社会開発調査部報告書

No. 52

JAPAN INTERNATIONAL COOPERATION AGENCY

DHAKA WATER SUPPLY AND
SEWERAGE AUTHORITY
THE PEOPLE'S REPUBLIC OF BANGLADESH

THE STUDY
ON
THE SEWERAGE SYSTEM
IN
NORTH DHAKA
IN
THE PEOPLE'S REPUBLIC OF BANGLADESH

FINAL REPORT

SUPPORTING REPORT

JULY 1998

NIPPON JOGESUIDO SEKKEI CO., LTD.

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PART 1

MASTER PLAN

A. 3

EXISTING SEWERAGE SYSTEM IN SOUTH DHAKA

Appendix 3.2.1 Summary Data of MODS Zone Offices

MODS Zone I

Zone Area	Approx. 90 sq.km
Population	Approx. 2,000,000
Present Water Supply	160,100 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Pump Station, Sewer Lift Station	4 Nos.	All running	Narinda P/S Bashaboo L/S Sayedabad L/S Faridabad L/S
Sewer Line	ϕ 200 -1,350mm L = 150 km	Bad - 20 km	Need repair
O & M Equipment			
a) Water Carrier	4 Nos.	Old - 3 Nos. New - 1 No.	2 Nos. (1,000 gal) 1 No. (1,500 gal)
b) Pick-up Truck	2 Nos.	Good	1 No.
c) Sludge Dewater Pump	2 Nos.	Good	5 Nos.
d) Motor Cycle	12 Nos.	Good - 10 Nos. Bad - 2 Nos.	4 Nos.
e) Mobile Generator	1 No.	Bad	3 Nos.
f) Fixed Generator	12 Nos.	Running	
g) Hydraulic Jetting Machine	1 No.	Running	
i) Tructor	Nil	-	1 No. with 2 trolley
Manpower	Total Staff 274 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 4,652,000 Tk O & M Budget 2,105,000 Tk (Water supply and sewerage. Salary is excluded)		

MODS Zone II

Zone Area	Approx. 30 sq.km
Population	Approx. 1,100,000
Present Water Supply	123,000 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	3 Nos.	2 Nos. running 1 No. under repair (Hazaribag L/S)	Azimpur L/S Nawabgonj L/S Hazaribag L/S
Sewer Line	ϕ 150 - 600mm L = 110 km	Bad - 2.4 km	Need repair
O & M Equipment			
a) Car	1 No.	Running	Routine check-up
b) Water Carrier	1 No.	Condemned	1 No.
c) Pick-up Truck	2 Nos.	Under repair	1 No.
d) Tempo	2 Nos.	Running	2 Nos.
e) Motor Cycle	5 Nos.	3 Nos. running	3 Nos.
f) Mobile Generator	Nil	-	1 No.
f) Fixed Generator	4 Nos.	Running	
Manpower	Total Staff 194 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 6,700,000 Tk O & M Budget 4,000,000 Tk (Water supply and sewerage. Salary is excluded)		

MODS Zone III

Zone Area	Approx. 35 sq.km
Population	Approx. 1,400,000
Present Water Supply	144,600 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	2 Nos.	All running	Asadgate L/S New Market L/S
Sewer Line	◊ 200 - 450mm L = 90 km	Bad - 3 km	New - 15 km Repair - 3 km
O & M Equipment			
a) Car	1 No.	Running	2 Nos. (1,800 gal)
b) Water Carrier	6 Nos.	All running 2 Nos. routine check	1 No. (1,000 gal)
c) Pick-up Truck	2 Nos.	1 No. for auction	1 No.
d) Sludge Suction Pump	1 No.	Running	1 No.
e) Motor Cycle	10 Nos.	Bad - 5 Nos.	5 Nos.
f) Mobile Generator	4 Nos.	Running 3 Nos. routine check	
g) Fixed Generator	6 Nos.	Running 1 No. routine check	
i) Tractor	1 No.	Running	1 No.
j) Tempo	2 Nos.	Running	1 No.
k) Hydraulic Jetting Machine	1 No.	Running	1 No.
Manpower	Total Staff 215 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 6,160,000 Tk O & M Budget 1,710,000 Tk (Water supply and sewerage. Salary is excluded)		

MODS Zone IV

Zone Area	Approx. 50 sq.km
Population	Approx. 1,500,000
Present Water Supply	132,800 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	Nil	-	
Sewer Line	L = 93 km	-	Small-Bore System Not in operation since discharge P/S is not yet completed
O & M Equipment			
a) Car	1 No.	For auction	1 No.
b) Water Carrier	3 Nos.	Old - 2 Nos.	2 Nos. (1,000 gal)
c) Pick-up Truck	1 No.	At Workshop	1 No.
d) Tempo	2 Nos.	1No. at Workshop	1 No.
e) Motor Cycle	5 Nos.	Bad - 2 Nos.	3 Nos.
f) Mobile Generator	1 No.	Running	1 No.
g) Fixed Generator	4 No.	Running	
i) Tructor	Nil	-	1 No. with 2 trolley
Manpower	Total Staff 176 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 4,488,000 Tk O & M Budget 800,000 Tk (Water supply and sewerage. Salary is excluded)		

MODS Zone V

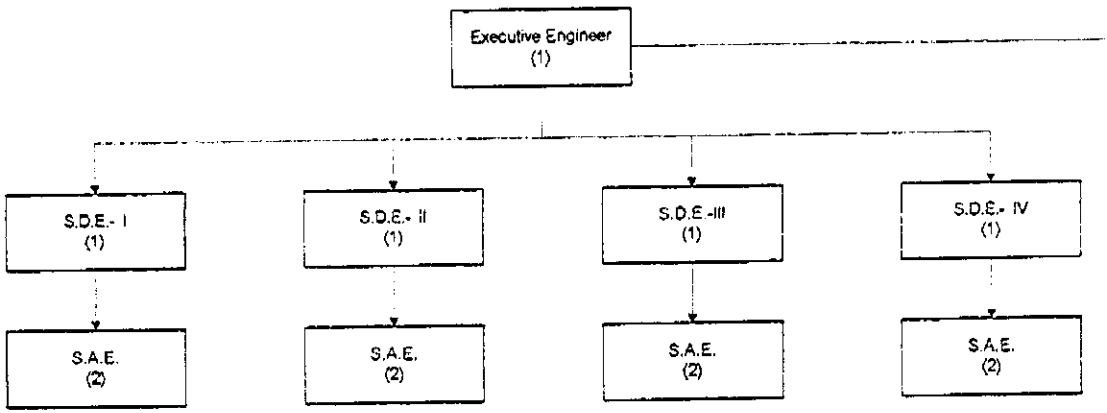
Zone Area	Approx. 65 sq.km
Population	Approx. 1,400,000
Present Water Supply	153,900 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	3 Nos.	All running	Tejgaon L/S Mohakhali L/S Banani L/S
Sewer Line	ϕ 200 - 900mm L = 61 km	Good	
O & M Equipment			
a) Car	1 No.	For auction	1 No.
b) Water Carrier	3 Nos.	1No. for auction 2 Nos. Running	2 Nos. (1,800 gal) 1 No.
c) Pick-up Truck	2 Nos.	At Workshop	1 No.
d) Tempo	2 Nos.	1 No. at Workshop	4 Nos.
e) Motor Cycle	6 Nos.	Bad - 1 No.	1 No.
f) Mobile Generator	Nil	-	-
g) Fixed Generator	8 Nos.	7 Nos. Running 1 No. under repair	1 No.
h) Hydraulic Jetting Machine	Nil	-	1 No.
i) Tructor	Nil	-	2 Nos.
j) Trolley	Nil	-	
Manpower	Total Staff 232 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 5,800,000 Tk O & M Budget 2,215,000 Tk Manhole Cover 530,000 Tk Bamboo Stick 55,000 Tk Manhole Repair 40,000 Tk L/S O & M 15,000 Tk Intermediate MH 630,000 Tk Pump House Repair 200,000 Tk Water Line Repair 175,000 Tk Sewer Line Repair 170,000 Tk		Water Supply and Sewerage. Salary is excluded

MODS Zone VI

Zone Area	Approx. 40 sq.km
Population	Approx. 1,600,000
Present Water Supply	135,600 cu.m/day

Items	Existing Facilities, Manpower, Budget		Remarks/Requirement
	Quantity	Present Status	
Sewer Lift Station	5 Nos.	All running	Medical College L/S P & T L/S Mogbazar L/S Mothertek L/S Goran L/S
Sewer Line	ϕ 200 - 900mm L = 120 km	Bad - 10 km	Need repair
O & M Equipment			
a) Car	1 No.	Very old	1 No.
b) Water Carrier	5 Nos.	2 Nos. under repair	
c) Pick-up Truck	2 Nos.	1 No. is auctionable	1 No.
d) Tempo	2 Nos.	Running	
e) Motor Cycle	7 Nos.	3 Nos. very old	6 Nos.
f) Mobile Generator	Nil	-	1 No.
g) Fixed Generator	8 Nos.	Running	1 No.
h) Trolley	Nil	-	4 Nos.
i) Sludge Dewater Pump	2 Nos.	Running	
Manpower	Total Staff 242 person		For details, see Organization Chart
Annual Budget (July, 1996 - June, 1997)	Total Budget 2,312,477 Tk O & M Budget 312,000 Tk (Water supply and sewerage. Salary is excluded)		



P.L.I.	=	5	Sewer Cleaner	=	40
P.L.M.	=	12	Sewer Inspector	=	7
A.P.L.M.	=	14	Helper	=	11
Pump Operator	=	76			
Asst. Pump Oper.	=	66			

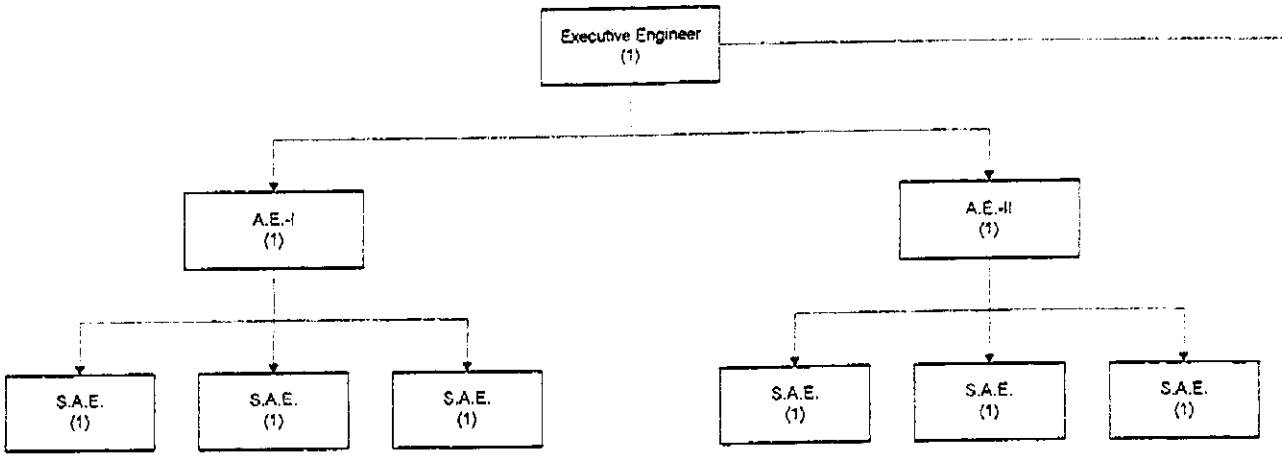
Office Assistant	=	1
Typist/Clerk	=	8
Cashier	=	1
Store Keeper	=	2
Utility Man	=	6
Driver	=	10
Complaint Attend.	=	2

LEGEND

S.D.E. = Subdivision Engineer
S.A.E. = Sub-Assistant Engineer
P.L.I. = Pipeline Inspector
P.L.M. = Pipeline Mechanic
A.P.L.M. = Assitant Pipeline Mechanic

Total Number of Officers and Staff = 274

Appendix 3.2.2(1)
Organization Chart for MODS Zone I



Electrician	=	1	Sewer Cleaner	=	32	Car Driver Helper	=	10
Assit. Electrician	=	1	Sewer Inspector	=	10	Generator Operator	=	1
P.L.I.	=	4	Driver	=	2	Vacuum Opeator	=	1
P.L.M.	=	10	Water Car Driver	=	1	Helper	=	3
A.P.L.M.	=	8	Pump Operator	=	53	Tempo Driver	=	3
Store Keeper	=	1	Asst. Pump Oper.	=	35			

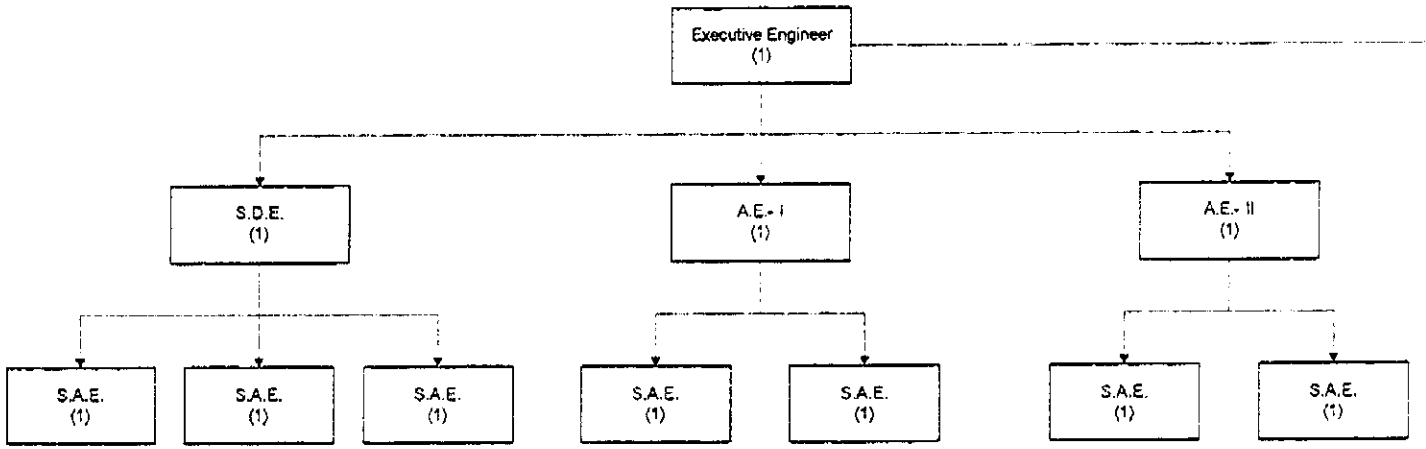
Office Assistant	=	1
Cashier/Clerk	=	1
Typist	=	3
Complaint Attend.	=	1
Utility Man	=	3

LEGEND

A.E. = Assistant Engineeer
S.A.E. = Sub-Assistant Engineer
P.L.I. = Pipeline Inspector
P.L.M. = Pipeline Mechanic
A.P.L.M. = Assitant Pipeline Mechanic

