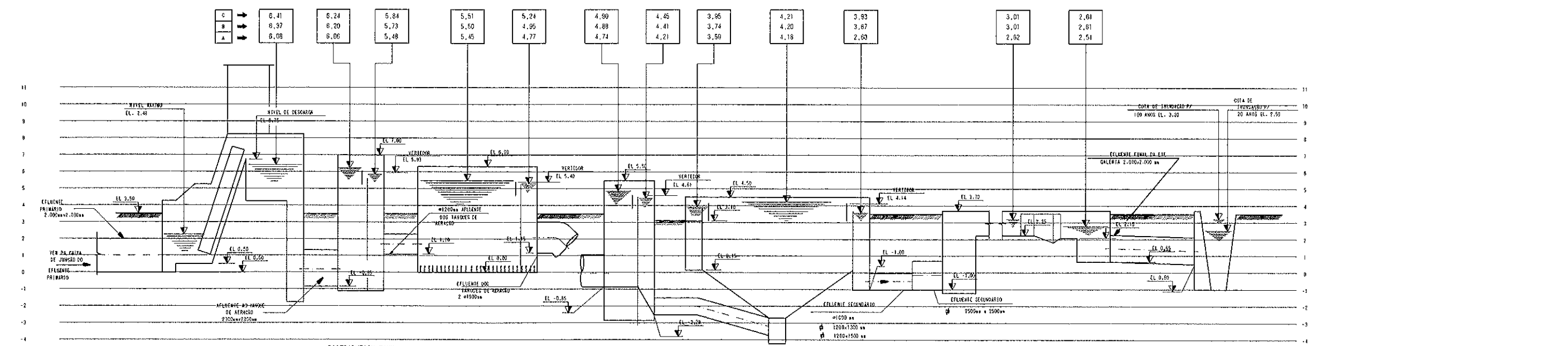


PUMPING STATION GRIT CHAMBER PARSHALL FLUME PRIMARY CLARIFIER DISTRIBUTION BOX PRIMARY CLARIFIER PRIMARY EFFLUENT JUNCTION BOX

PRIMARY TREATMENT

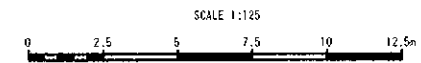
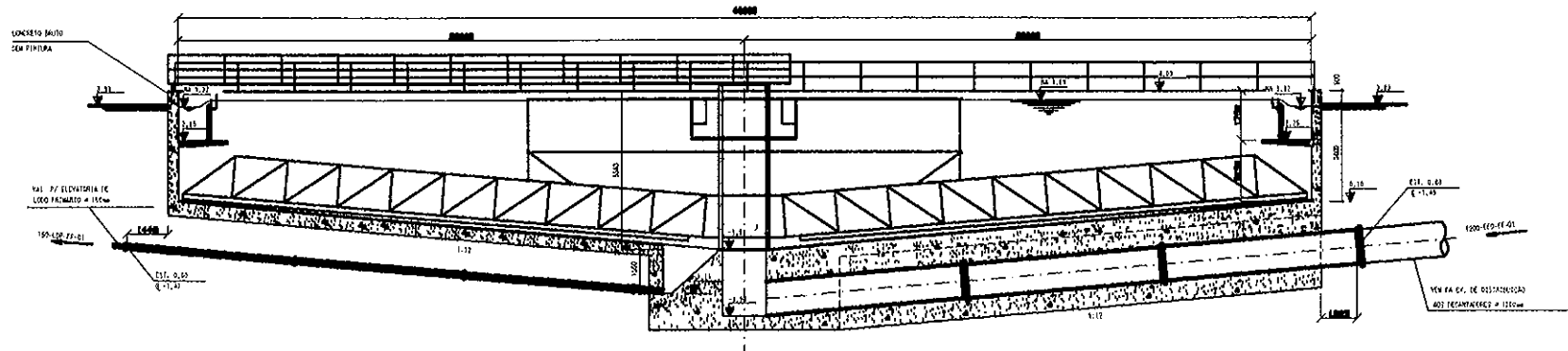
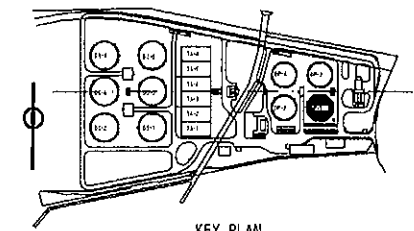
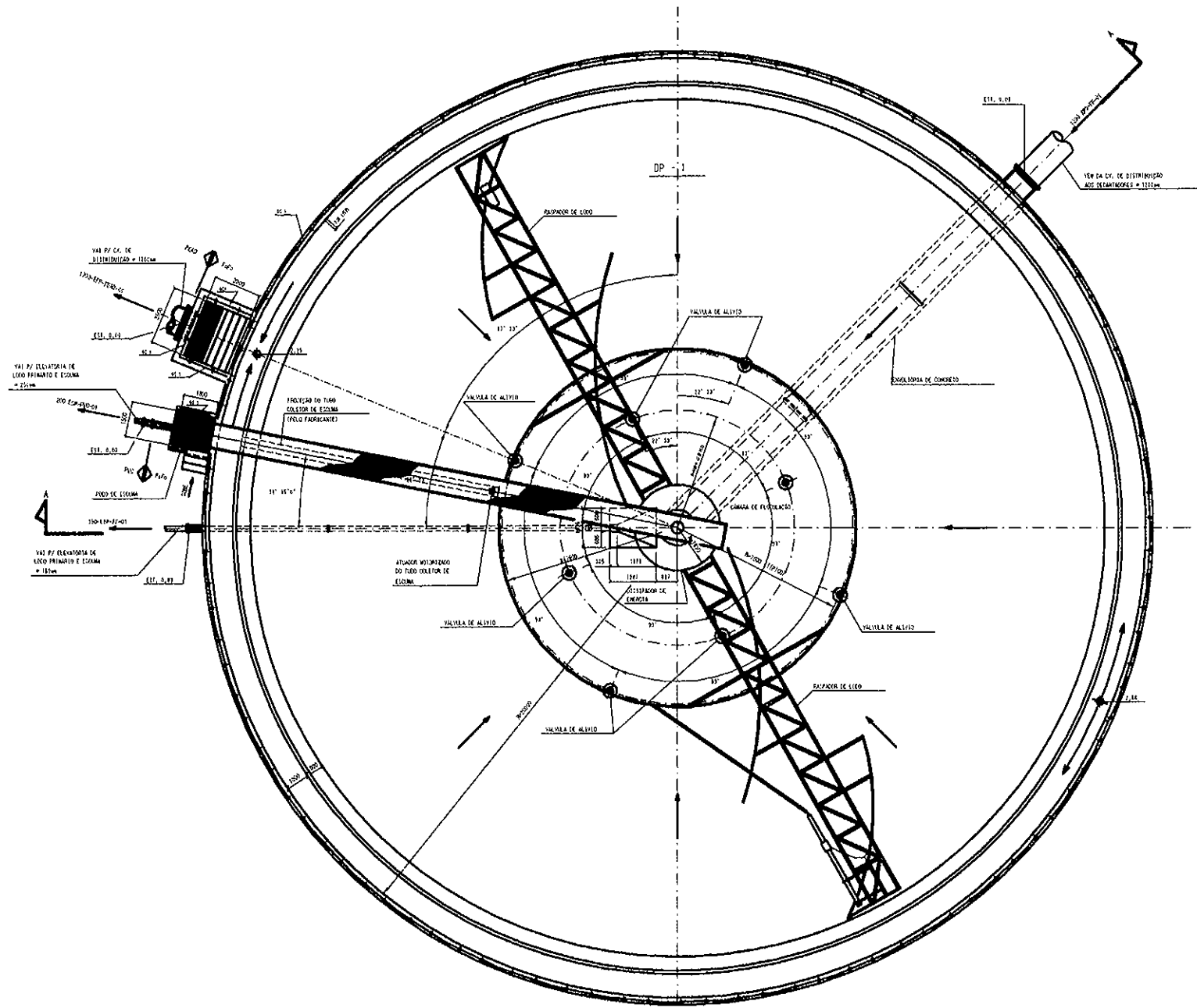


INTERMEDIATE PUMPING STATION DISTRIBUTION TANK (AERATION TANK) AERATION TANK DISTRIBUTION TANK (SECONDARY CLARIFIER) SECONDARY CLARIFIER DISCHARGE TANK PARSHALL FLUME FINAL EFFLUENT

