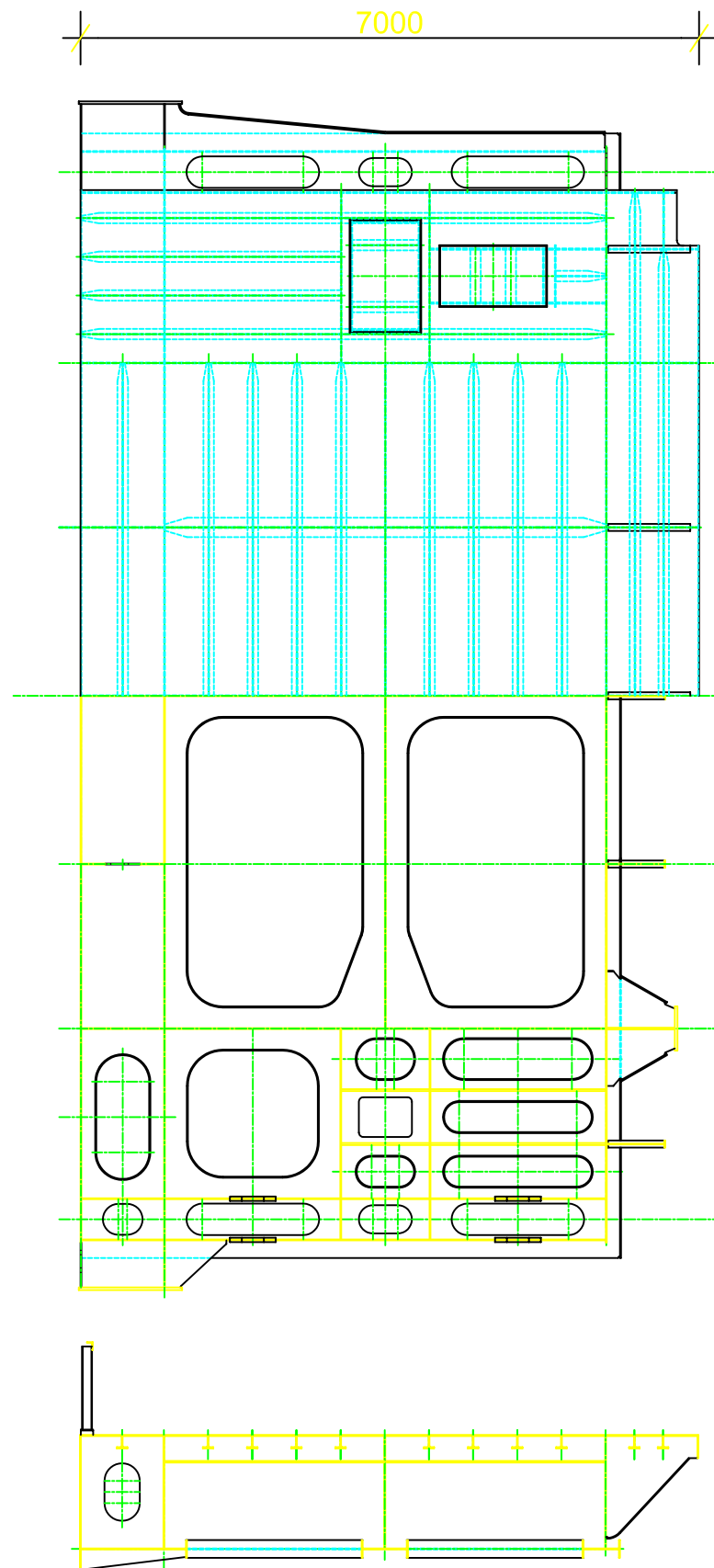
**Diseño Conceptual de las Esclusas Post Panamax  
Actualization & Harmonization Study  
of New Lock Structure**