Total Number of Officers and Staff = 194

Appendix 3.2.2(2)
Organization Chart for MODS Zone II



Store Keeper	=	1	Sewer Cleaner	=	22	Wireless Operator	= 3
Electrician	=	1	Sewer Inspector	=	3	Generator Operator	= 2
P.L.I.	=	5	Driver	=	15		
P.L.M.	=	7	Pump Operator	=	64		
A.P.L.M.	=	13	Asst. Pump Oper.	=	46		
Cleaner	=	3	Pipeline Helper	=	8		

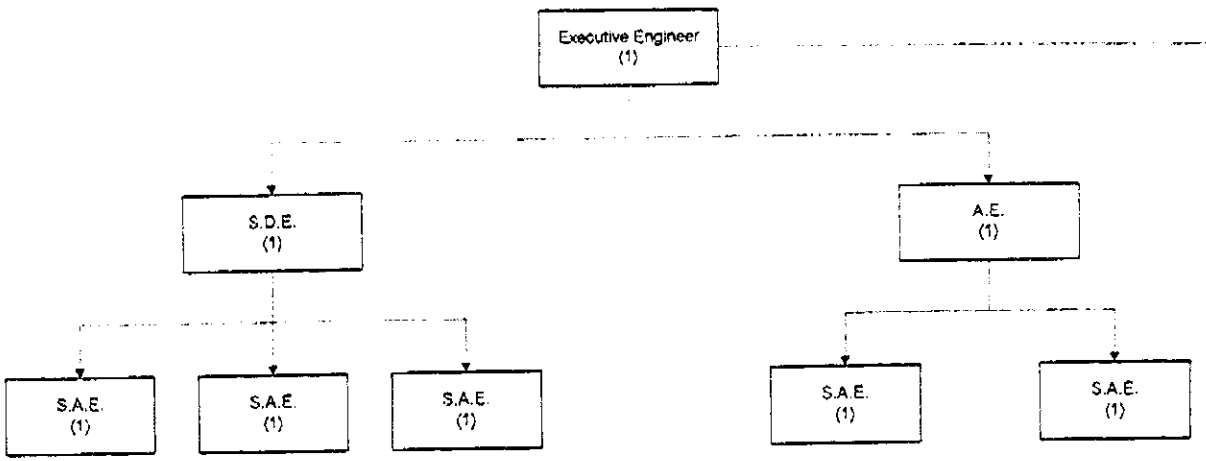
Office Assistant	=	1
Typist/Clerk	=	6
Cashier	=	1
Utility Man	=	3

LEGEND

A.E. = Assistant Engineer
S.D.E. = Subdivision Engineer
S.A.E. = Sub-Assistant Engineer
P.L.I. = Pipeline Inspector
P.L.M. = Pipeline Mechanic
A.P.L.M. = Assitant Pipeline Mechanic

Total Number of Officers and Staff = 215

Appendix 3.2.2(3)
Organization Chart for MODS Zone III



Electrician	=	1	Sewer Cleaner	=	2	Wireless Operator	=	2
P.L.I.	=	3	Sewer Inspector	=	3	Helper	=	3
P.L.M.	=	5	Car Driver	=	4	Tempo Driver	=	2
A.P.L.M.	=	23	Pump Operator	=	53			
Store Keeper	=	1	Asst. Pump Oper.	=	55			
			Utility Man	=	1			

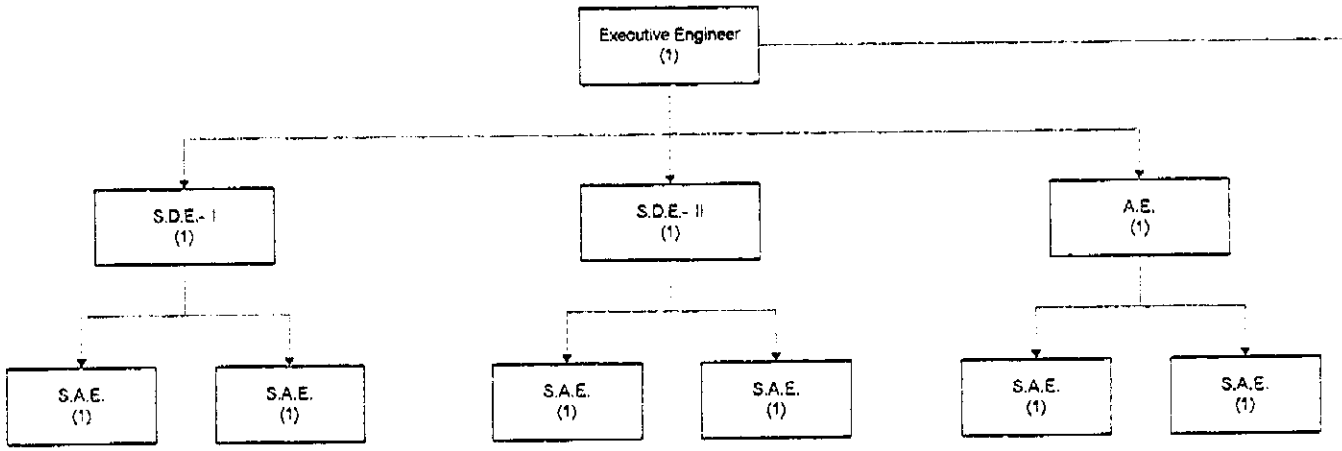
Office Assistant	=	1
Typist/Clerk	=	5
Cashier	=	1
Office Cleaner	=	2
Revenue Inspector	=	1

LEGEND

A.E. = Assistant Engineer
S.D.E. = Subdivision Engineer
S.A.E. = Sub-Assistant Engineer
P.L.I. = Pipeline Inspector
P.L.M. = Pipeline Mechanic
A.P.L.M. = Assitant Pipeline Mechanic

Total Number of Officers and Staff = 176

Appendix 3.2.2(4)
Organization Chart for MODS Zone IV



Store Keeper	=	1	Sewer Cleaner	=	21	Wireless Operator	= 1
Asst. Store Keeper	=	1	Sewer Inspector	=	4	Helper	= 4
P.L.I.	=	3	Driver	=	9	Generator Operator	= 1
P.L.M.	=	8	Pump Operator	=	44		
A.P.L.M.	=	13	Asst. Pump Oper.	=	99		
Asst. Electrician	=	1	Utility Man	=	4		

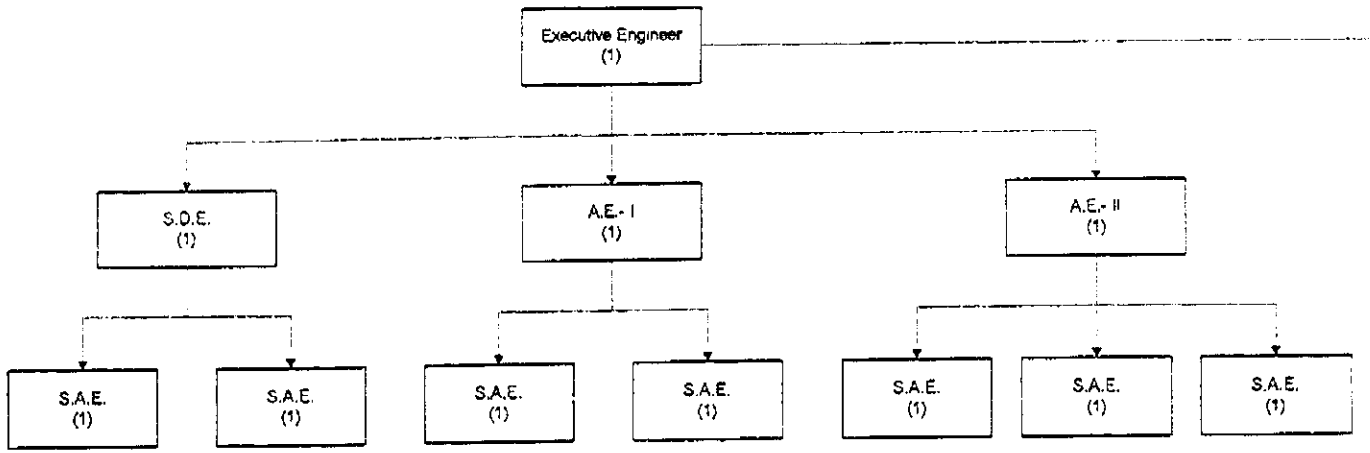
Office Assistant	=	1
Typist/Clerk	=	4
Cashier	=	1
Office Cleaner	=	1

LEGEND

A.E. = Assistant Engineer
S.D.E. = Subdivision Engineer
S.A.E. = Sub-Assistant Engineer
P.L.I. = Pipeline Inspector
P.L.M. = Pipeline Mechanic
A.P.L.M. = Assitant Pipeline Mechanic

Total Number of Officers and Staff = 231

Appendix 3.2.2(5)
Organization Chart for MODS Zone V



Store Keeper	=	1	Sewer Cleaner	=	24	Wireless Operator	=	1
Electrician	=	1	Sewer Inspector	=	6	Helper	=	8
P.L.I.	=	4	Driver	=	11	Compaint Attend.	=	1
P.L.M.	=	8	Pump Operator	=	74			
A.P.L.M.	=	5	Asst. Pump Oper.	=	73			
Pipeline Helper	=	2	Cleaner	=	2			

Office Assistant	=	1
Typist/Clerk	=	3
Cashier	=	1
Utility Man	=	4
Work Assistant	=	1

LEGEND

A.E. = Assistant Engineer
S.D.E. = Subdivision Engineer
S.A.E. = Sub-Assistant Engineer
P.L.M. = Pipeline Mechanic
A.P.L.M. = Assitant Pipeline Mechanic

Total Number of Officers and Staff = 242

Appendix 3.2.2(6)
Organization Chart for MODS Zone VI

Appendix 3.3.1 Present Status of Pump Station and Lift Stations

1. Present Status of Pump Stations

Zone I: Narinda Pump Station(OLD)

1. Facilities replaces and/or newly equipped by the Japanese Grant
   Horizontal Centrifugal Pump ϕ 400mm x 31.9 cum/min x 12.2m x 85 kW x 1 unit
   Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Transformer, Valves,
   Water Level Meter

2. Other existing Facilities
   Horizontal Centrifugal Pump ϕ 400mm x 31.9 cum/min x 12.2m x 90 kW x 1 unit
   Horizontal Centrifugal Pump ϕ 300mm x 11.4 cum/min x 12.2m x 37 kW x 2 units
   Horizontal Centrifugal Pump ϕ 300mm x 31.9 cum/min x 12.2m x 55 kW x 1 unit
   Vertical Centrifugal Pump ϕ 400mm x 31.9 cum/min x 12.2m x 95 kW x 1 unit

3. Present Condition

- Operational status of pumps and other facilities
  All 6 pumps are operational
  Due to the lack of spare parts, vacuum pump is not functioning properly (can not produce vacuum)
  Others are operational

- Measurement of incoming and discharging sewage rate
  None

- Operational status of water level indicator
  Operational

- ON - OFF operation practice
  Manual

- Sludge/Screening cleaning and disposal
  No cleaning since the pump is not operated due to small sewage income

- In case of breakdown
  O & M team in Narinda will be dispatched

- Telecommunication system
  Wireless system (to Pagla, DWASA office)

- Daily O & M activities
  Not operated due to small sewage income

- Others

Zone I: Narinda Pump Station(NEW)

1. Facilities replaces and/or newly equipped by the Japanese Grant

   Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Transformer, Valves, Water Level Meter

2. Other existing facilities

   Vertical Centrifugal Pump 31.9 cum/min x 17.5m x 95 kW x 3 units
   Vertical Centrifugal Pump 11.4 cum/min x 17.5m x 37 kW x 2 units
   Vertical Centrifugal Pump 4.5 cum/min x 17.5m x 18.5 kW x 2 units

3. Present Condition

   - Operational status of pumps and other facilities
     Among 7 pumps, 5 are operational. 2 are under repair(impeller worn out, bearing)
     Due to the lack of spare parts, vacuum pump is not functioning properly (can not produce vacuum)
     Others are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-functional

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Done by Zone Cleaning Section everyday

   - In case of breakdown
     O & M team in Narinda will be dispatched

   - Telecommunication system
     Wireless system (to Pagla , DWASA office)

   - Daily O & M activities
     Only No.1 is operated 24 hours

   - Others

2. Present Status of Lift Stations

Zone I: Bashaboo Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

   Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Generator, Valves, Water Level Meter

2. Other existing facilities

Vertical Centrifugal Pump	9.1 cum/min x 12 m x 22 kW x 2 units
Vertical Centrifugal Pump	6.8 cum/min x 12 m x 15 kW x 2 units
Vertical Centrifugal Pump	2.3 cum/min x 12 m x 11 kW x 1 unit

3. Present Conditions

- Operational status of pumps and other facilities
  5 pumps are operational. 1 starter's magnetic contacter was burnt due to voltage fluctuation
  Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
  Generator was burnt last July 1993 due to short circuit
  Others are operational

- Measurement of incoming and discharging sewage rate
  None

- Operational status of water level indicator
  Non-functional

- ON - OFF operation practice
  Manual

- Sludge/Screening cleaning and disposal
  Zone cleaning section comes once/week

- In case of breakdown
  Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

- Telecommunication system
  None

- Daily O & M activities
  Shift 1 : P-1 7:00 - 9:00, P-2 10:00 - 12:00, P-5 13:00 - 14:00
  Shift 2 : P-2 15:00 - 17:00, P-1 18:00 - 20:00, P-4 21:00 - 22:00
  Shift 3 : P-1 23:00 - 01:00, P-4 02:00 - 03:00, P-2 04:00 - 06:00

- Others

Zone I: Faridabad Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

   Detachable Type Submersible Pump

   ϕ 150 x 2.3 cum/min x 10 m x 7.5 kW x 2 units

   Inlet Gate, Screen, Control Panel, Generator, Valves, Discharge Piping, Water Level Meter

2. Present Condition

   - Operational status of pumps and other facilities

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-functional

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Operator cleans every day

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     Shift 1 : P-4 8:00 - 10:00, P-5 10:00 - 12:00
     Shift 2 : P-5 14:00 - 16:00, P-5 16:00 - 18:00
     Shift 3 : P-5 22:00 - 24:00

   - Others

Zone I: Sayedabad Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

   Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Valves, Generator, Water Level Meter

2. Other existing facilities

Vertical Centrifugal Pump	9.1 cum/min x 12 m x 22 kW x 2 units
Vertical Centrifugal Pump	6.8 cum/min x 12 m x 15 kW x 2 units
Vertical Centrifugal Pump	2.3 cum/min x 12 m x 11 kW x 1 unit

3. Present Condition

   - Operational status of pumps and other facilities
     Existing 5 pumps are all operational
     Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
     Others are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-functional

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Zone cleaning section comes once/week

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     Shift 1 : P-4 8:00 - 10:00, P-5 10:00 - 12:00
     Shift 2 : P-5 14:00 - 16:00, P-5 16:00 - 18:00
     Shift 3 : P-5 22:00 - 24:00

   - Others

Zone II: Azimpur Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
   Sump Pump, Inlet Gate, Screen, Control Panel, Generator, Water Level Meter

2. Other existing facilities
   Vertical Forced Pump ϕ 150mm x 2.3 cum/min x 7.5 m x 7.5 kW x 2 units

3. Present Condition
   - Operational status of pumps and other facilities. All 2 pumps are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-operational

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Zone cleaning section comes once/week

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     Shift 1 : P-1 8:00 - 10:00, P-2 12:00 - 14:00
     Shift 2 : P-1 16:00 - 18:00, P-2 20:00 - 22:00
     Shift 3 : P-1 24:00 - 2:00, P-2 4:00 - 6:00

   - Others
     Test run of generator is done by generator operator of the Zone Office once/week
     Overflow occurs due to the capacity shortage of sewer downstream

Zone II: Hazaribag Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

   Detachable Type Submersible Pump

   ϕ 250 x 4.6 cum/min x 15 m x 22 kW x 2 units

   ϕ 150 x 2.3 cum/min x 15 m x 11 kW x 2 units

   Inlet Gate, Screen, Control Panel, Transformer, Valves, Splash Box, Discharge Piping, Water Level Meter

2. Present Condition

   - Operational status of pumps and other facilities
     All 4 pumps are operational
     Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
     Others are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-functional

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     No cleanings were needed due to scarce screenings.