SECONDARY TREATMENT

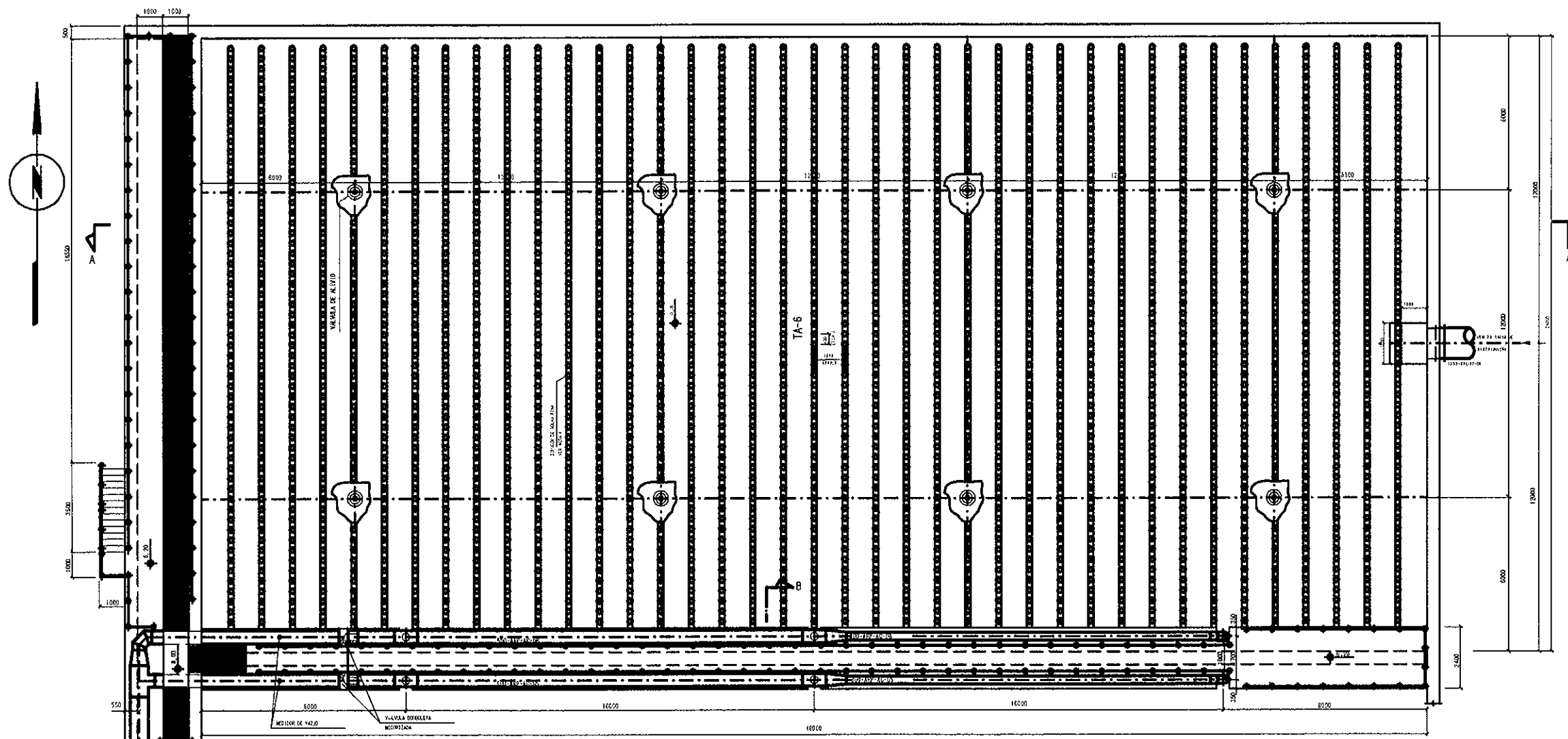
REFERENCE DRAW: 06-3.360-139-401-100-004

DRAW: 2.7	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GUANABARA BAY IN RIO DE JANEIRO	TITLE
	PAVUNA - WWTP HYDRAULIC PROFILE	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		

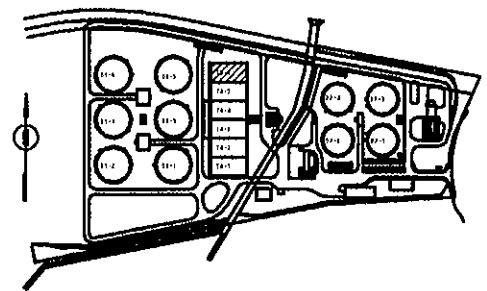


NOTE:
1 - ELEVATION & DIMENSION IN METER.
REFERENCE DRAW:
DC-3-386-F10-011-OPV-00-001
DC-3-386-F10-011-OPV-00-002

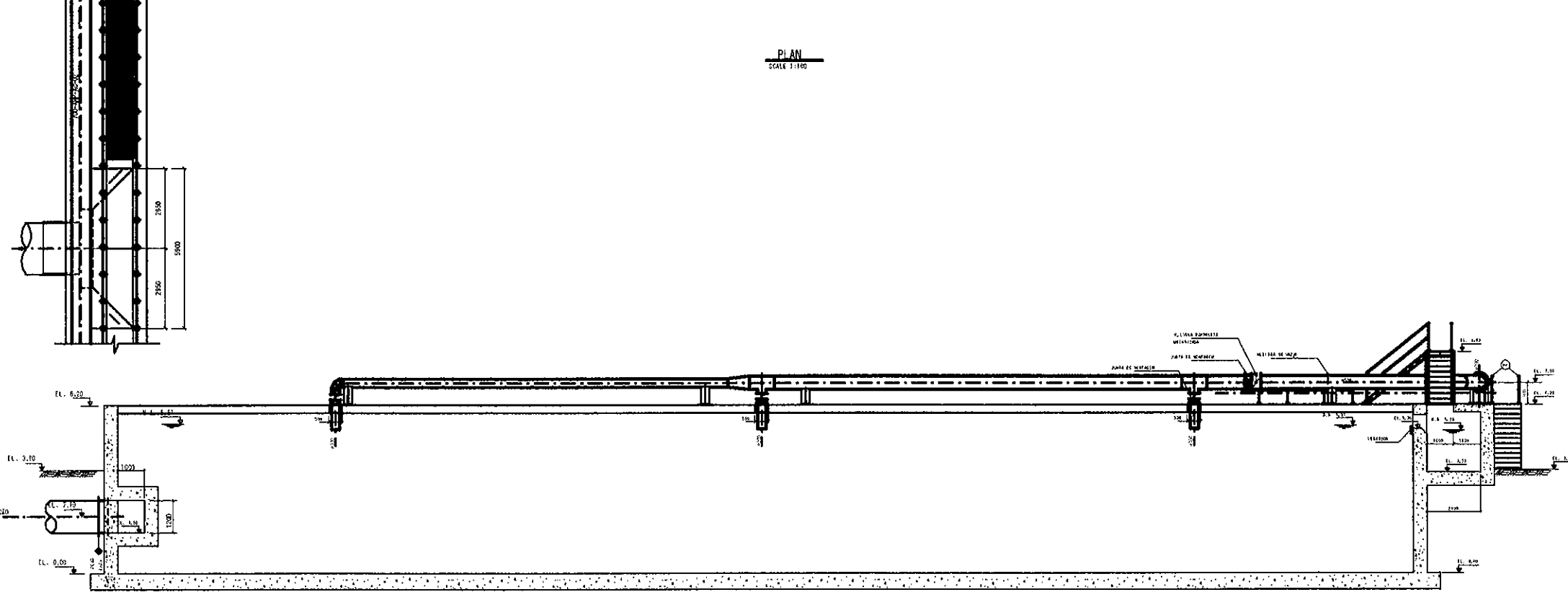
DRAW. 2.8	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GJANABARA BAY IN RIO DE JANEIRO	TITLE
	PAVUNA - WWTP PRIMARY CLARIFIER	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		