**PACIFIC LOCKS COMPLEX (3x3 WSB)  
ROLLING GATE PA4: GENERAL LAY OUT**

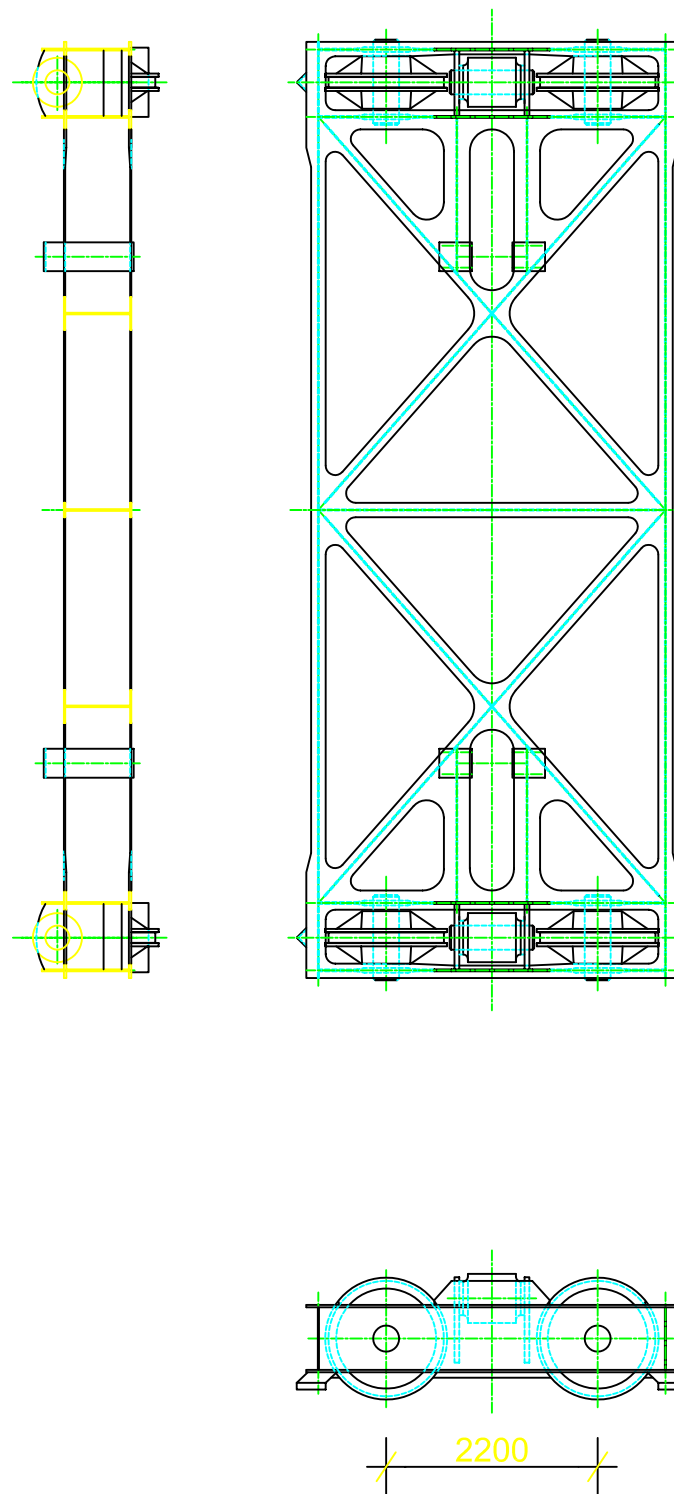
NO.	DATE	DESCRIPTION	BY	CHKD	APPROV
1	20-02-08	Final design	FP	ME	JM
2	15-02-08	Start work, layout	FP	ME	JM
3	05/03/08	Modified concept maintenance supports	FP		
4	05/03/08	Final edition	FP		

Contract: SA-143351    Scale: 1/100    Drawing n°: D4-D-104    Rev.: C    Folio: 1/1

# UPPER WAGON



# LOWER WAGON



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 referred to PLD.

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**Tractebel** Development Engineering

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Compagnie Nationale du Rhône

Avenue Ariane 7 B-1200 Brussels

In association with:

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**SBE**

**PORT OF ANTWERP**

**ACP**  
AUTORIDAD DEL CANAL DE PANAMA

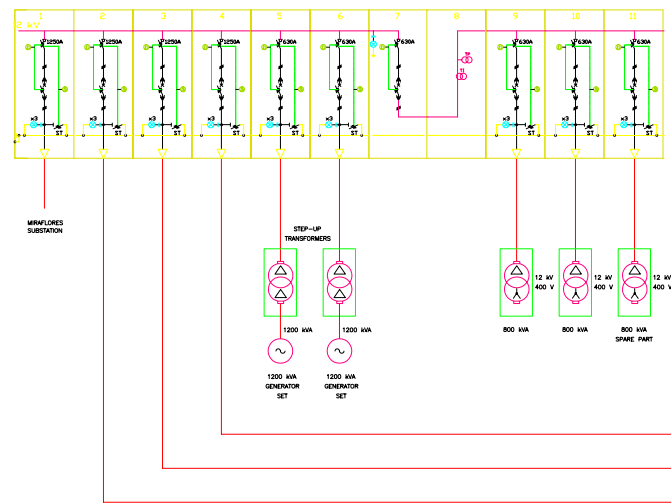
División de Proyectos de Capacidad del Canal  
Autoridad del Canal de Panama  
Edificio 601  
COROZAL  
Republica de Panama