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     On last November, 1996, electricity was shut-down due to the damage of double huge insulator. Zone office request DWASA to provide it to DESA(Dhaka Electricity Supply Authority) but DWASA is not yet approved.
     At present, sewage flows down by gravity through the by-pass gate

   - Others
     The metal door and frames of L/S is damaged by sulfate gas emitted from Tannery Factory
     The tannery's wastewater flows into the pond nearby causing odor problem

Zone II: Nawabgonj Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
   Detachable Type Submersible Pump ϕ 150mm x 2.3 cum/min x 10 m x 7.5 kW x 2 units
   Inlet Gate, Screen, Control Panel, Generator, Valves, Water Level Meter

2. Present Condition
   - Operational status of pumps and other facilities
     1 pump was burnt on last April, 1997
     Others are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Operational

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Zone cleaning section comes twice/week

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     Operating night time only since the capacity of sewers downstream is not sufficient
     No.2 pump 1:00 - 3:00, 4:00 - 5:00

   - Others
     Although the generator is operational, battery is damaged

Zone III: Asadgate Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

   Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Valves, Water Level Meter

2. Other existing facilities

   Vertical Centrifugal Pump 2.3 cum/min x 7.5 m x 3.7 kW x 3 units

3. Present Condition

   - Operational status of pumps and other facilities
     Among the existing 3 pumps, No. 3 is under repair (grand packing).
     Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
     Others are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-functional

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Zone Cleaning section comes once a week.

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     Shift 1 : P-1 and P-2 6:00 - 12:00
     Shift 2 : P-1 and P-2 14:00 - 18:00
     Shift 3 : P-1 and P-2 22:00 - 24:00

   - Others
     DWASA water meter workshop and laboratory building is located beside the L/S

Zone III: New Market Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

   Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Valves, Water Level Meter

2. Other existing facilities

   Vertical Centrifugal Pump 4.5 cum/min x 7.5 m x 7.5 kW x 2 units

   Vertical Centrifugal Pump 2.3 cum/min x 7.5 m x 3.7 kW x 2 units

3. Present Condition

   - Operational status of pumps and other facilities
     2 pumps are operational
     2 pumps are non-functional due to worn out of shaft
     Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
     Others are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-operational

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Zone cleaning section comes 2nd/week(in Wet Season), once/week(in Dry Season)

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     Shift 1 : P-3 8:00 - 11:00
     Shift 2 : P-3 14:00 - 17:00
     Shift 3 : P-3 23:00 - 1:00

   - Others

Zone V; Banani Lift Station

1. Existing Facilities

   Pump Type : Submergible Pump ϕ 100mm x 1.5 cum/min x 10 m x 5.5 kW x 3 units

   Inlet Gate, Control Panel

2. Present Status

   - Operational status of pumps and other facilities

     Three pumps and other facilities are operational

   - Measurement of incoming and discharging sewage rate

     None

   - ON - OFF operation practice

     Manual

   - Sludge/Screening cleaning and disposal

     No screen was installed. Zone cleaning section send vacuum car once a year.

   - In case of breakdown

     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda.

   - Telecommunication system

     None

   - Daily O & M activities

     Unknown

Zone V: Mohakhali Lift Station

1. Existing Facilities

   Pump Type : Submergible Pump ϕ 150mm x 2.1 cum/min x 10 m x 9.5 kW x 3 units

   Inlet Gate, Control Panel

2. Present Status

   - Operational status of pumps and other facilities

     No.2 is under repair (Motor was burnt on last 15 Jan, 1997)

   - ON - OFF operation practice

     Manual

   - Sludge/Screening cleaning and disposal

     No screen was installed. Zone cleaning section send vacuum car once a year.

   - In case of breakdown

     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda.

   - Telecommunication system

     None

   - Daily O & M activities

     Shift 1 P-1 7:00 - 8:00, P-2 8:00 - 10:00, P-1 10:00 - 13:00

     Shift 2 P-1 14:00 - 15:00, 16:00 - 17:00

     Shift 3 P-1 22:00 - 23:00

Zone V: Tejgaon Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

   Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Valves, Water Level Meter

2. Other existing facilities

   Vertical Centrifugal Pump 9.1 cum/min x 12 m x 22 kW x 2 units

   Vertical Centrifugal Pump 6.8 cum/min x 12 m x 15 kW x 1 unit

   Vertical Centrifugal Pump 2.3 cum/min x 12 m x 11 kW x 2 units

3. Present Condition

   - Operational status of pumps and other facilities
     All 5 pumps are operational
     Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
     Others are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-functional

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Zone cleaning section comes 4th/month

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     Seldom operated since by-pass gate was open to let the incoming sewage flow by gravity

   - Others

Zone VI: Dhaka Medical College Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant

   Vacuum Pump, Sump Pump, Inlet Gate, Screen, Control Panel, Discharge Piping, Water Level Meter

2. Other existing facilities

   Vertical Centrifugal Pump ϕ 100 mm x 2.3 cum/min x 7.5 m x 11 kW x 1 unit

   Vertical Centrifugal Pump ϕ 100mm x 1.1 cum/min x 7.5 m x 3.7 kW x 2 units

3. Present Condition

   - Operational status of pumps and other facilities
     No.1 pump's starter is malfunctioning(magnetic contactor was burnt)
     The other 2 are operational
     Due to the lack of spare parts, pump is not functioning properly (can not produce vacuum)
     Others are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-operational

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Operator cleans every day

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     Shift 1 : P-2 7:00 - 10:00, P-3 10:00 - 13:00
     Shift 2 : P-2 14:00 - 16:00, P-3 18:00 - 21:00
     Shift 3 : P-2 22:00 - 24:00, P-3 2:00 - 5:00

   - Others

Zone VI: Mogbazar Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
   Detachable Submerged Pump ϕ 200mm x 4.6 cum/min x 10 m x 18.5 kW x 2 units
   Inlet Gate, Screen, Control Panel, Generator, Water Level Meter

2. Present Condition
   - Operational status of pumps and other facilities
     1 starter and pump was burnt, others are operational

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Non-operational

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Zone cleaning section comes 4th/month

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     No operation record

   - Others
     Though generator is operational, battery is damaged

Zone VI: Mothertak Lift Station

1. Existing Facilities

   Pump Type : Submersible Pump ϕ 100mm x 1.5 cum/min x 10 m x 5.5 kW x 3 units

   Inlet Gate, Control Panel

2. Present Condition

   - Operational status of pumps and other facilities

     All pumps and other facilities are operational

   - Measurement of incoming and discharging sewage rate

     None

   - ON - OFF operation practice

     Manual

   - Sludge/Screening cleaning and disposal

     By Zone office, once a year

   - In case of breakdown

     Inform Zone office

   - Telecommunication system

     None

   - Daily O & M activities

     Unknown

   - Others

Zone VI: P & T Lift Station

1. Facilities replaces and/or newly equipped by the Japanese Grant
   Sump Pump, Inlet Gate, Screen, Control Panel, Generator, Water Level Meter

2. Other existing facilities
   Vertical Forced Pump 6.8 cum/min x 9 m x 15 kW x 2 units

3. Present Condition
   - Operational status of pumps and other facilities. 2 pumps are operational.

   - Measurement of incoming and discharging sewage rate
     None

   - Operational status of water level indicator
     Operational

   - ON - OFF operation practice
     Manual

   - Sludge/Screening cleaning and disposal
     Zone cleaning section comes once/week

   - In case of breakdown
     Operator will inform to Zone Office and Zone Office will call O & M team in Narinda

   - Telecommunication system
     None

   - Daily O & M activities
     Shift 1 : P-1 6:00 - 8:00, P-2 8:00 - 10:00, P-1 10:30 - 11:00, P-2 11:00 - 13:30
     Shift 2 : P-1 13:30 - 13:40, P-2 14:25 - 15:00
     P-1 15:10 - 15:40, P-2 16:00 - 16:45
     P-1 17:25 - 17:55, P-2 18:00 - 18:15
     P-1 19:00 - 19:55, P-2 19:30 - 21:20
     Shift 3 : P-1 and P-2 22:00 - 24:00, 02:00 - 03:00, 04:00 - 06:00

   - Others

Goran Lift Station

1. Existing Facilities

   Pump Type : Submergible Pump ϕ 100mm x 1.5 cum/min x 10 m x 5.5 kW x 3 units

   Inlet Gate, Control Panel

2. Present Condition

   - Operational status of pumps and other facilities

     All pumps and other facilities are operational

   - Measurement of incoming and discharging sewage rate

     None

   - ON - OFF operation practice

     Manual

   - Sludge/Screening cleaning and disposal

     By Zone office, once a year

   - In case of breakdown

     Inform Zone office

   - Telecommunication system

     None

   - Daily O & M activities

     Unknown

   - Others

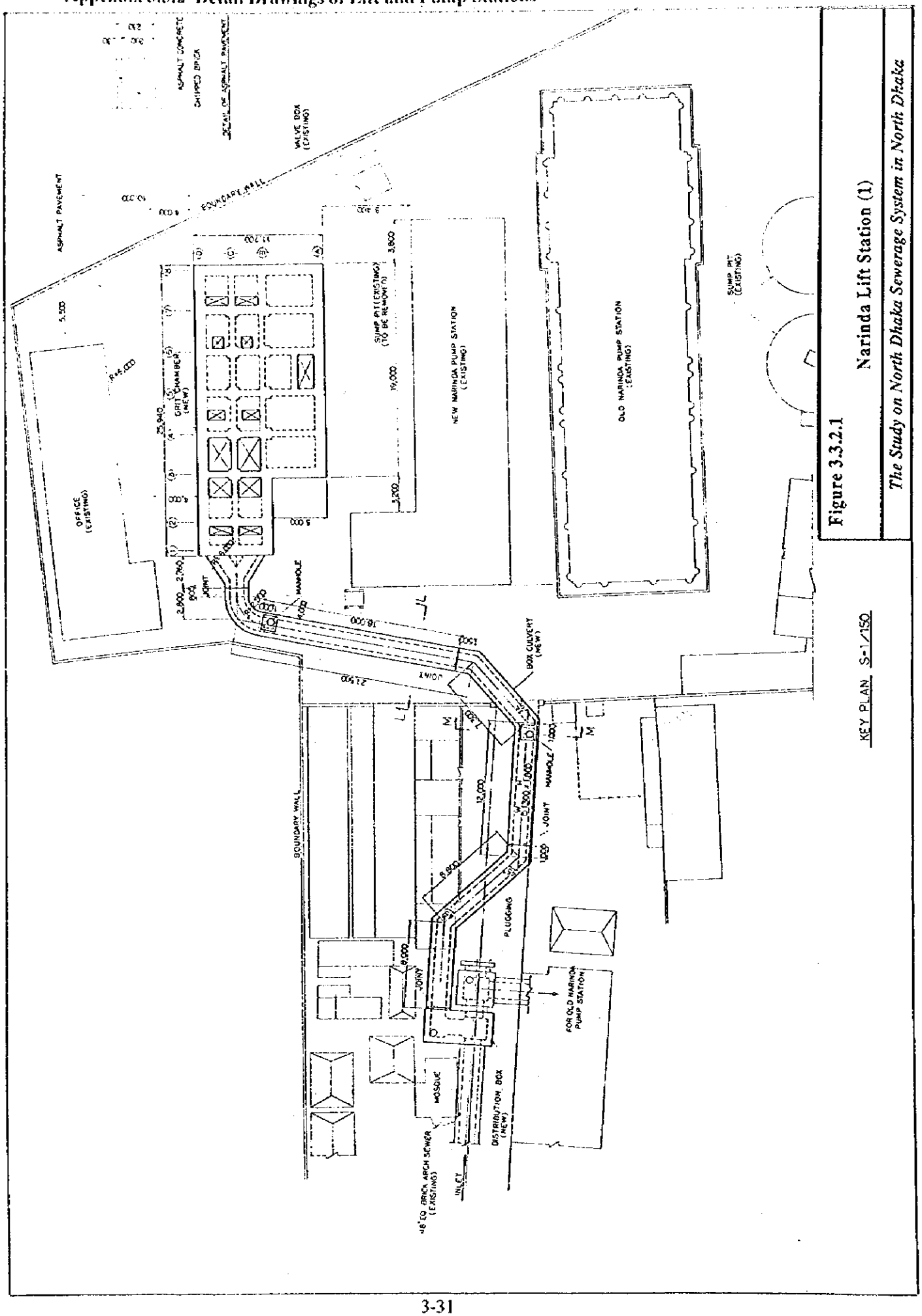
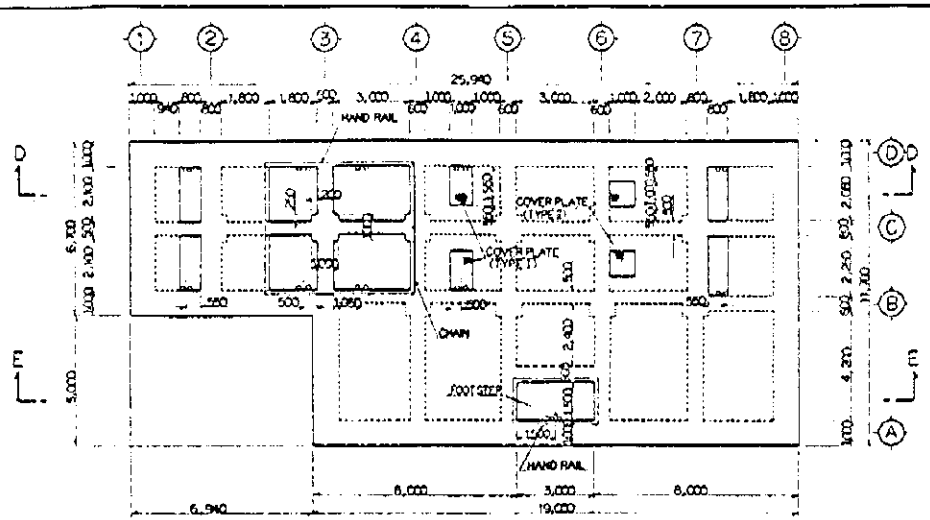