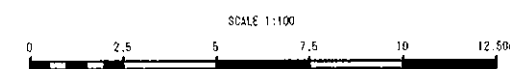
PLAN
SCALE 1:100



KEY PLAN
SCALE 1:100

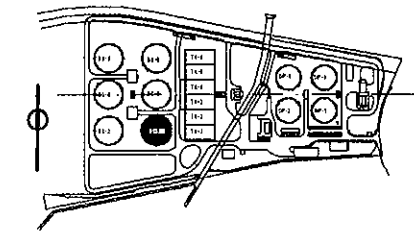


SECTION
SCALE 1:100

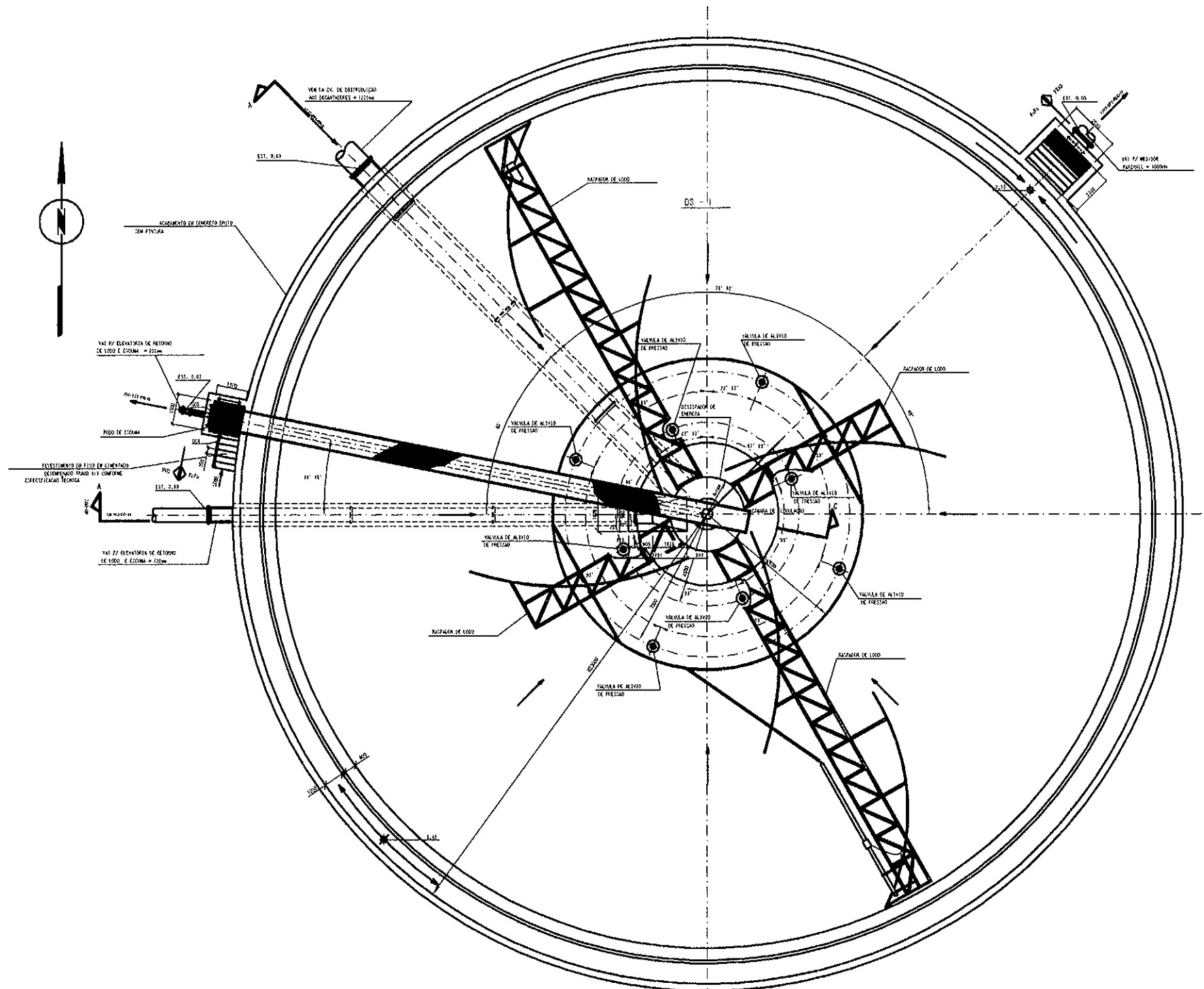


NOTE:
1 - ELEVATION & DIMENSION IN METERS.
REFERENCE DRAWING:
DC-9-287-130-001-APP-00-002

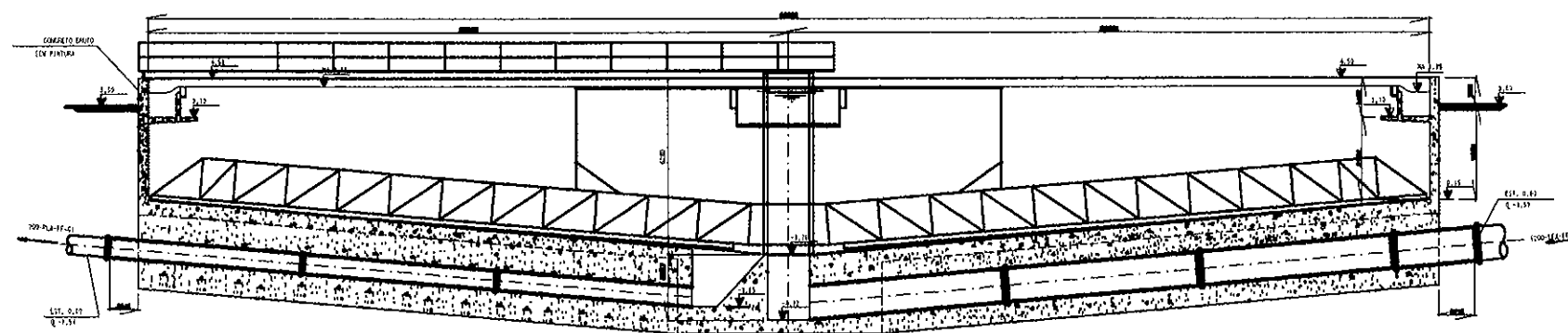
DRAW. 2.9	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GUANABARA BAY IN RIO DE JANEIRO	TITLE PAVUNA - WWTP AERATION TANK
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	



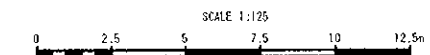
KEY PLAN
5/7 SCALE



PLAN
SCALE 1:125

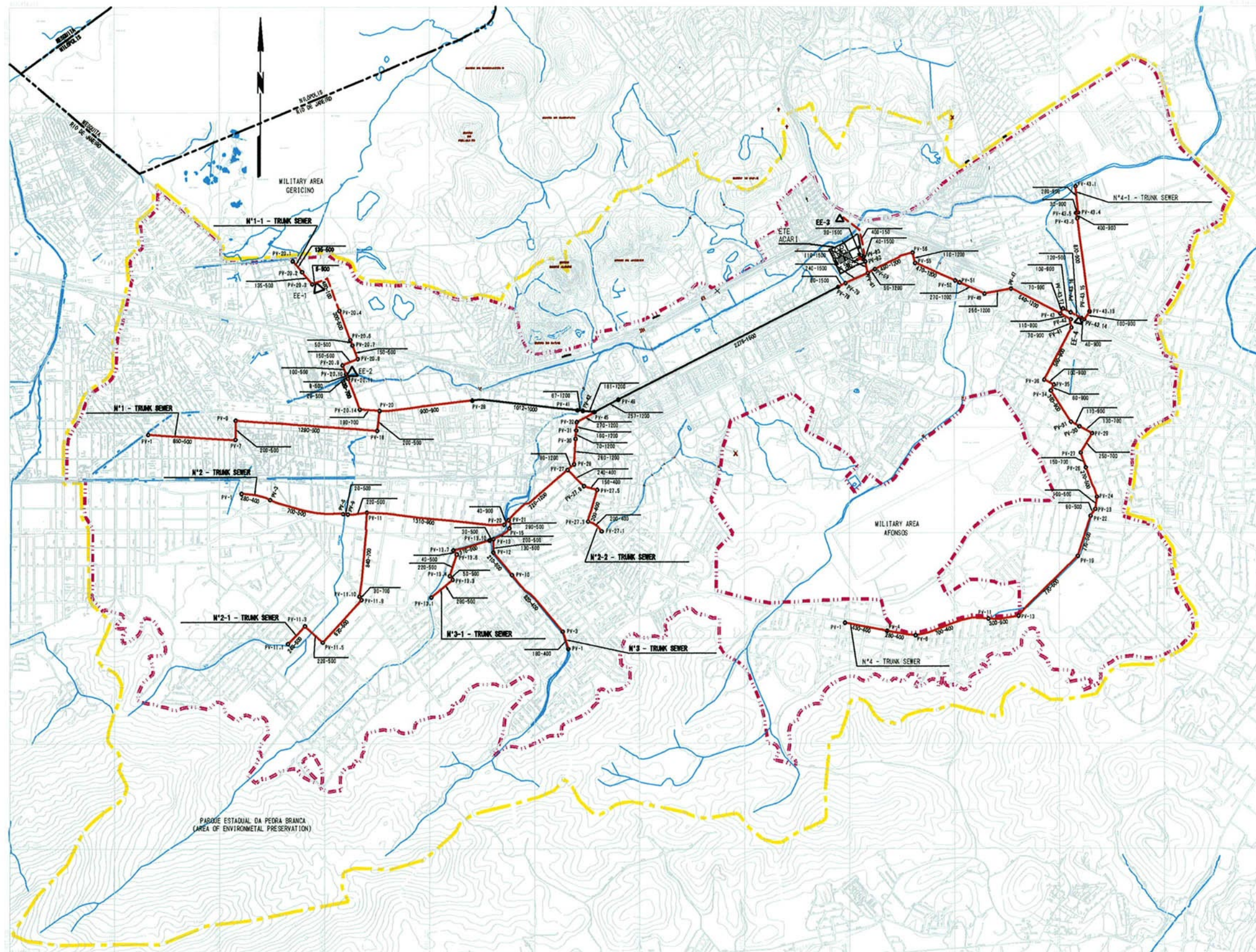


SECTION
SCALE 1:125



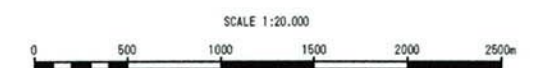
NOTE:
1 - ELEVATION & DIMENSION IN METER.
REFERENCE DRAW:
DE-3-353-130.401-CPP-20-001
DE-3-353-130.401-CPP-20-002

DRAW. 2 10	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GUANABARA BAY IN RIO DE JANEIRO	TITLE
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PAVUNA - WWTP SECONDARY CLARIFIER

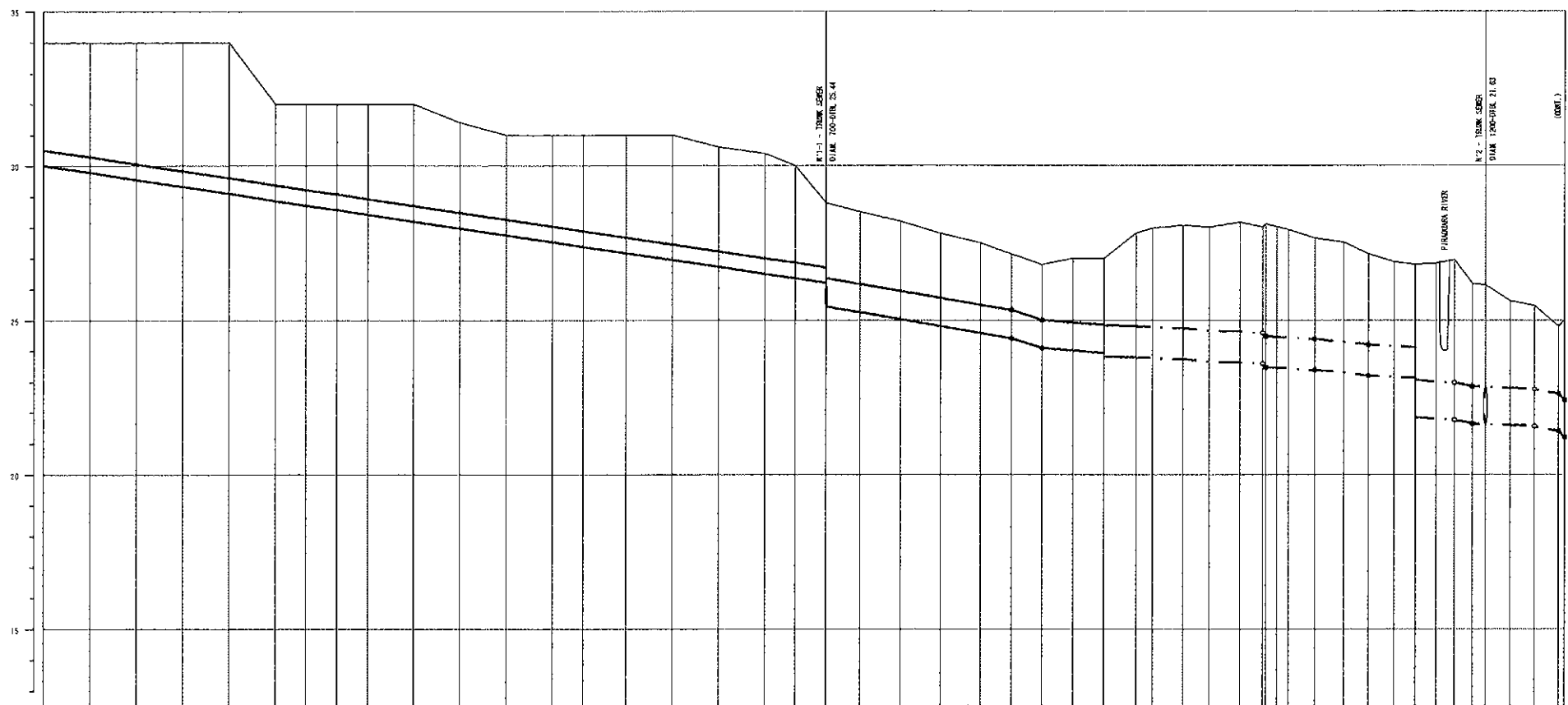


LEGEND

- MUNICIPALITY BOUNDARY
- - - SUB-BASIN BOUNDARY
- · - · - URBAN AREA BOUNDARY
- TRUNK SEWER (BY GRAVITY FLOW)
- TRUNK SEWER EXISTENT (BY GRAVITY FLOW)
- TRUNK SEWER (BY PRESSURE FLOW)
- 100-400
DIAMETER (mm)
LENGTH (m)
- PV MANHOLE
- EE PUMP STATION
- ETE TREATMENT FACILITY
- PLANNED TREATMENT FACILITY
- △ PLANNED PUMP STATION
- ▲ EXISTING PUMP STATION