Diseño Conceptual de las Esclusas Post Panamax  
Actualization & Harmonization Study  
of New Lock Structure

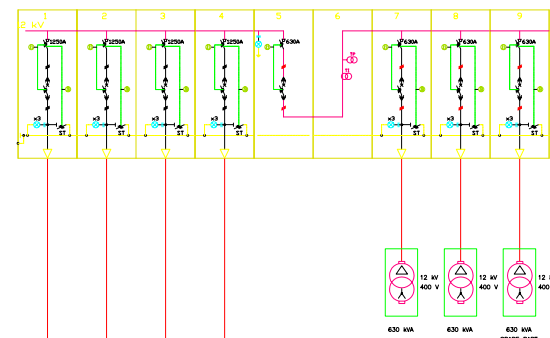
PACIFIC LOCKS COMPLEX (3x3 WSB)  
SUPPORT ROLLING WAGONS

REV.	DATE	FIRST EDITION	DESCRIPTION	DRAWN	CHECKED	APPROVED
F						
E						
D						
C						
B	22-04-05	FINAL REPORT		FJH	BME	JDR
A	11-03-05	DRAFT FINAL REPORT		FJH	BME	JDR
-	08/03/05	FIRST EDITION				
Contract	Scale:	Drawing n°:	Rev.:	Folio		
SAA-143351	1/50	D4-D-105	B	1/1		

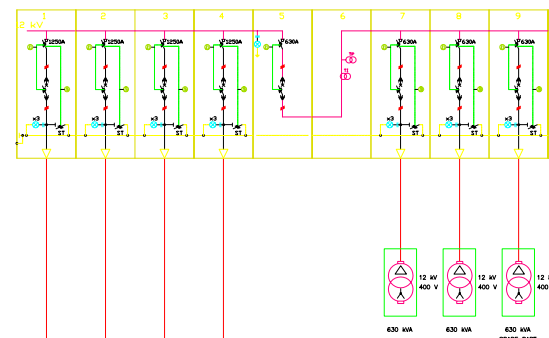
H.V. SWITCHGEAR 1.



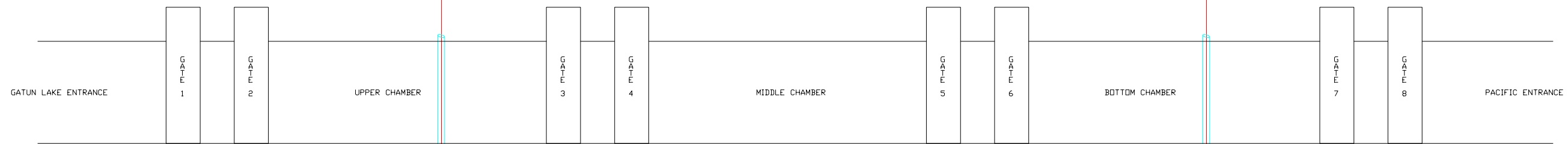
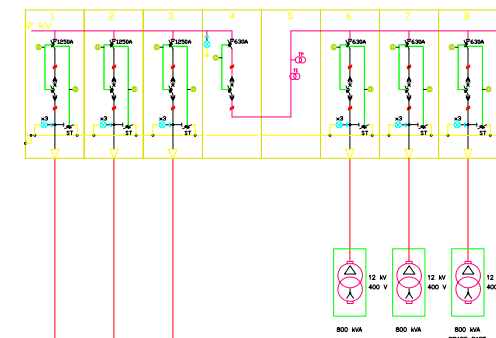
H.V. SWITCHGEAR 2.



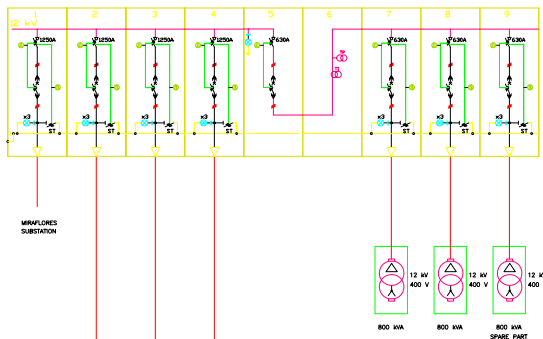
H.V. SWITCHGEAR 3.