Figure 3.3.2.1 Narinda Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka



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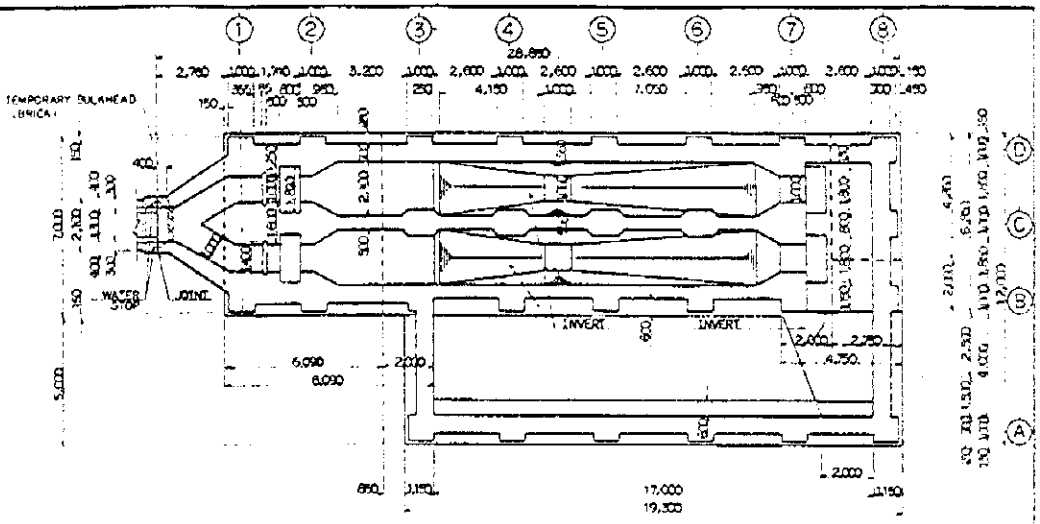

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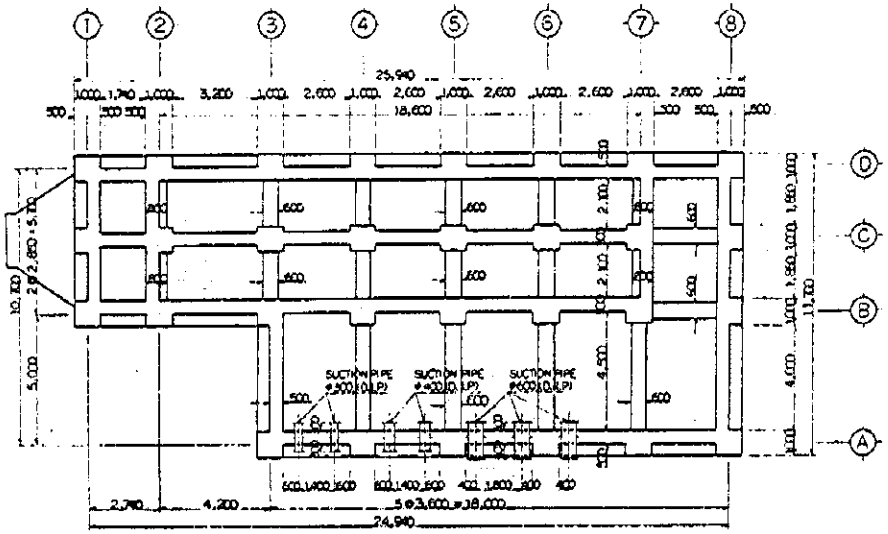

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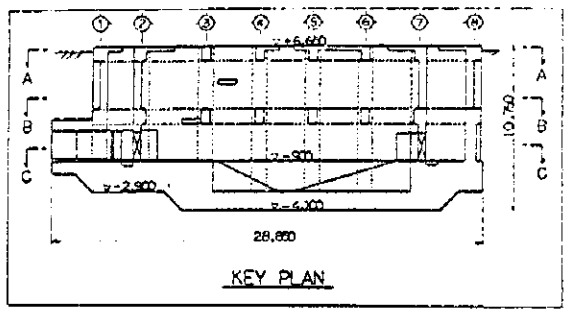


Figure 3.3.2.2

Narinda Lift Station (2)

The Study on North Dhaka Sewerage System in North Dhaka

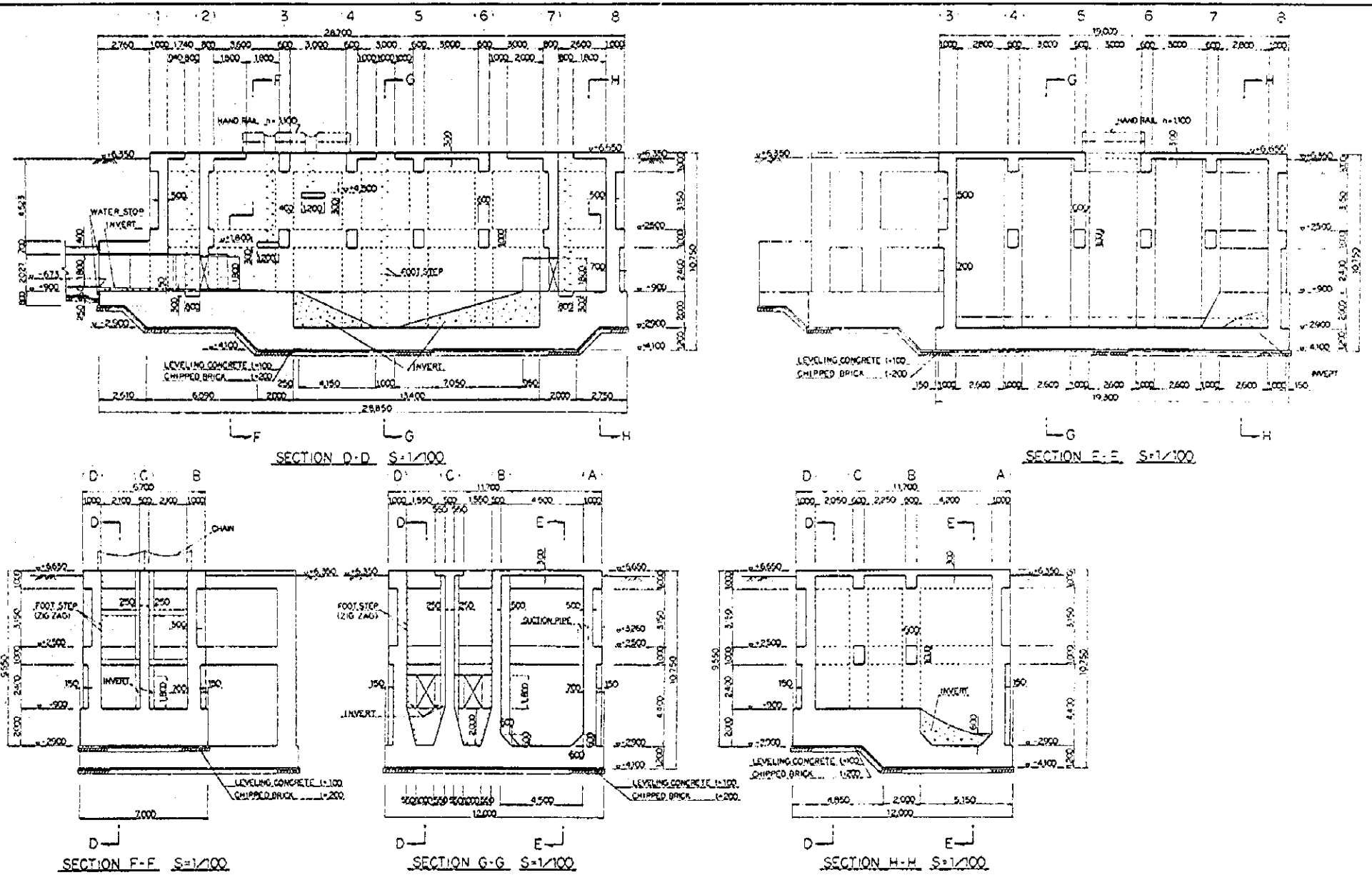
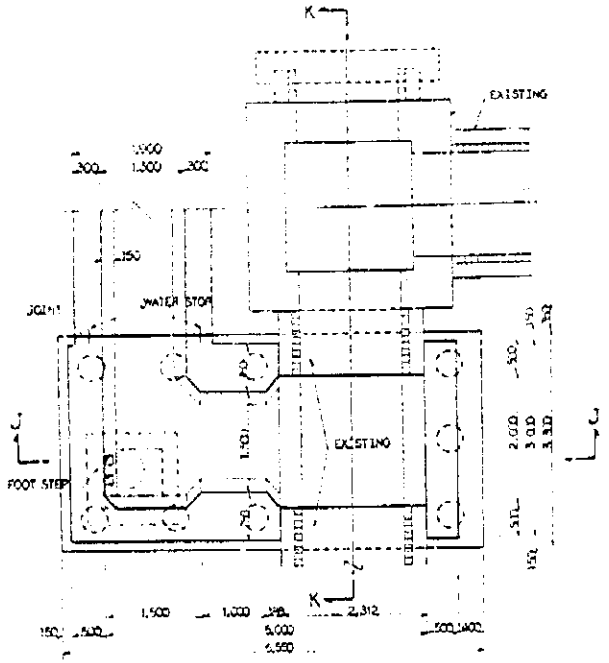


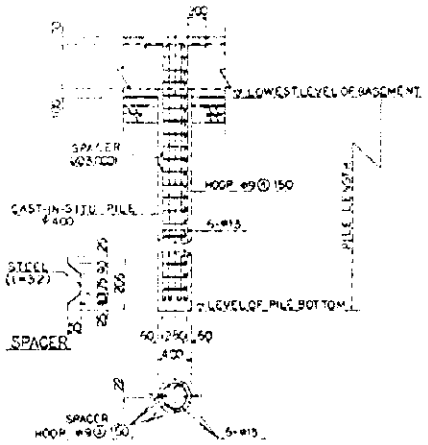
Figure 3.3.2.3

Narinda Lift Station (3)

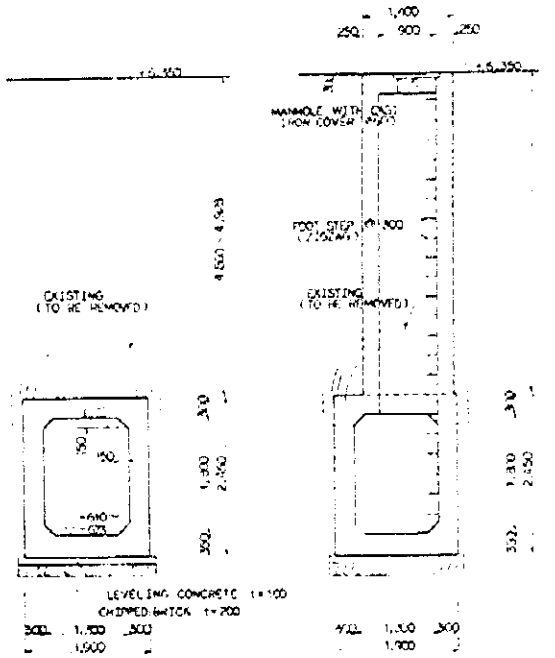
The Study on North Dhaka Sewerage System in North Dhaka