DRAW. 3.1	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GUANABARA BAY IN RIO DE JANEIRO	TITLE
	LAY OUT PLAN OF ACARI SEWER DISTRICT	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		

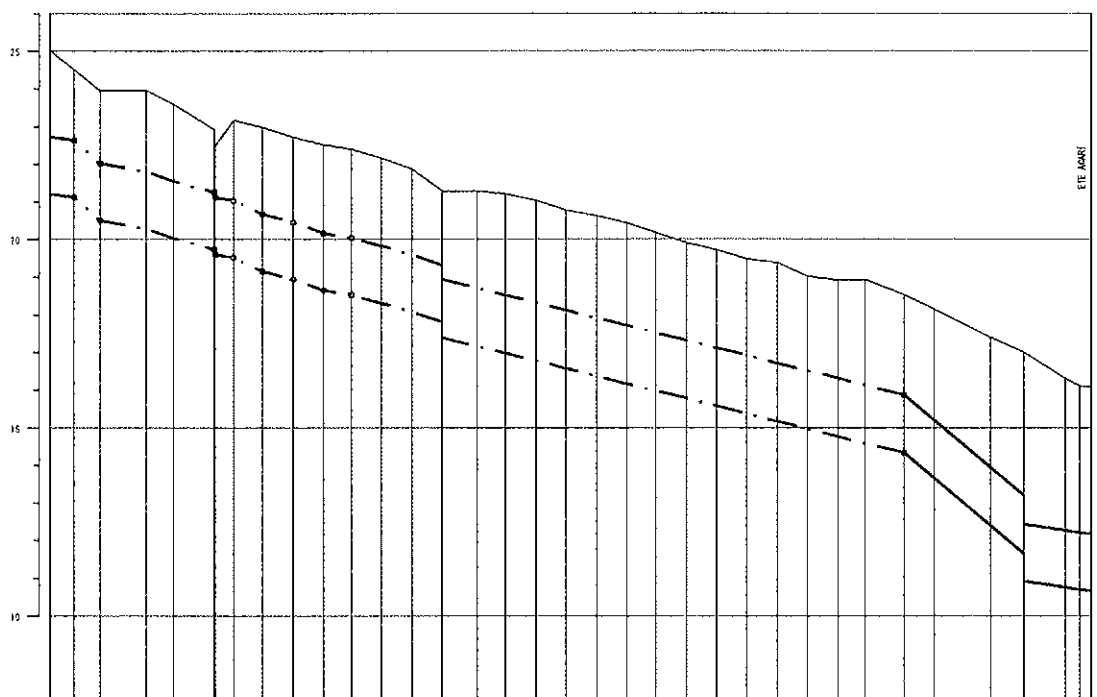


NOTE:
 1- DIAMETERS IN MILLIMETERS, SLOPES IN METER PER METER, LEVELS AND LENGTHS IN METERS.

- LEGEND:
- UWH - UPSTREAM MANHOLE
 - UGL - UPSTREAM GROUND LEVEL
 - UTBL - UPSTREAM TRUNK SEWER BOTTOM LEVEL
 - UTD - UPSTREAM TRUNK SEWER DEPTH
 - DWH - DOWNSTREAM MANHOLE
 - DGL - DOWNSTREAM GROUND LEVEL
 - DTBL - DOWNSTREAM TRUNK SEWER BOTTOM LEVEL
 - DTD - DOWNSTREAM TRUNK SEWER DEPTH
 - - GROUND
 - — — - PRESSING LINE
 - — — — - TRUNK SEWER STUDY
 - — — — — - TRUNK SEWER EXISTENT
 - | - MANHOLE

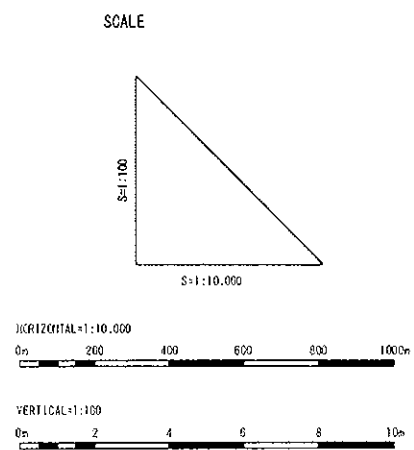
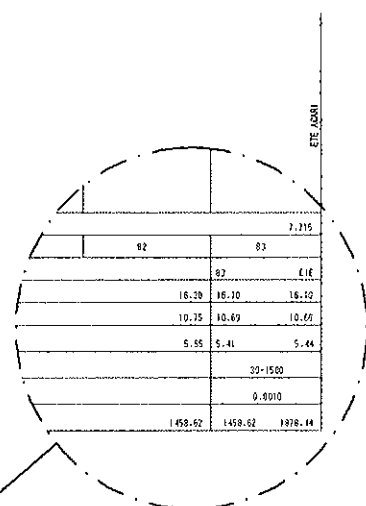
LOCATION STAKE (M)	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	4.931	
N° OF SEWER	1	2	3	4	5	6	7	8	9	10	11	
DWH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
DGL	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	
UTBL	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	
UTD	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
LENGTH-DIAMETER	25.10-500			300-500			1032-1050			485-1200		
SLOPE	0.0315			0.0212			0.0232			0.0215		
FLOW	18.20	21.45	262.05	284.23	284.23	284.23	284.23	284.23	284.23	284.23	284.23	

N°1 - TRUNK SEWER

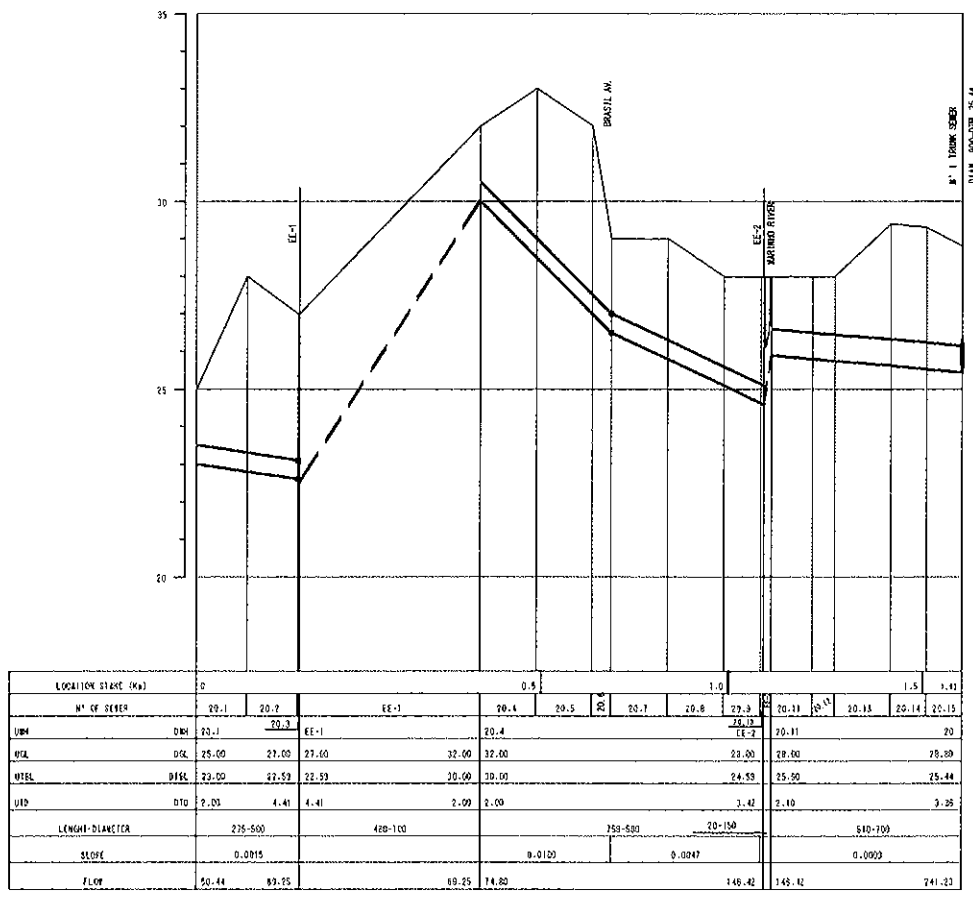


LOCATION STAKE (M)	5.0	5.5	6.0	6.5	7.0	7.5	7.715
N° OF SEWER	49	50	51	52	53	54	54
DWH	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DGL	23.01	23.01	23.01	23.01	23.01	23.01	23.01
UTBL	21.21	21.21	21.21	21.21	21.21	21.21	21.21
UTD	1.80	1.80	1.80	1.80	1.80	1.80	1.80
LENGTH-DIAMETER	2774.10-1500			0.0015			0.0015
SLOPE	0.0015			0.0015			0.0015
FLOW	842.02	842.02	842.02	842.02	842.02	842.02	842.02