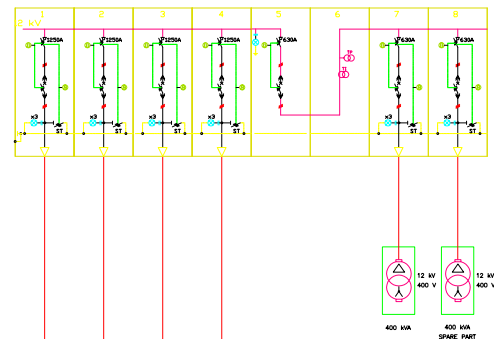
H.V. SWITCHGEAR 4.



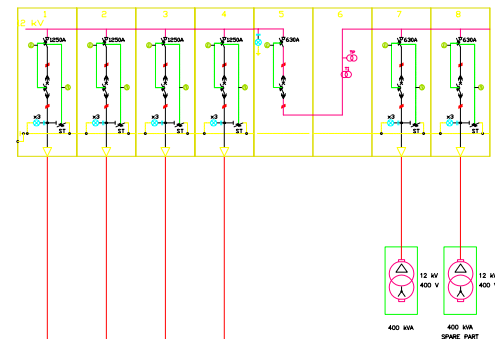
H.V. SWITCHGEAR 5.



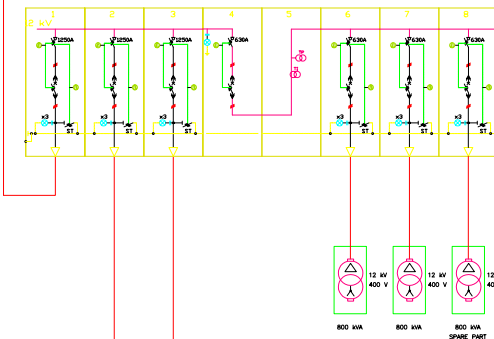
H.V. SWITCHGEAR 6.



H.V. SWITCHGEAR 7.



H.V. SWITCHGEAR 8.



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**Tractebel** Development Engineering  
**TECHNUM**  
**COYNEETBELLIER**  
 Compagnie Nationale de Réalisation  
 Avenue Malm 7 B-1209 Brussels  
**SBE**

**ACP**  
 División de Proyectos de Capacidad del Canal  
 Autoridad del Canal de Panamá  
 Edificio 801  
 CORGOL  
 República de Panamá