SECTION I - I S=1/40

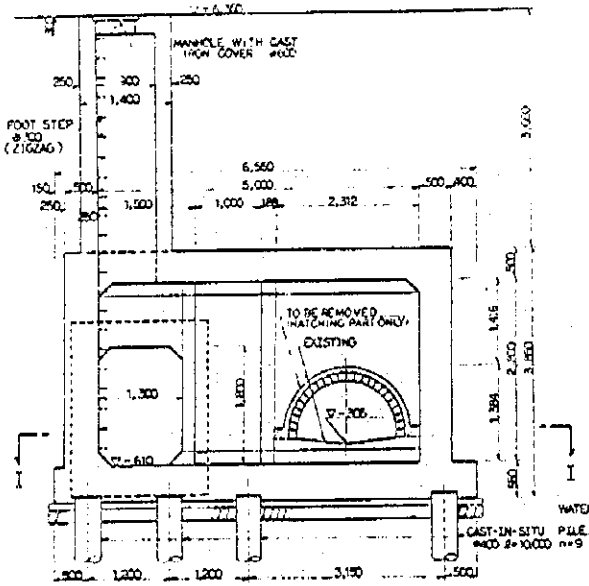


DETAIL OF PILE S=1/30

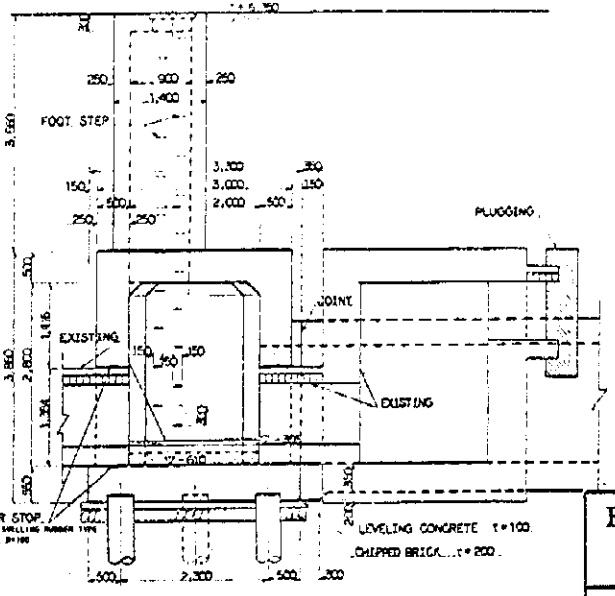


SECTION L - L S=1/40

SECTION M - M S=1/40



SECTION J - J S=1/40

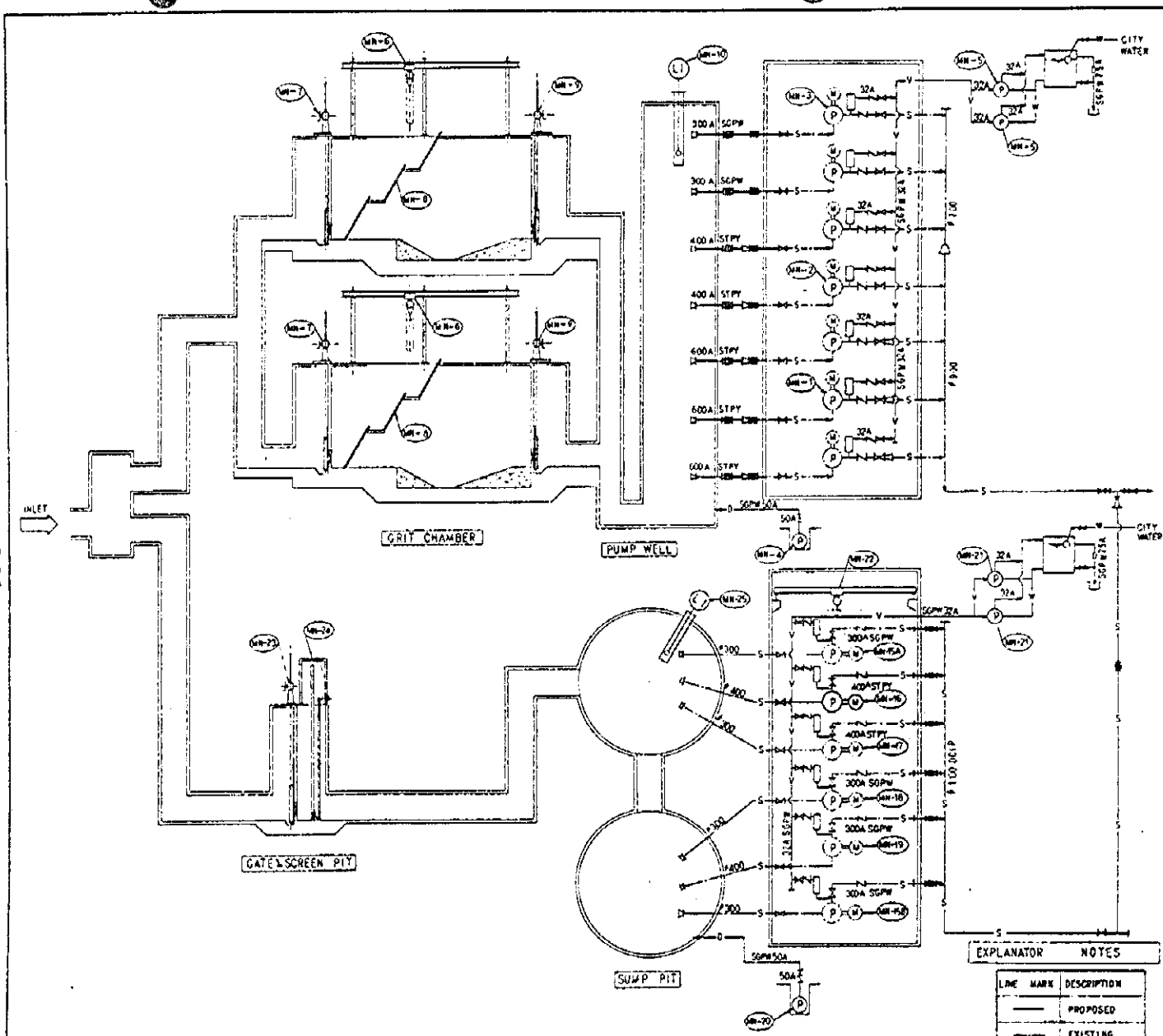


SECTION K - K S=1/40

Figure 3.3.2.4

Narinda Lift Station (4)

The Study on North Dhaka Sewerage System in North Dhaka



LEGEND

LINE MARK	DESCRIPTION
S	SEWAGE
W	CITY WATER
D	DRAIN
V	VACUUM

MARK	TYPE
	GATE VALVE
	CHECK VALVE
P	PUMP
M	MOTOR
	BALL TAP
	EXPANTION JOINT
LI	WATER LEVEL INDICATOR

EQUIPMENT LIST (NEW)

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER (kW)	QUANTITY	REMARKS
MN-1	NO.1 NO.2 NO.3 PUMP	VERTICAL CENTRIFUGAL FC φ400×31.9 m³/min×17.5 m	95	3	EXISTING
MN-2	NO.4 NO.5 PUMP	VERTICAL CENTRIFUGAL FC 11.4 m³/min×17.5 m	37	2	EXISTING
MN-3	NO.6 NO.7 PUMP	VERTICAL CENTRIFUGAL FC 4.5 m³/min×17.5 m	18.5	2	EXISTING
MN-4	SUMP PUMP	FC SUBMERSIBLE PUMP φ50×0.2 m³/min×10 m	0.75	1	
MN-5	VACUUM PUMP	FC WATER SEAL φ32×0.9 m³/min×680 mmHg	2.2	2	ACCESS. SEAL TANK, CHAMBER, LEVEL SWITCH
MN-6	GEARED TROLLEY CHAIN HOIST	MANUALLY OPERATED 10 ton×10 m	—	2	FOR GRIT CHAMBER
MN-7	GRIT CHAMBER INLET GATE	FC MANUALLY OPERATED 1.0 m×1.8 m×7.5 m³	—	2	
MN-8	BAR SCREEN	MANUALLY SCRAPED 2.1 m×50 mm (CLEARANCE)	—	2	
MN-9	GRIT CHAMBER OUTLET GATE	FC MANUALLY OPERATED 1.0 m×1.8 m×7.5 m³	—	2	
MN-10	WATER LEVEL INDICATOR	FLOAT TYPE	—	1	HIGH/LOW LEVEL SWITCH

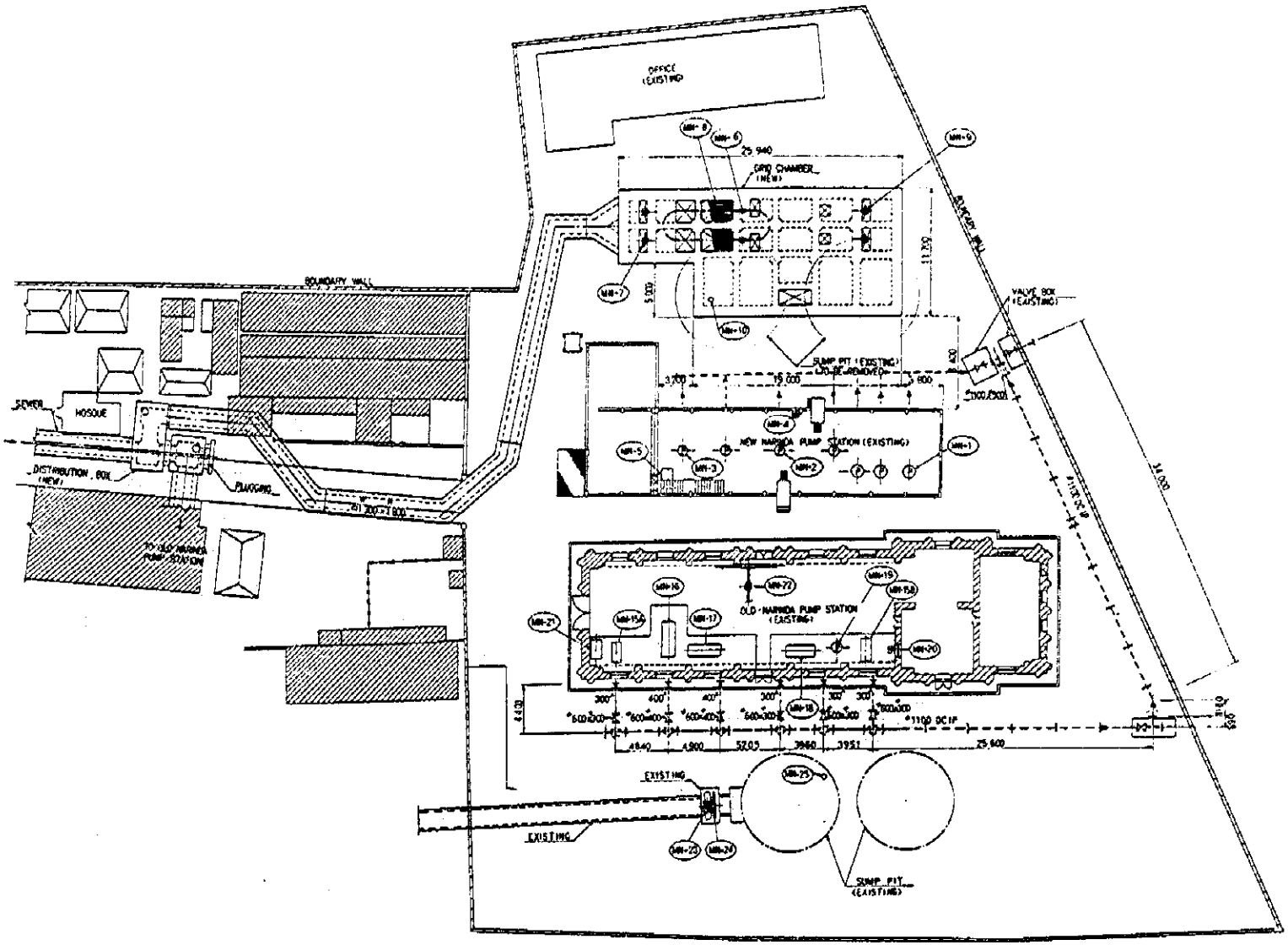
EQUIPMENT LIST (OLD)

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER (kW)	QUANTITY	REMARKS
MN-15 A,B	NO1, NO.6 PUMP	HORIZONTAL CENTRIFUGAL FC φ300×11.4 m³/min×12.2 m	37	2	EXISTING
MN-16	NO.2 PUMP	HORIZONTAL CENTRIFUGAL FC φ400×31.9 m³/min×12.2 m	90	1	
MN-17	NO.3 PUMP	HORIZONTAL CENTRIFUGAL FC φ400×31.8 m³/min×12.2 m	55	1	EXISTING
MN-18	NO.4 PUMP	HORIZONTAL CENTRIFUGAL FC φ300×31.8 m³/min×12.2 m	55	1	EXISTING
MN-19	NO.5 PUMP	VERTICAL CENTRIFUGAL FC φ400×31.8 m³/min×12.2 m	95	1	EXISTING
MN-20	SUMP PUMP	SUBMERSIBLE PUMP, FC φ50×0.2 m³/min×10 m	0.75	1	
MN-21 A,B	VACCUM PUMP	WATER SEAL, FC φ32×0.9 m³/min×640 mmHg	2.2	2	ACCESS SEAL TANK CHAMBER, LEVEL SWITCH
MN-22	CRANE	MANUALLY OPERATED, OVERHEAD CRANE WITH 3.0 ton×9.5 m (SPAN)	—	1	
MN-23	INLET GATE	MANUALLY OPERATED, FC 1.5 m×6.2 m	—	1	
MN-24	SCREEN	MANUALLY OPERATED 2.5 m×8.5 m×50 mm (OPENING)	—	1	
MN-25	WATER LEVEL INDICATOR	FLOAT TYPE	—	1	HIGH/LOW LEVEL SWITCH

Figure 3.3.2.5

Narinda Lift Station (5)

The Study on North Dhaka Sewerage System in North Dhaka



EQUIPMENT LIST (NEW)

ITEM NO	NAME OF EQUIPMENT
MH-1 A,B,C	No1, No2, No3, PUMP
MH-2 A,B	No 4, No 5, PUMP
MH-3 A,B	No 6, No 7, PUMP
MH-4 A,B	SUMP PUMP
MH-5 A,B	VACUUM PUMP
MH-6 A,B	GEARED TROLLEY CHAIN HOIST
MH-7 A,B	GRIT CHAMBER INLET GATE
MH-8 A,B	BAR SCREEN
MH-9 A,B	GRIT CHAMBER OUTLET GATE
MH-10	WATER LEVEL INDICATOR

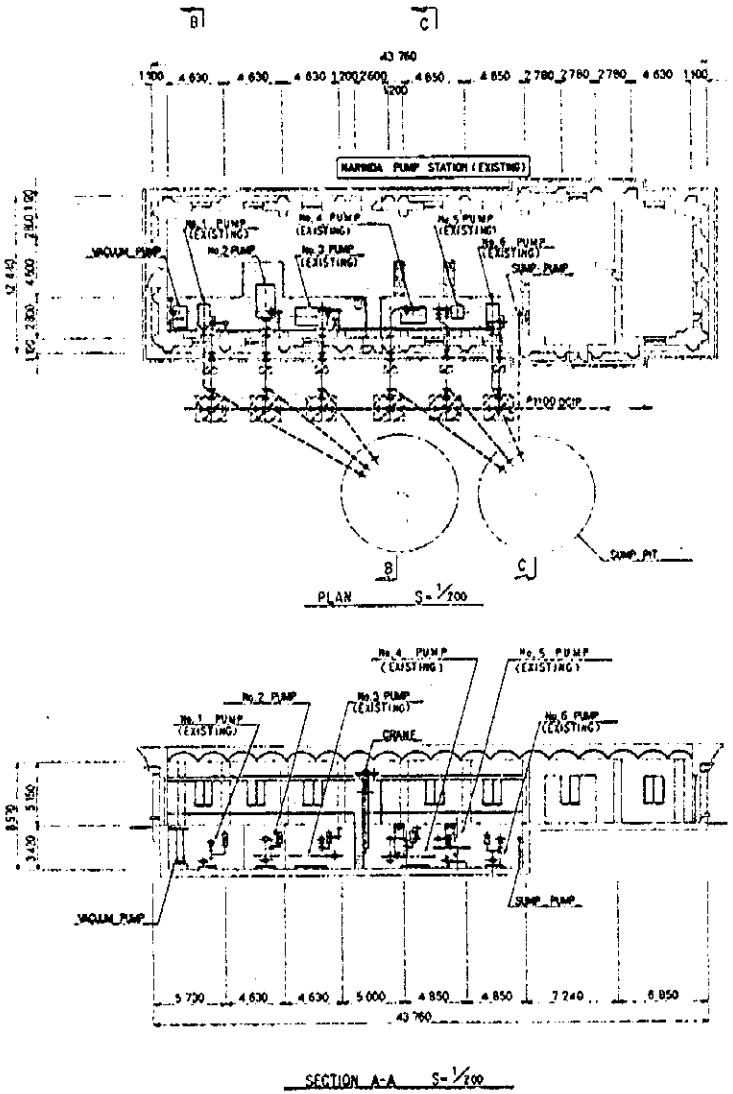
EQUIPMENT LIST (OLD)

ITEM NO	NAME OF EQUIPMENT
MH-15 A,B	NO 1, NO 6 PUMP
MH-16	No 2 PUMP
MH-17	No 3 PUMP
MH-18	No 4 PUMP
MH-19	No 5 PUMP
MH-20	SUMP PUMP
MH-21 A,B	VACCUM PUMP
MH-22	CRANE
MH-23	INLET GATE
MH-24	SCREEN
MH-25	WATER LEVEL INDICATOR

Figure 3.3.2.6

Narinda Lift Station (6)