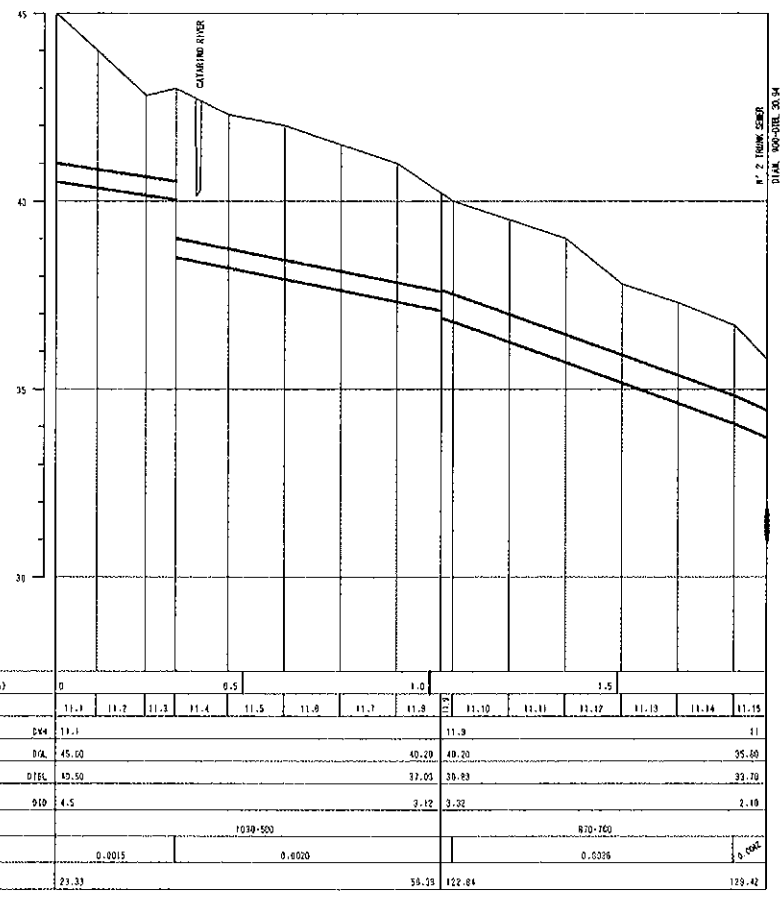
N°1 - TRUNK SEWER



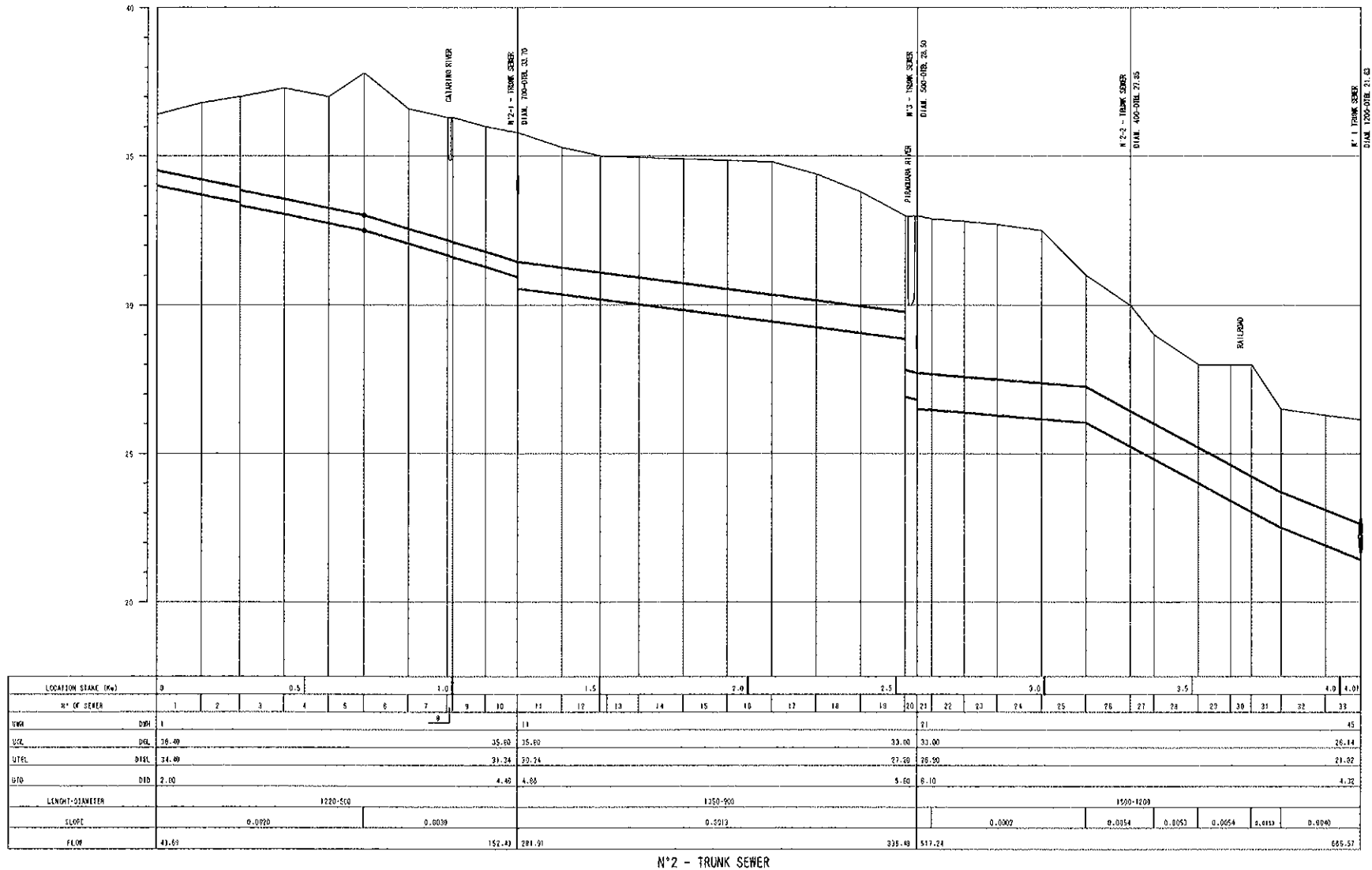
DRAW. 3.2	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GUANABARA BAY IN RIO DE JANEIRO	TITLE TRUNK SEWER PROFILE (1/5) ACARI SEWER DISTRICT
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	



N°1-1 - TRUNK SEWER



N°2-1 - TRUNK SEWER



N°2 - TRUNK SEWER

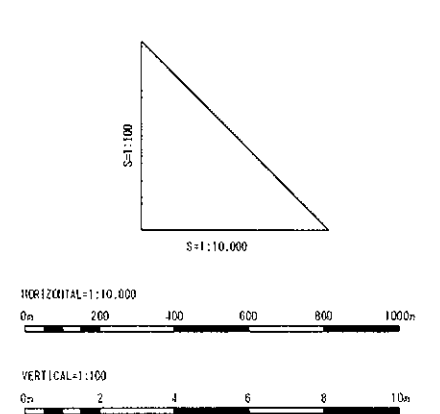
NOTE:

1- DIAMETERS IN MILLIMETERS, SLOPES IN METER PER METER, LEVELS AND LENGTHS IN METERS.

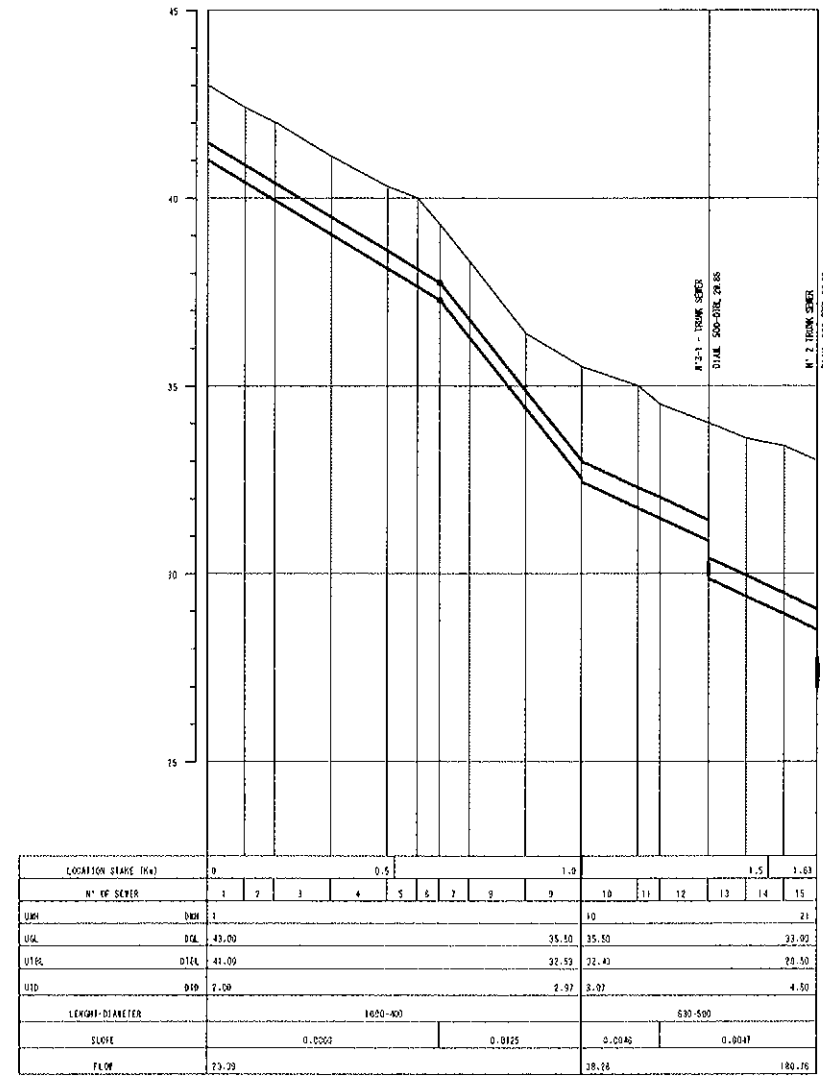
LEGEND:

- UWL - UPSTREAM MANHOLE
- UGL - UPSTREAM GROUND LEVEL
- UTL - UPSTREAM TRUNK SEWER BOTTOM LEVEL
- UTD - UPSTREAM TRUNK SEWER DEPTH
- DWL - DOWNSTREAM MANHOLE
- DGL - DOWNSTREAM GROUND LEVEL
- DWL - DOWNSTREAM TRUNK SEWER BOTTOM LEVEL
- DTD - DOWNSTREAM TRUNK SEWER DEPTH
- - - - GROUND
- ==== PRESSING LINE
- ===== TRUNK SEWER STUDY
- TRUNK SEWER EXISTENT
- | MANHOLE

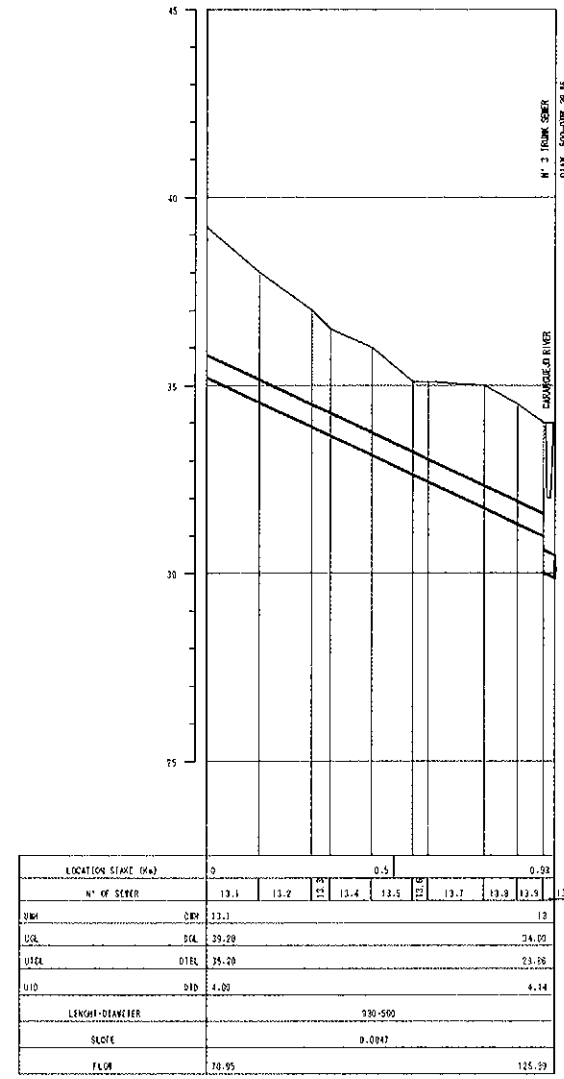
SCALE



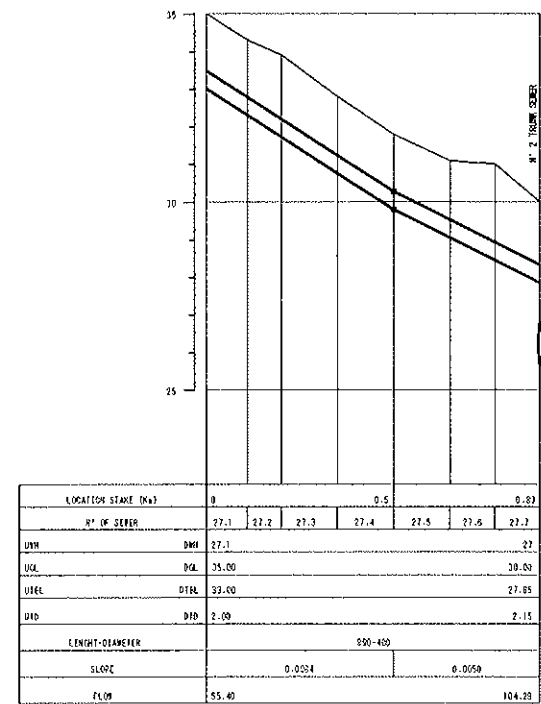
DRAW 3.3	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GUANABARA BAY IN RIO DE JANEIRO	TITLE
	TRUNK SEWER PROFILE (2/5) ACARI SEWER DISTRICT	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		



N°3 - TRUNK SEWER



N°3-1 - TRUNK SEWER

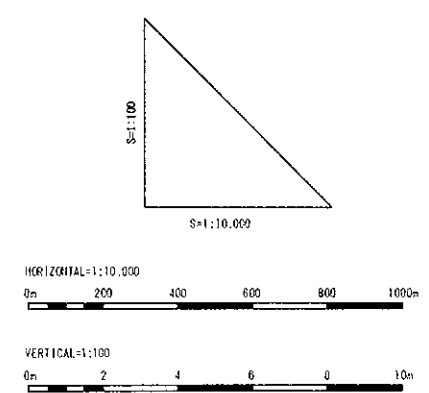


N°2-2 - TRUNK SEWER

NOTE:
1- DIAMETERS IN MILLIMETERS, SLOPES IN METER PER METER, LEVELS AND LENGTHS IN METERS.

- LEGEND:
- UWH - UPSTREAM MANHOLE
 - UWL - UPSTREAM GROUND LEVEL
 - UTBL - UPSTREAM TRUNK SEWER BOTTOM LEVEL
 - UTD - UPSTREAM TRUNK SEWER DEPTH
 - DMH - DOWNSTREAM MANHOLE
 - DGL - DOWNSTREAM GROUND LEVEL
 - DTBL - DOWNSTREAM TRUNK SEWER BOTTOM LEVEL
 - DTD - DOWNSTREAM TRUNK SEWER DEPTH
 - - GROUND
 - - PROPOSED LINE
 - - TRUNK SEWER STUDY
 - - TRUNK SEWER EXISTENT
 - | - MANHOLE

SCALE

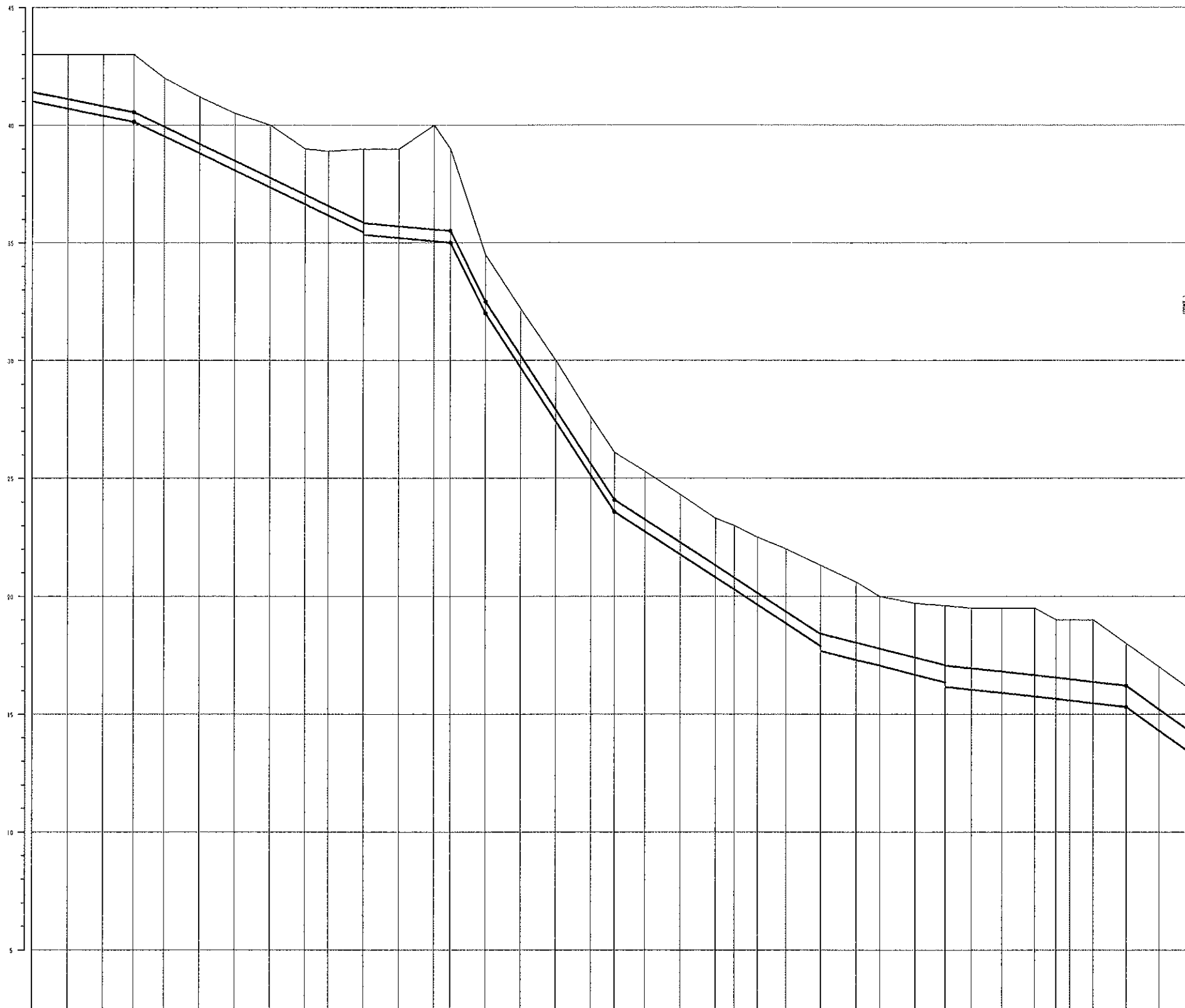


NOTE:

1- DIAMETERS IN MILLIMETERS, SLOPES IN METER PER METER, LEVELS AND LENGTHS IN METERS.