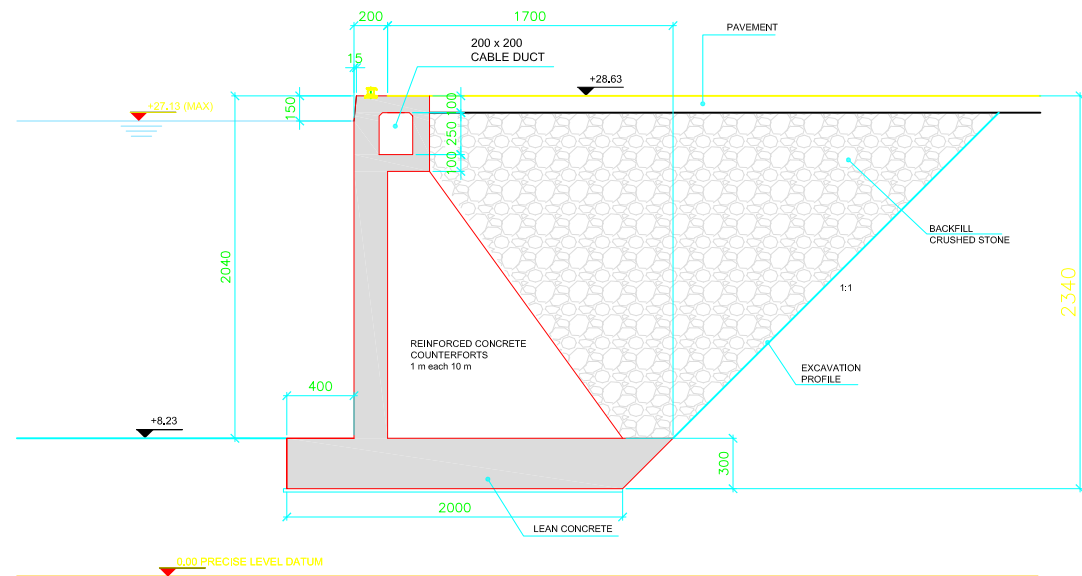
Panama Canal Area  
 Panama Canal Locks

**Diseño Conceptual de las Esclusas Post Panamax Actualization & Harmonization Study of New Lock Structure**

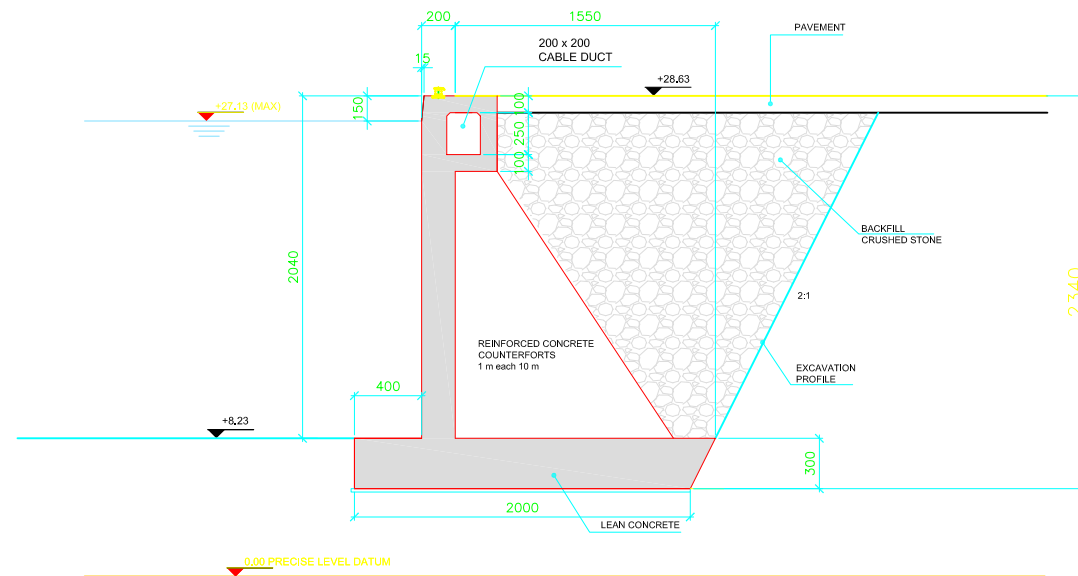
PACIFIC LOCKS COMPLEX (3x3 WSB)  
High voltage one-line diagram alternative 5