The Study on North Dhaka Sewerage System in North Dhaka



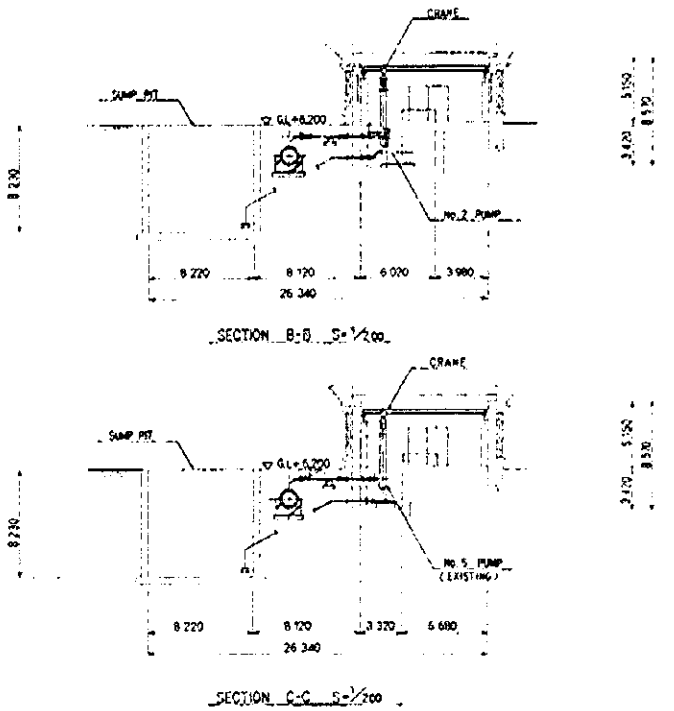


Figure 3.3.2.7

Narinda Lift Station (7)

The Study on North Dhaka Sewerage System in North Dhaka

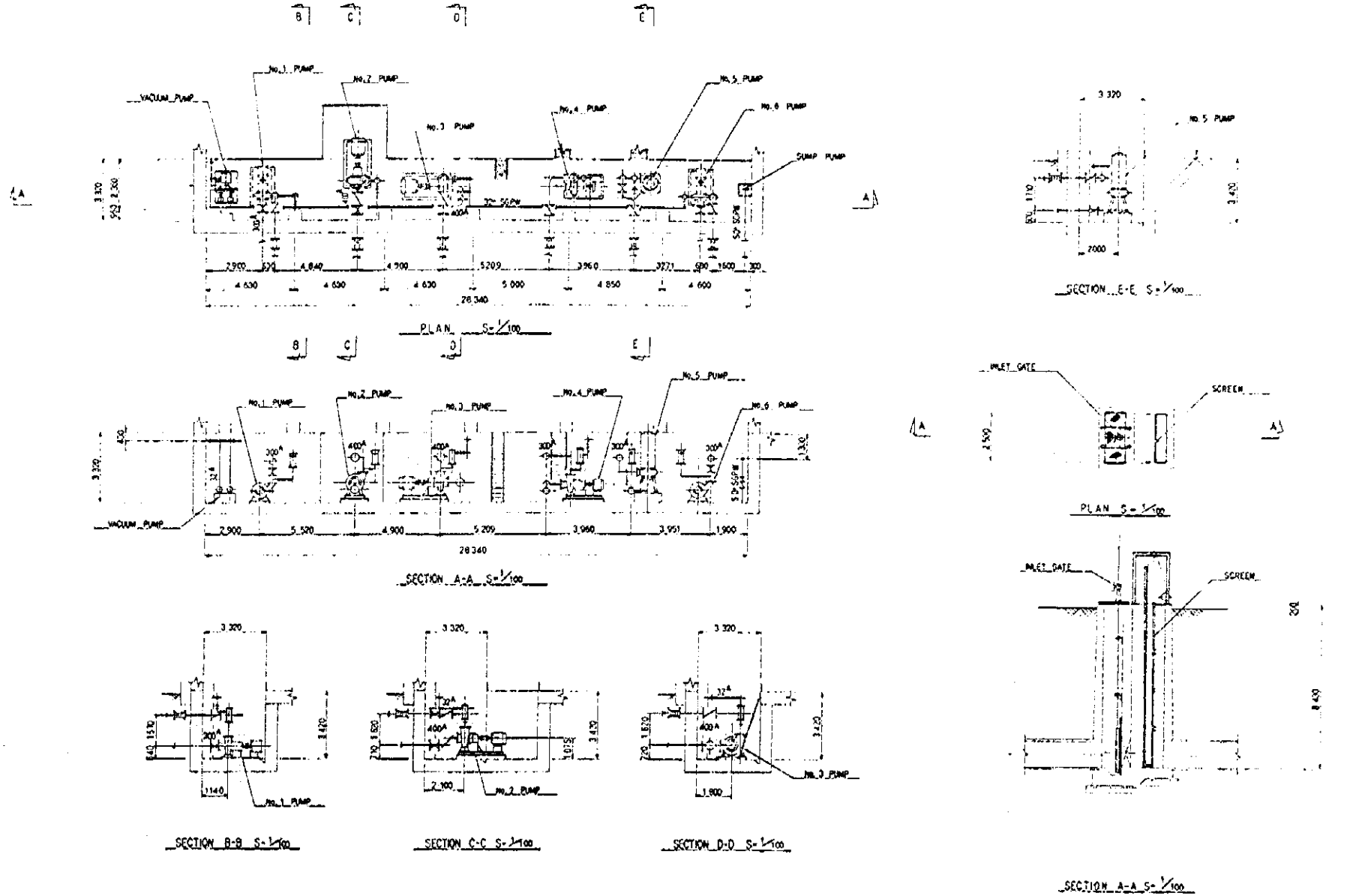


Figure 3.3.2.8

Narinda Lift Station (8)

The Study on North Dhaka Sewerage System in North Dhaka

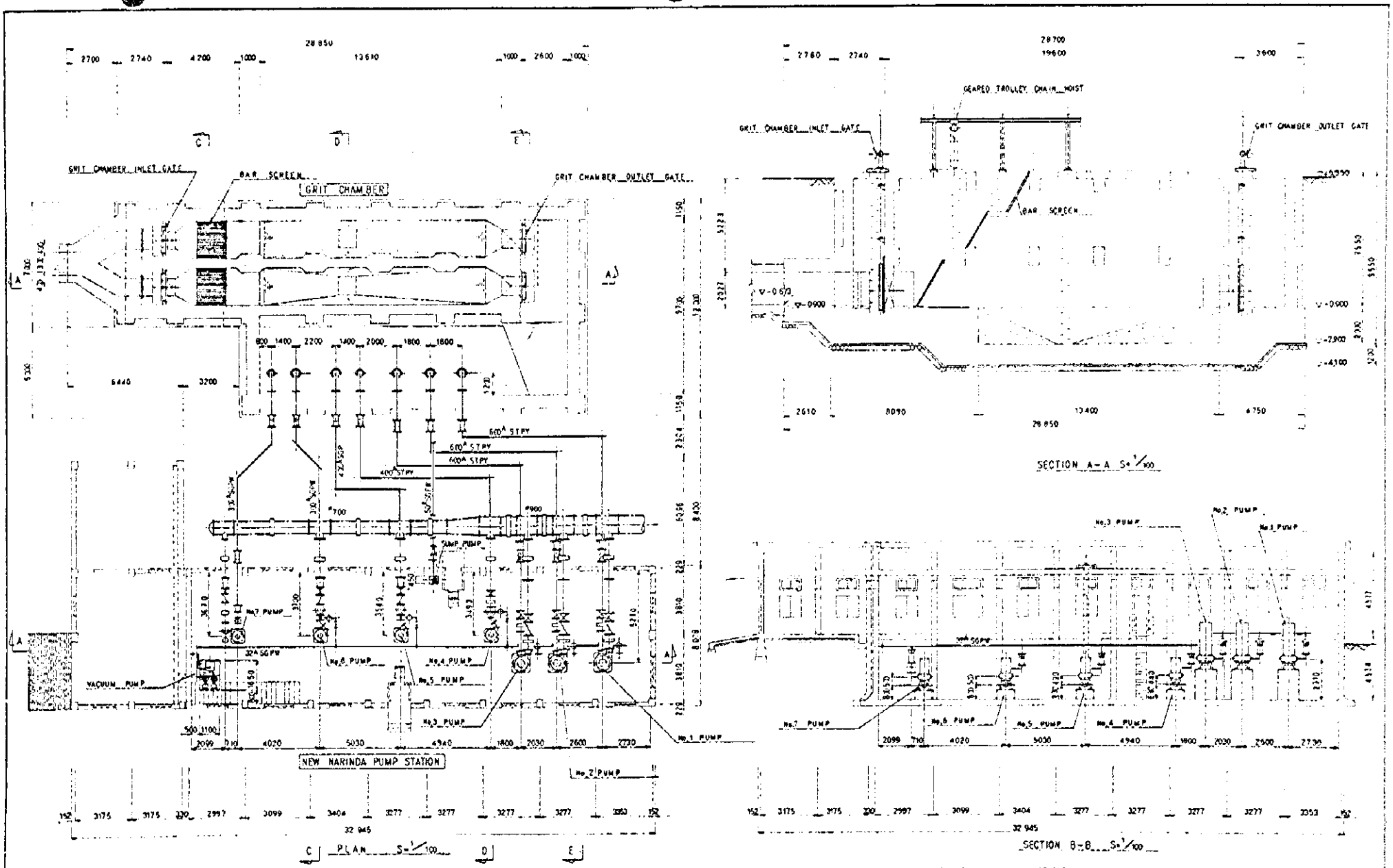


Figure 3.3.2.9

Narinda Lift Station (9)

The Study on North Dhaka Sewerage System in North Dhaka

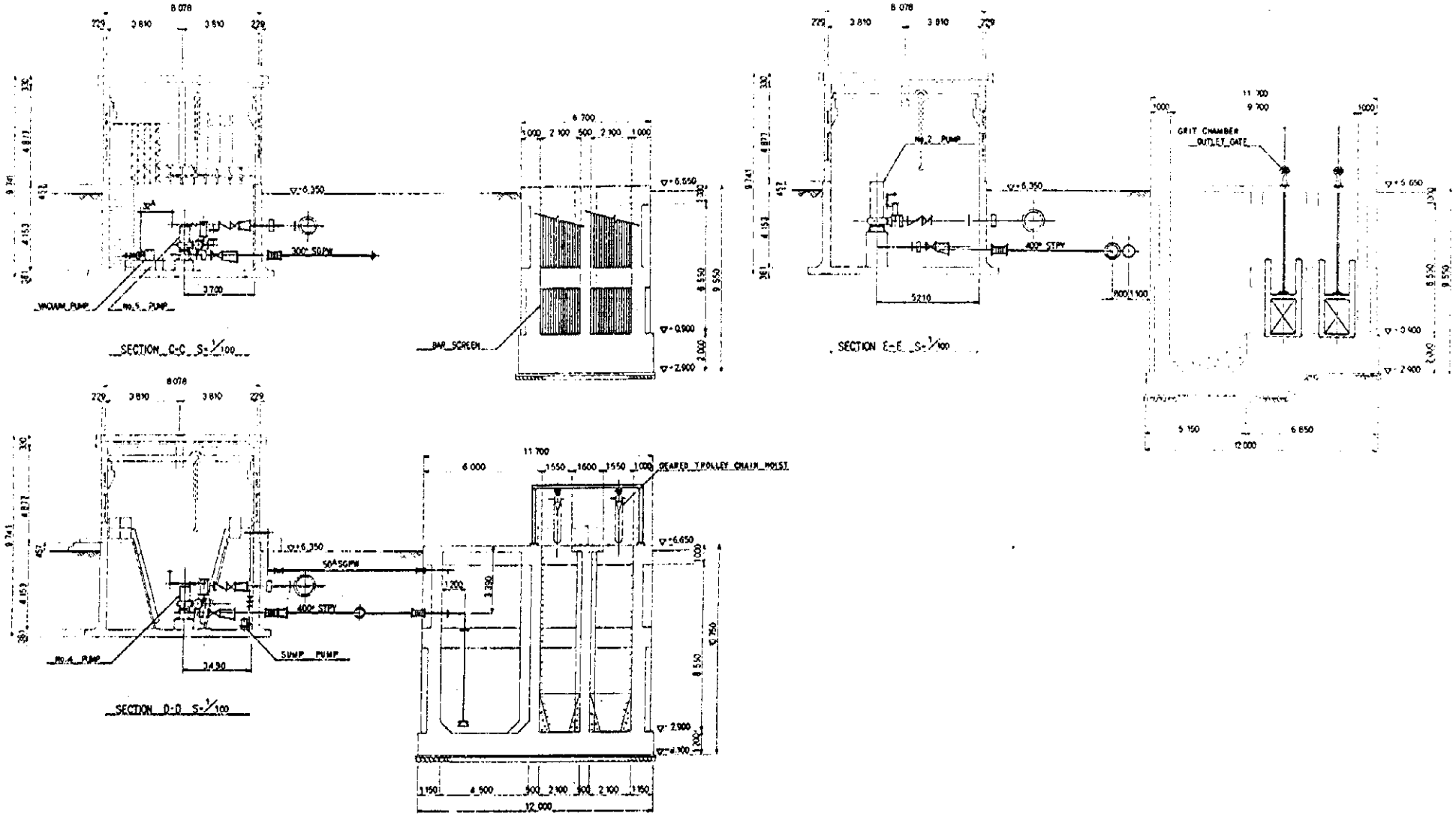
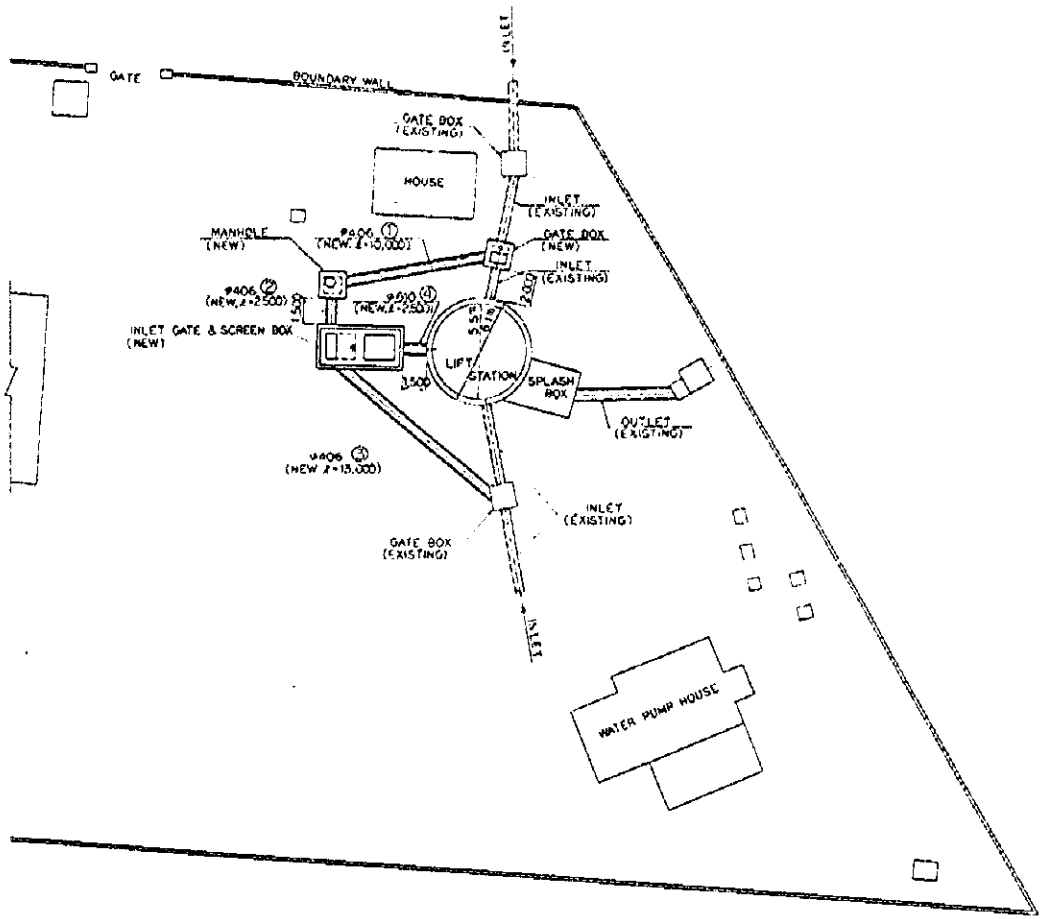