LEGEND:

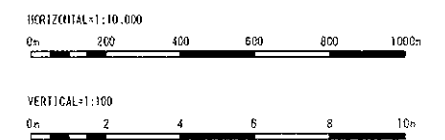
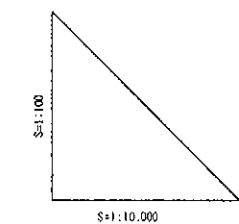
- UMH - UPSTREAM MANHOLE
- UGL - UPSTREAM GROUND LEVEL
- UTBL - UPSTREAM TRUNK SEWER BOTTOM LEVEL
- UTD - UPSTREAM TRUNK SEWER DEPTH
- DMH - DOWNSTREAM MANHOLE
- DGL - DOWNSTREAM GROUND LEVEL
- DTBL - DOWNSTREAM TRUNK SEWER BOTTOM LEVEL
- DTD - DOWNSTREAM TRUNK SEWER DEPTH
- - GROUND
- - PRESSING LINE
- - TRUNK SEWER STUDY
- - TRUNK SEWER EXISTENT
- | - MANHOLE



LOCATION STAKE (Sta)	0		0.5		1.0		1.5		2.0		2.5		3.0		3.5		4.0		4.5		4.94																																																																															
N° OF SEWER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39																																																													
UMH											11											28											39											39																																																								
DGL	43.00										39.00										21.30										19.62										16.00																																																											
UTBL	41.00										35.44										17.83										16.25										13.30																																																											
UTD	2.00										3.56										3.47										3.25										2.70																																																											
DMH																																																																																																				
DGL	1410-920										1050-900										510-700										1050-900																																																																					
SLOPE	0.0039										0.0243										0.0209										0.0031										0.0158										0.0055										0.0025										0.0011										0.0011										0.0021									
FLOR	60.38										60.78										64.13										63.22										64.62										64.52										66.33																																							

N°4 - TRUNK SEWER

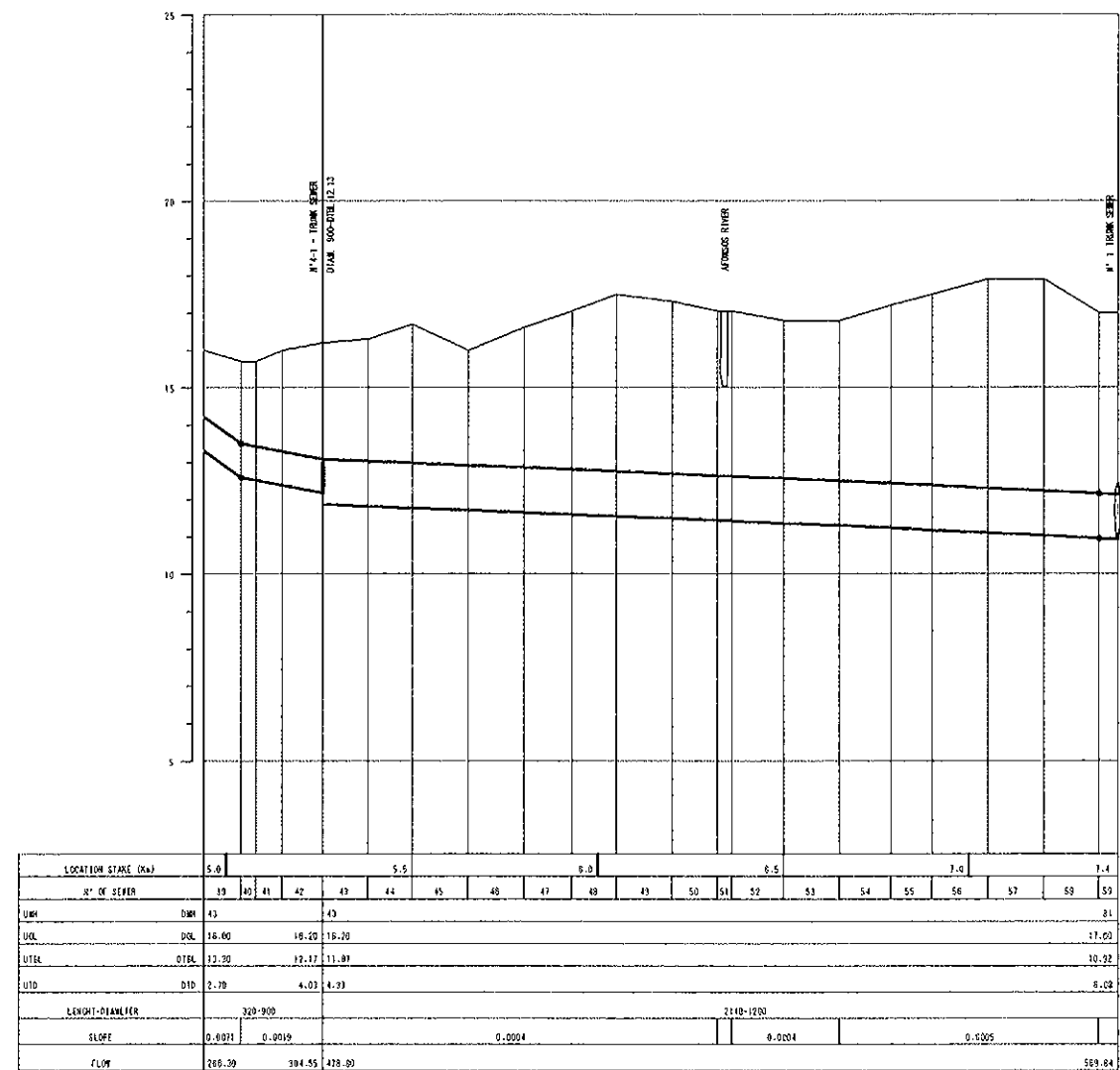
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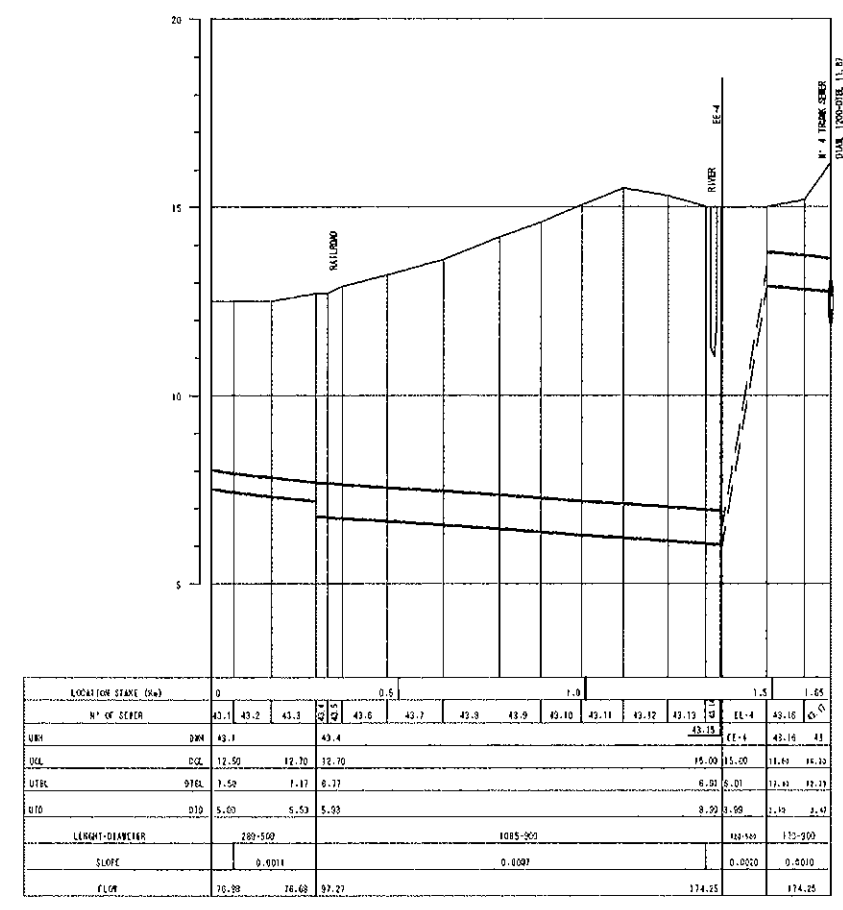
DRAW 3.5	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GUANABARA BAY IN RIO DE JANEIRO	TITLE
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	TRUNK SEWER PROFILE (4/5) ACARI SEWER DISTRICT

NOTE:
 1- DIAMETERS IN MILLIMETERS, SLOPES IN METER PER METER,
 LEVELS AND LENGTHS IN METERS.