Contract	Scale	Drawing n°:	Rev.:	File:
SM-14320	1/200	D4- H - 106	A	1 / 1

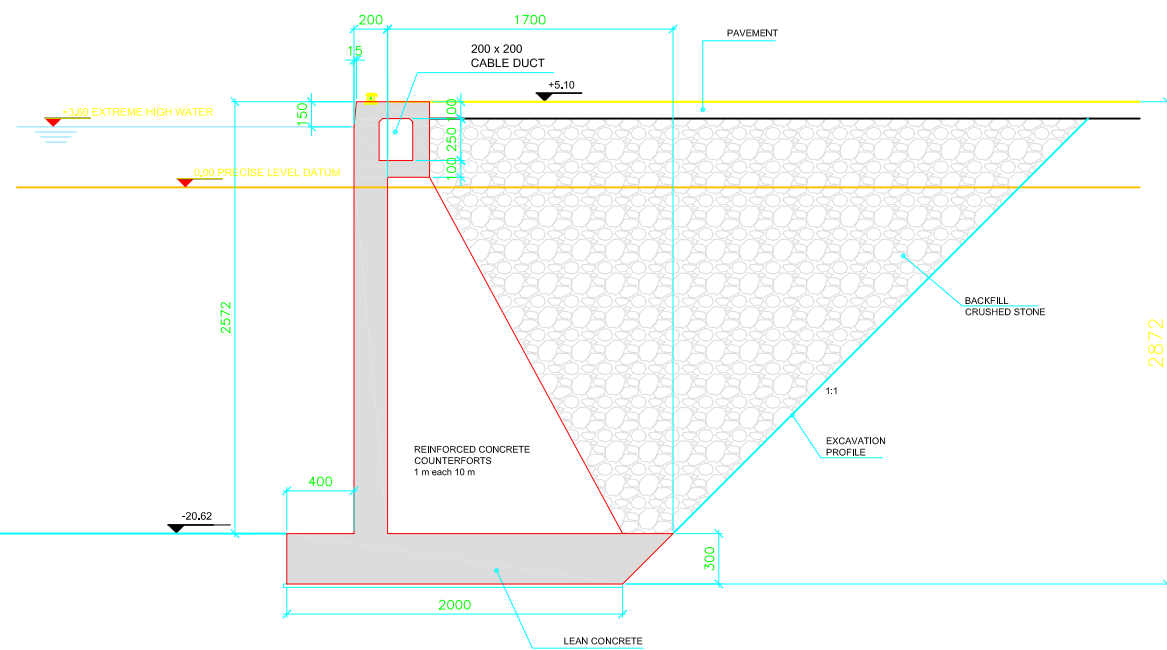
Gatun Lake side: La Boca



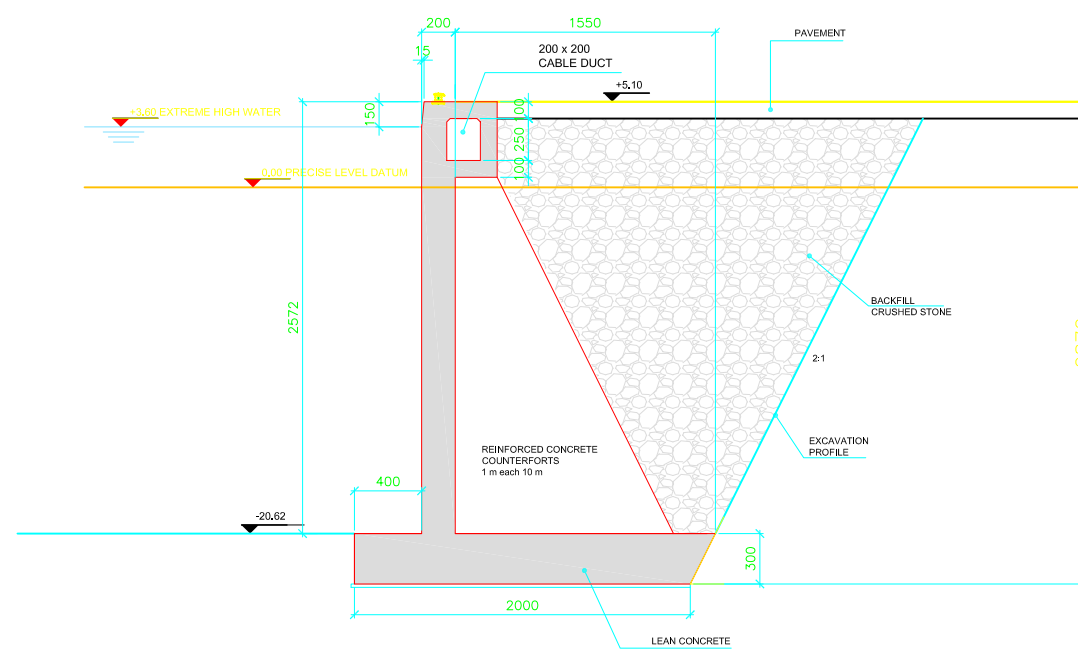
Gatun Lake side: Basalt Rock



Pacific entrance: La Boca



Pacific entrance: Basalt Rock



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**TECHNUM**

**COYNEET BELLIER**  
Compagnie Nationale du Rhone

Avenue Adena 7 B-1200 Brussels

In association with:

**FLA AOSO**

**SBE**

**PORT OF ANTWERP**

**ACP**  
Autoridad del Canal de Panamá

División de Proyectos de Capacidad del Canal  
Autoridad del Canal de Panamá  
Edificio 091  
CORROZAL  
República de Panamá

**Diseño Conceptual de las Esclusas Post Panamax  
Actualization & Harmonization Study  
of New Lock Structure**

**PACIFIC LOCKS COMPLEX (3x3 WSB)  
CROSS SECTIONS ENTRANCE WALLS**

REV.	DATE	DESCRIPTION	DESIGNED	CHECKED	APPROVED
F					
E					
D					
C	02-04-05	UPDATE FINAL REPORT TO ACP REMARKS	FM	ME	JM
B	02-04-05	FINAL REPORT	FM	ME	JM
A	11-25-05	DRAFT FINAL REPORT	FM	ME	JM
-	11/25/05	FINAL ESTIMATE	FM	ME	JM

Contract	Scale:	Drawing n°:	Rev.:	Folio
SAA-143351	1/200	D4- I - 101	C	1 / 1