Figure 3.3.2.10

Narinda Lift Station (10)

The Study on North Dhaka Sewerage System in North Dhaka



KEY PLAN S=1/150

Figure 3.3.2.11

Asad Gate Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka

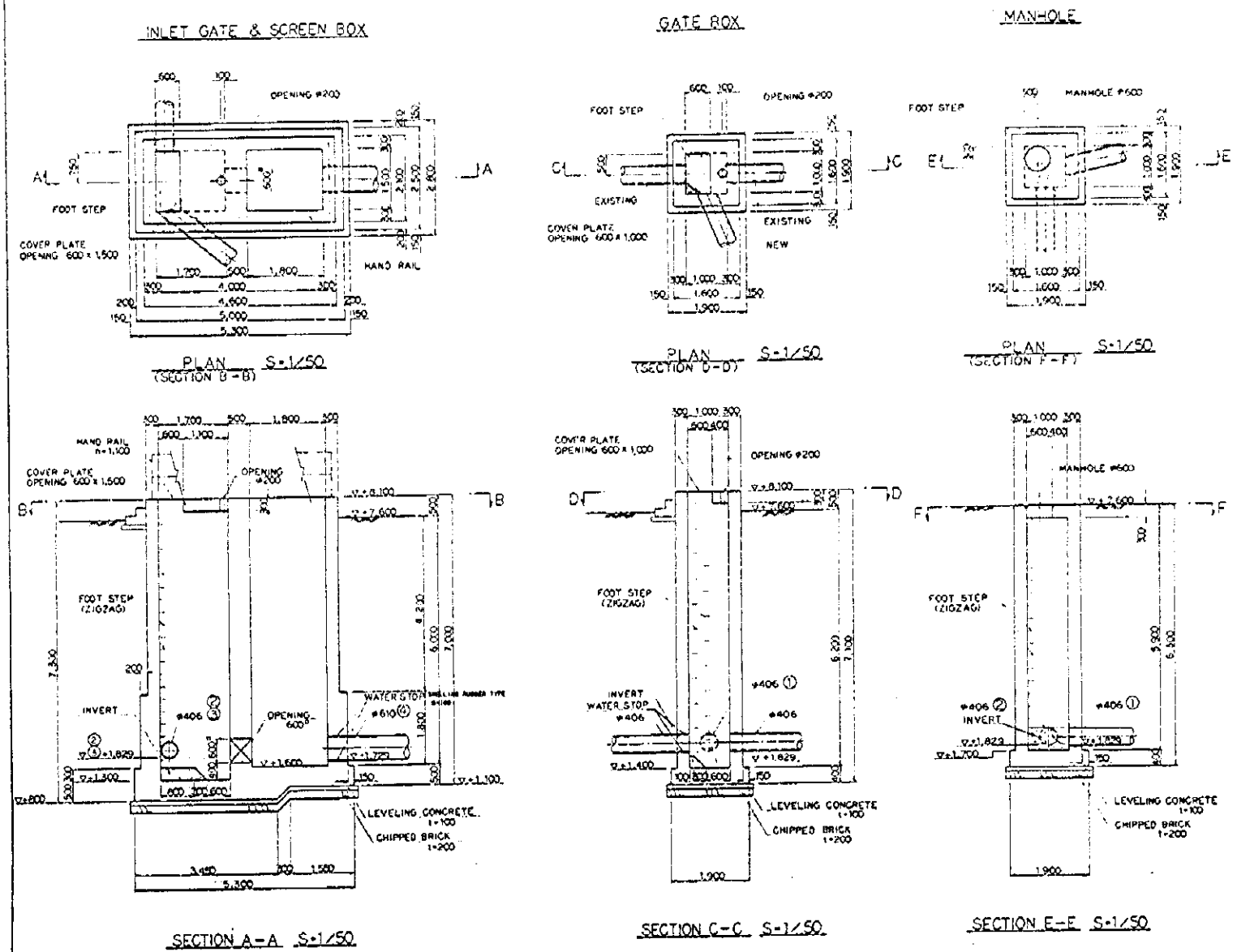
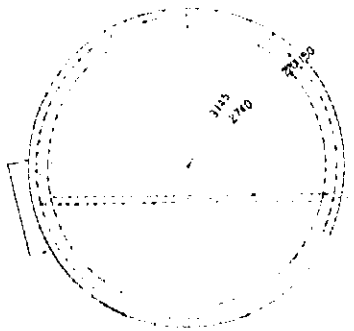


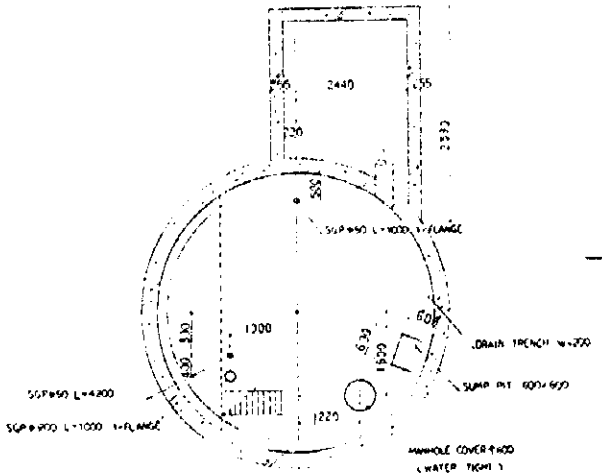
Figure 3.3.2.12

Asad Gate Lift Station (2)

The Study on North Dhaka Sewerage System in North Dhaka



A - A DOWN VIEW 1/50



C - C SECTION 1/50

ELEVATION 1/100

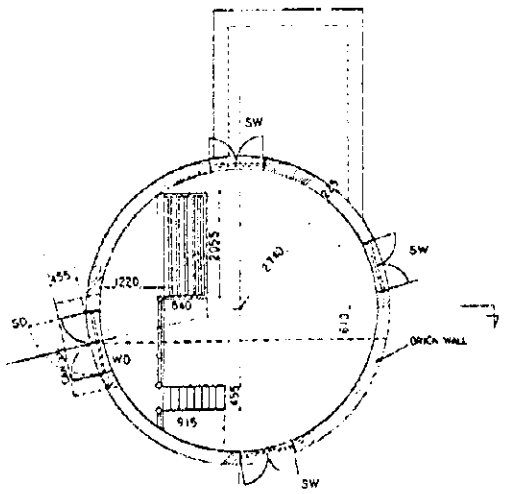
REHABILITATION SCHEDULE
(ASAD GATE)

STRUCTURE		
ROOF	RCC	
FLOOR	RCC	
EXT. FINISHING		
WALL	PAINT	
ROOF	MIL	
INT. FINISHING		
FLOOR	CINDER CONCRETE t=100	
WALL	PAINT	
PARTITION	MIL	
CEILING	PAINT	
DOOR	W 0.7/H2.1/35	PAINT
WINDOW	PAINT, GLASS 6M t=12MM	GW
OPENING	DIA 600	
PLUMBING	SGP50 L=1000	
	SUP50 L=4200	
	SGP100 L=1000	
	SUMP PIT 600x600	
M.H. COVER	WATER TIGHT	
FOOT STEP	PAINT	
HANDING HOOK	PAINT	
LADDER	PAINT	

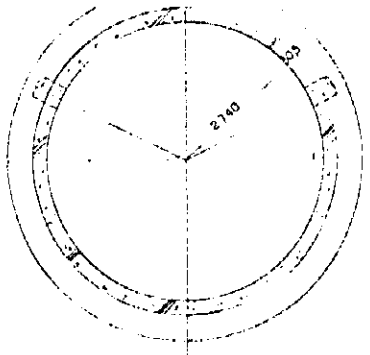
NOTE:

1. INTERNAL PRESSURE CAPACITY OF WATERTIGHT MANHOLE IS NOT LESS THAN 1.0kg/cm².

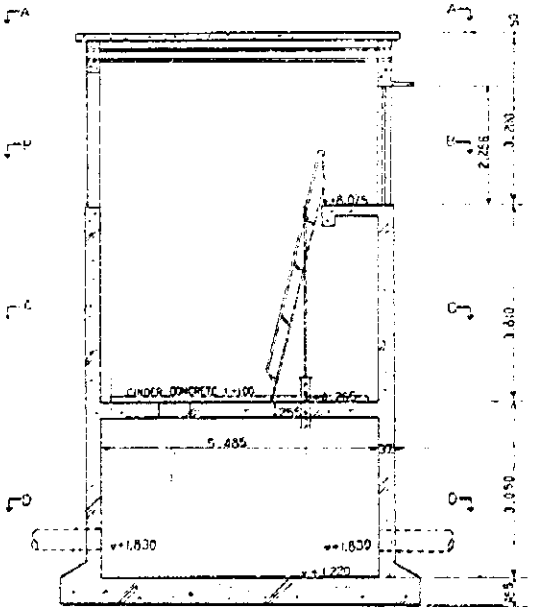
MANHOLE FRAME SHALL BE FIXED WITH CAPSULE RESIN ANCHORS.



B - B SECTION 1/50



D - D SECTION 1/50



a - a SECTION 1/50

Figure 3.3.2.13

Asad Gate Lift Station (3)

The Study on North Dhaka Sewerage System in North Dhaka

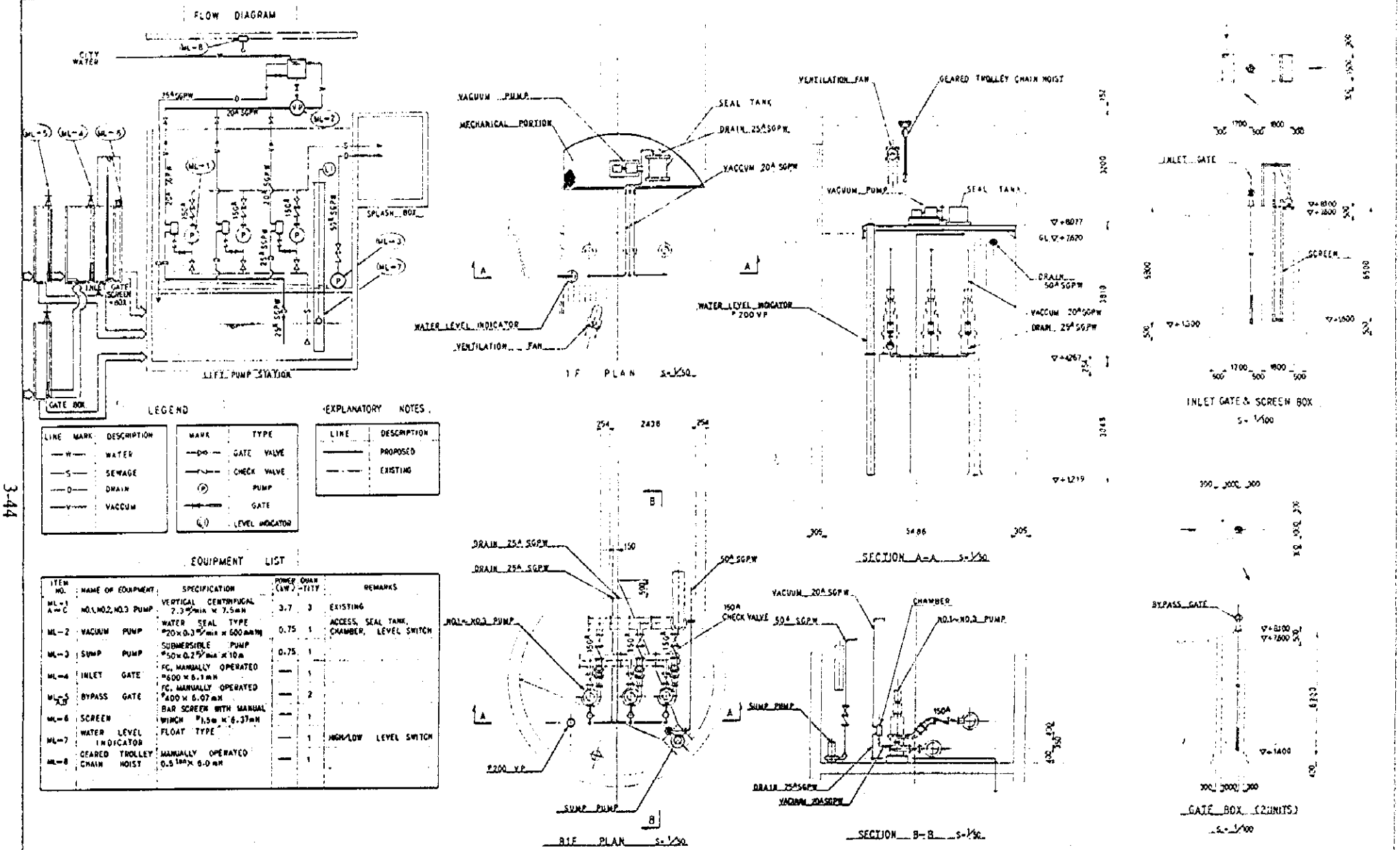
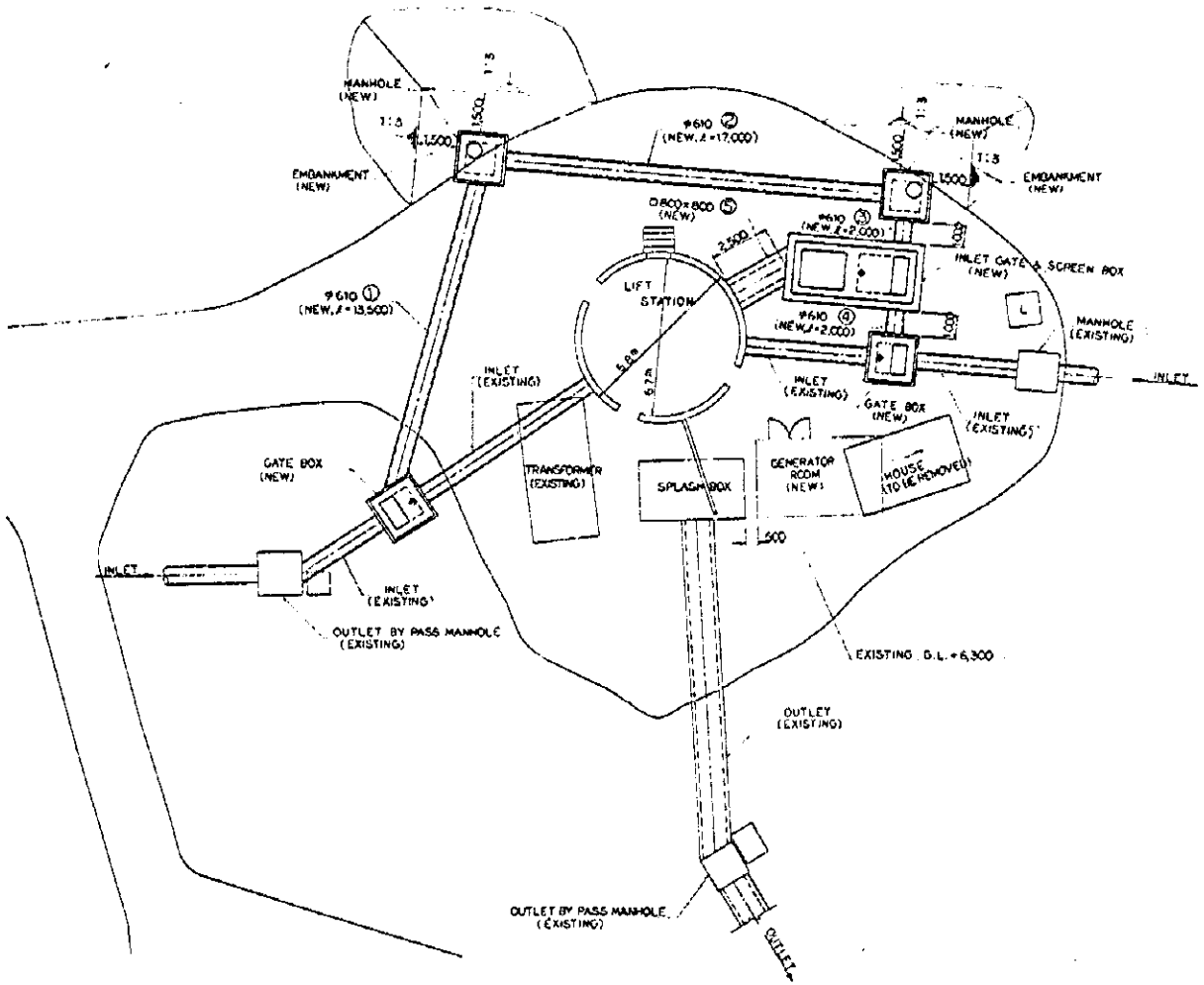