- LEGEND:
- UMH - UPSTREAM MANHOLE
 - UGL - UPSTREAM GROUND LEVEL
 - UTBL - UPSTREAM TRUNK SEWER BOTTOM LEVEL
 - UTD - UPSTREAM TRUNK SEWER DEPTH
 - DMH - DOWNSTREAM MANHOLE
 - DGL - DOWNSTREAM GROUND LEVEL
 - DTBL - DOWNSTREAM TRUNK SEWER BOTTOM LEVEL
 - DTD - DOWNSTREAM TRUNK SEWER DEPTH
 - GROUND
 - PRESSING LINE
 - TRUNK SEWER STUDY
 - TRUNK SEWER EXISTENT
 - MANHOLE

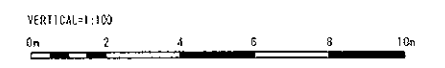
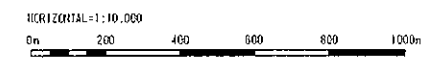
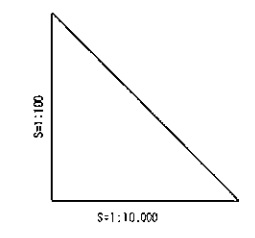


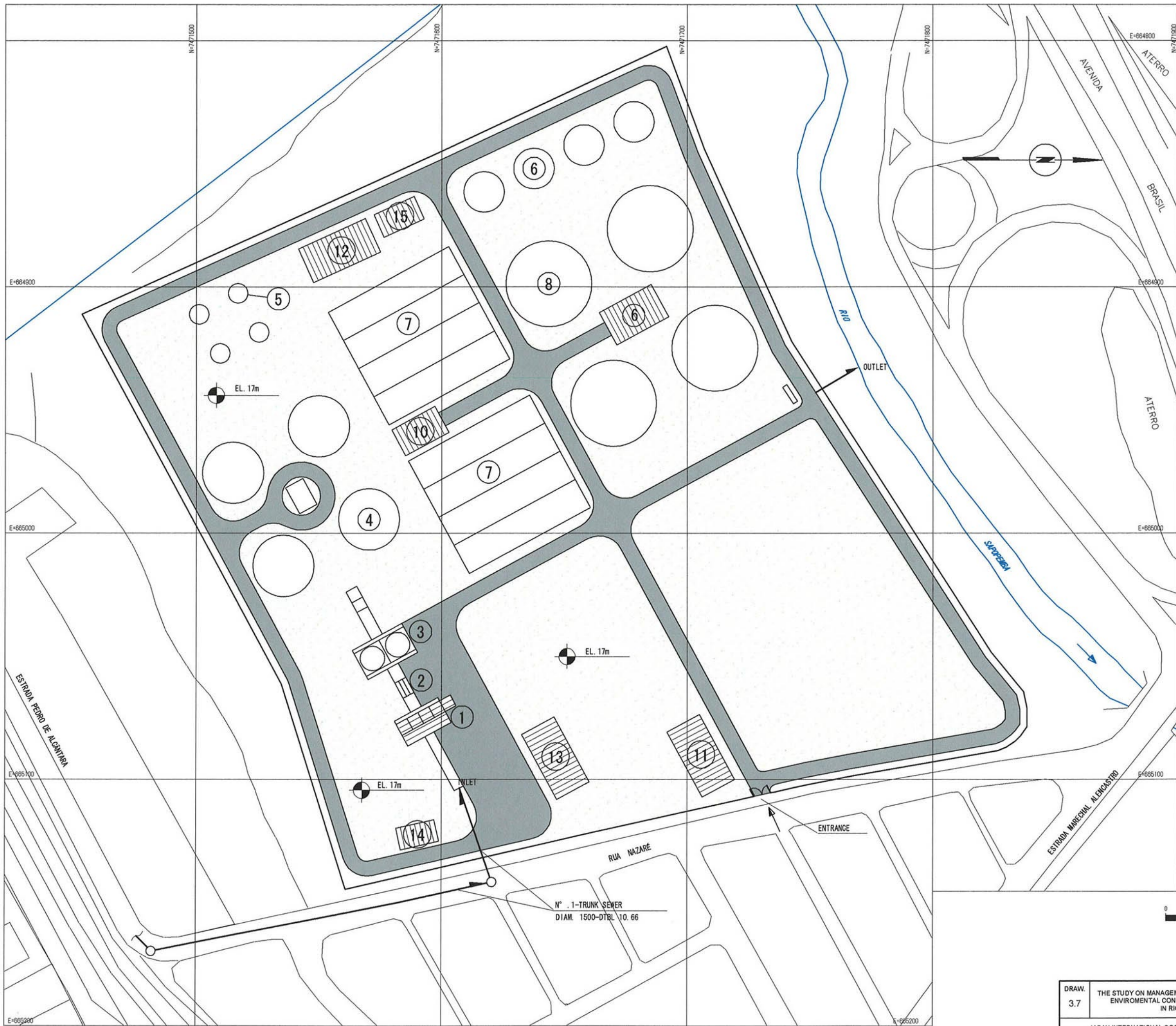
N°4 - TRUNK SEWER



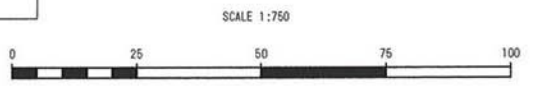
N°4-1 - TRUNK SEWER

SCALE



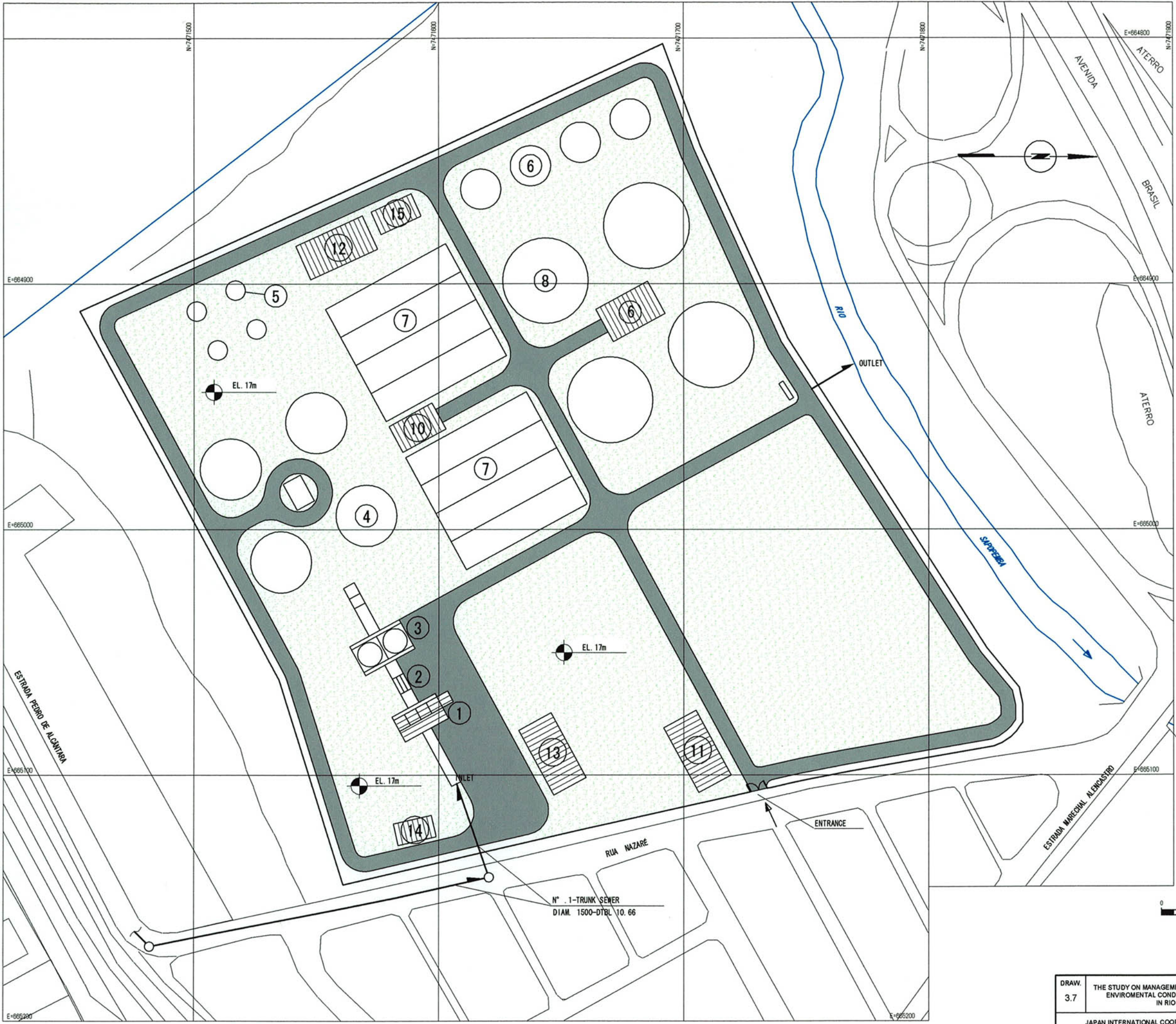


- LEGEND:
- ① INFLUENT PUMPING STATION
 - ② FINE SCREEN CHANNEL
 - ③ GRIT CHAMBER
 - ④ PRIMARY CLARIFIER
 - ⑤ GRAVITY THICKENING
 - ⑥ DIGESTERS
 - ⑦ AERATION TANK
 - ⑧ SECONDARY CLARIFIER
 - ⑨ RETURN PUMPING STATION
 - ⑩ BLOWERS
 - ⑪ ADMINISTRATION BUILDING
 - ⑫ SLUDGE BUILDING
 - ⑬ WORKSHOP
 - ⑭ SUBSTATION SE-1
 - ⑮ SUBSTATION SE-2

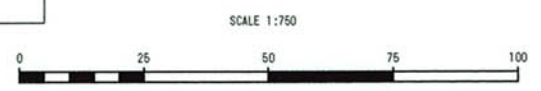


NOTE:
1 - ELEVATION & DIMENSION IN METER.

DRAW. 3.7	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GUANABARA BAY IN RIO DE JANEIRO	TITLE
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	ACARI - WWTP LAYOUT PLAN



- LEGEND:
- ① INFLUENT PUMPING STATION
 - ② FINE SCREEN CHANNEL
 - ③ GRIT CHAMBER
 - ④ PRIMARY CLARIFIER
 - ⑤ GRAVITY THICKENING
 - ⑥ DIGESTERS
 - ⑦ AERATION TANK
 - ⑧ SECONDARY CLARIFIER
 - ⑨ RETURN PUMPING STATION
 - ⑩ BLOWERS
 - ⑪ ADMINISTRATION BUILDING
 - ⑫ SLUDGE BUILDING
 - ⑬ WORKSHOP
 - ⑭ SUBSTATION SE-1
 - ⑮ SUBSTATION SE-2



NOTE:
1 - ELEVATION & DIMENSION IN METER.

DRAW. 3.7	THE STUDY ON MANAGEMENT AND IMPROVEMENT OF THE ENVIRONMENTAL CONDITIONS OF GUANABARA BAY IN RIO DE JANEIRO	TITLE ACARI - WWTP LAYOUT PLAN
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	