Figure 3.3.2.14

Asad Gate Lift Station (4)

The Study on North Dhaka Sewerage System in North Dhaka



KEY PLAN S=1/100

Figure 3.3.2.15

Tejgaon Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka

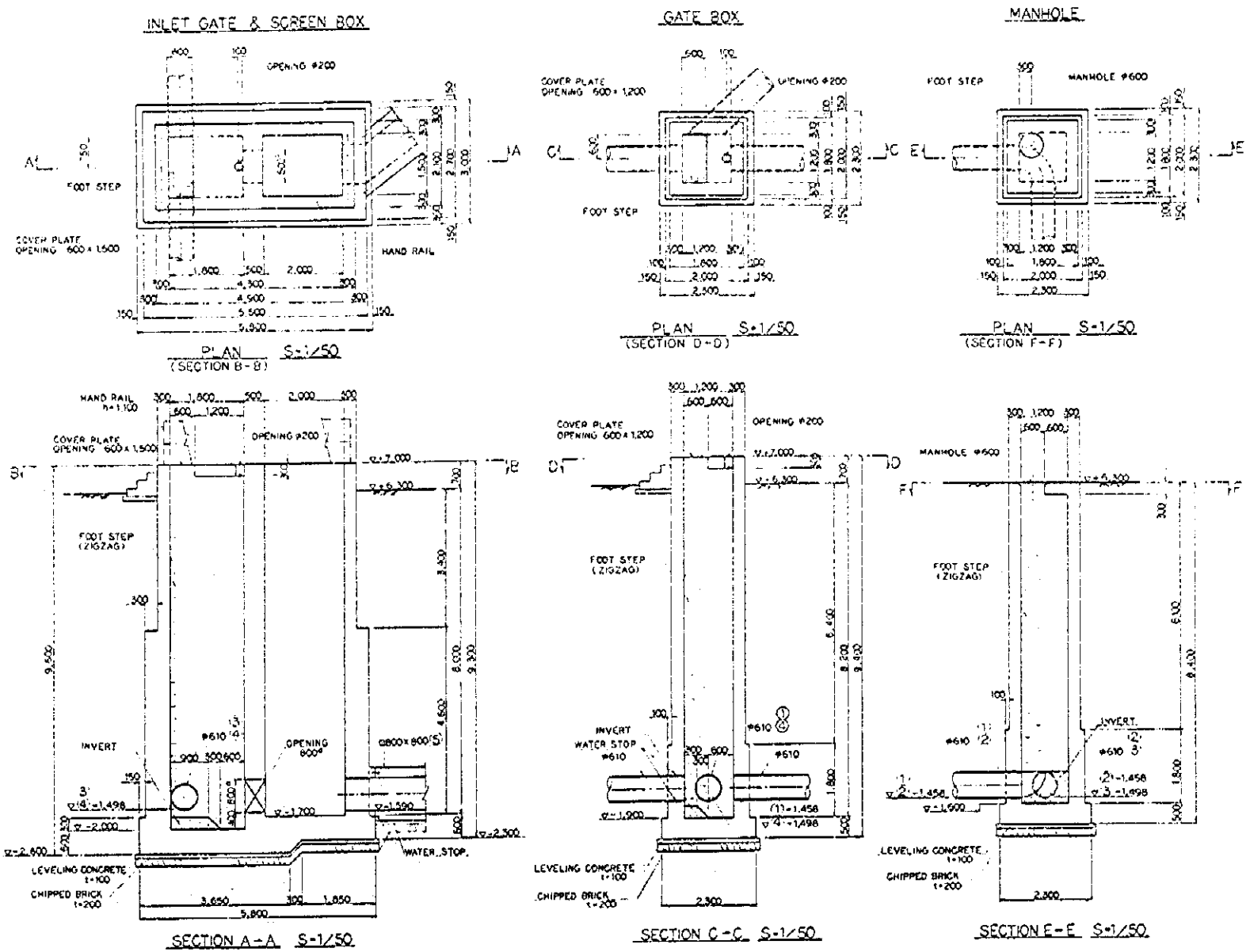


Figure 3.3.2.16

Tejgaon Lift Station (2)

The Study on North Dhaka Sewerage System in North Dhaka

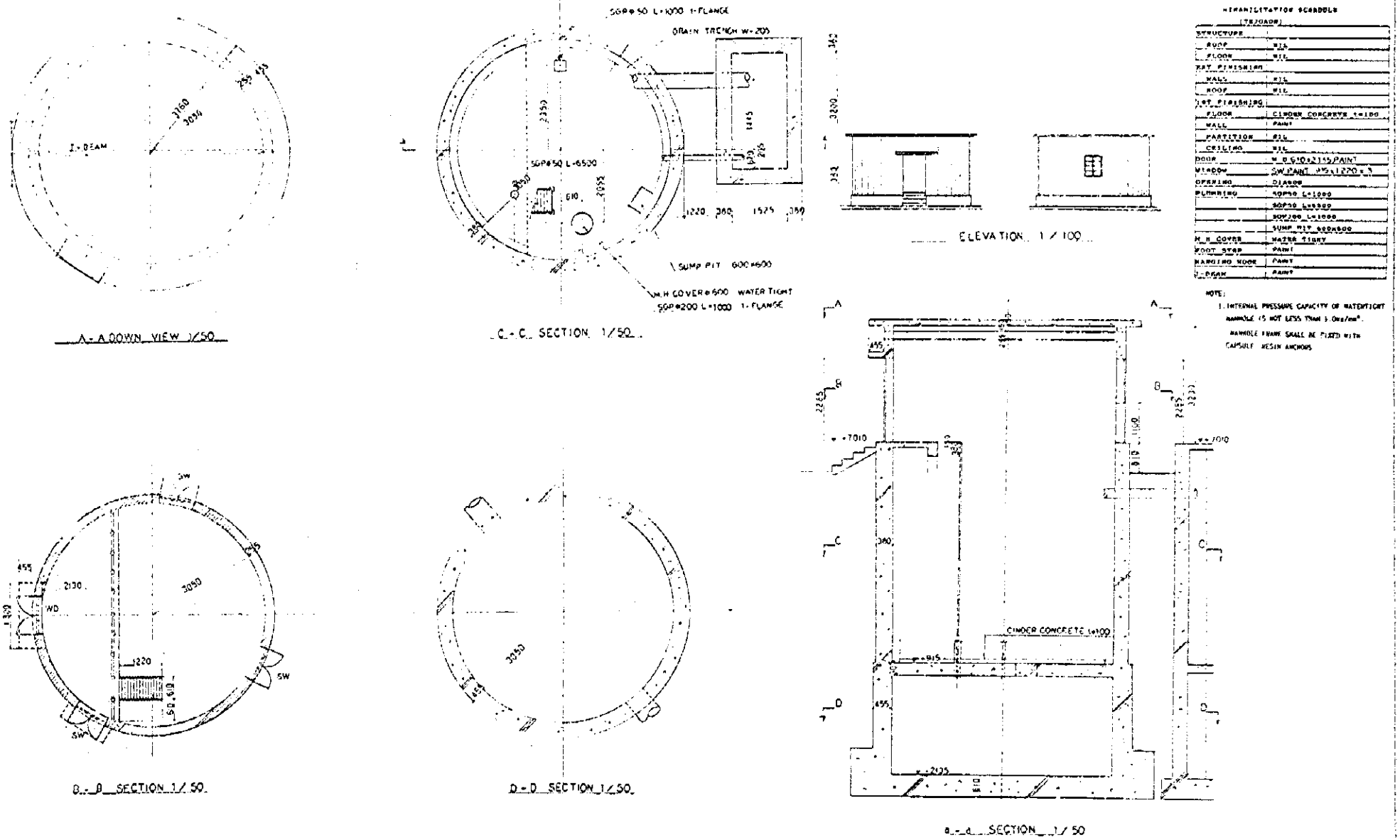


Figure 3.3.2.17

Tejgaon Lift Station (3)

The Study on North Dhaka Sewerage System in North Dhaka

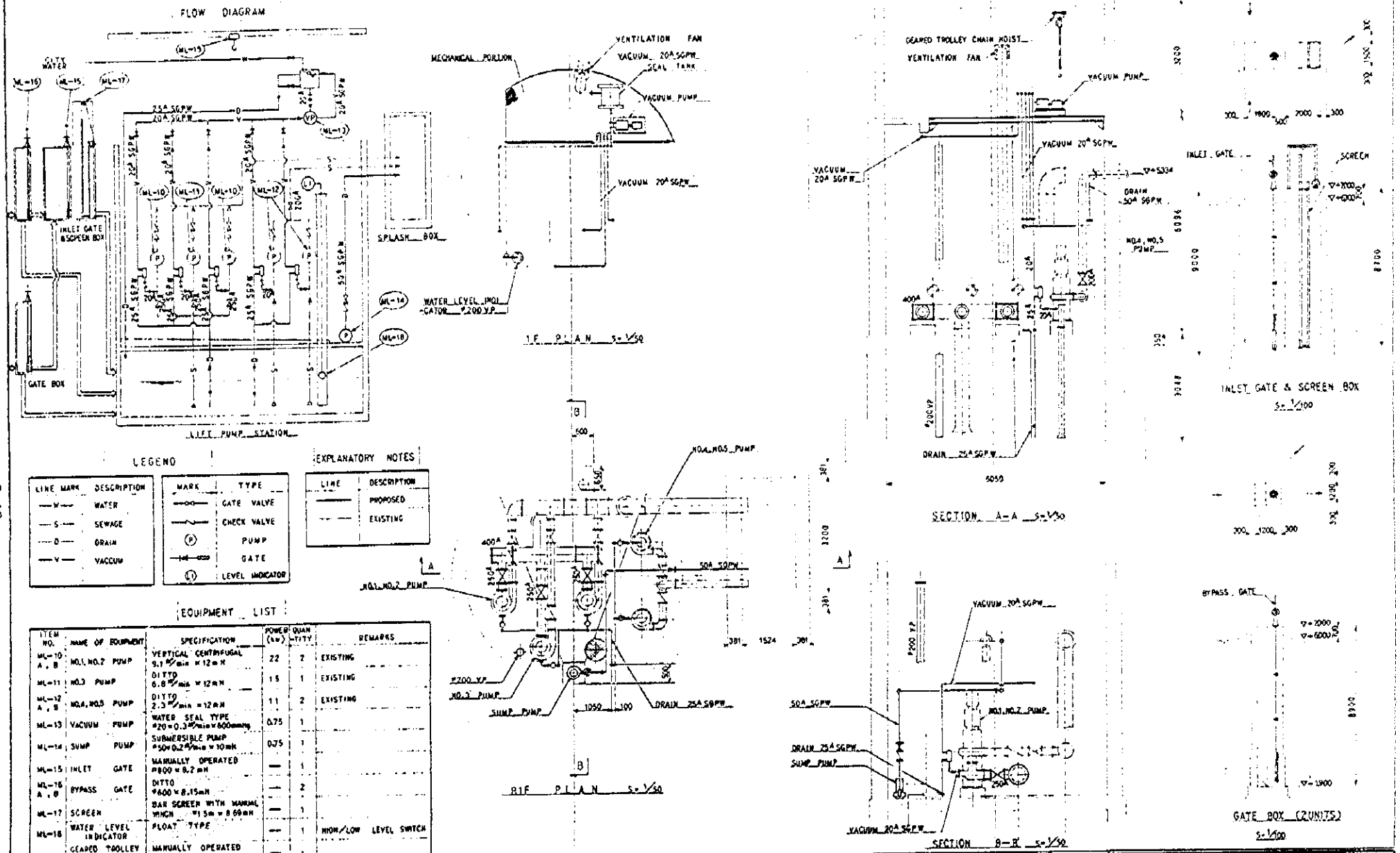
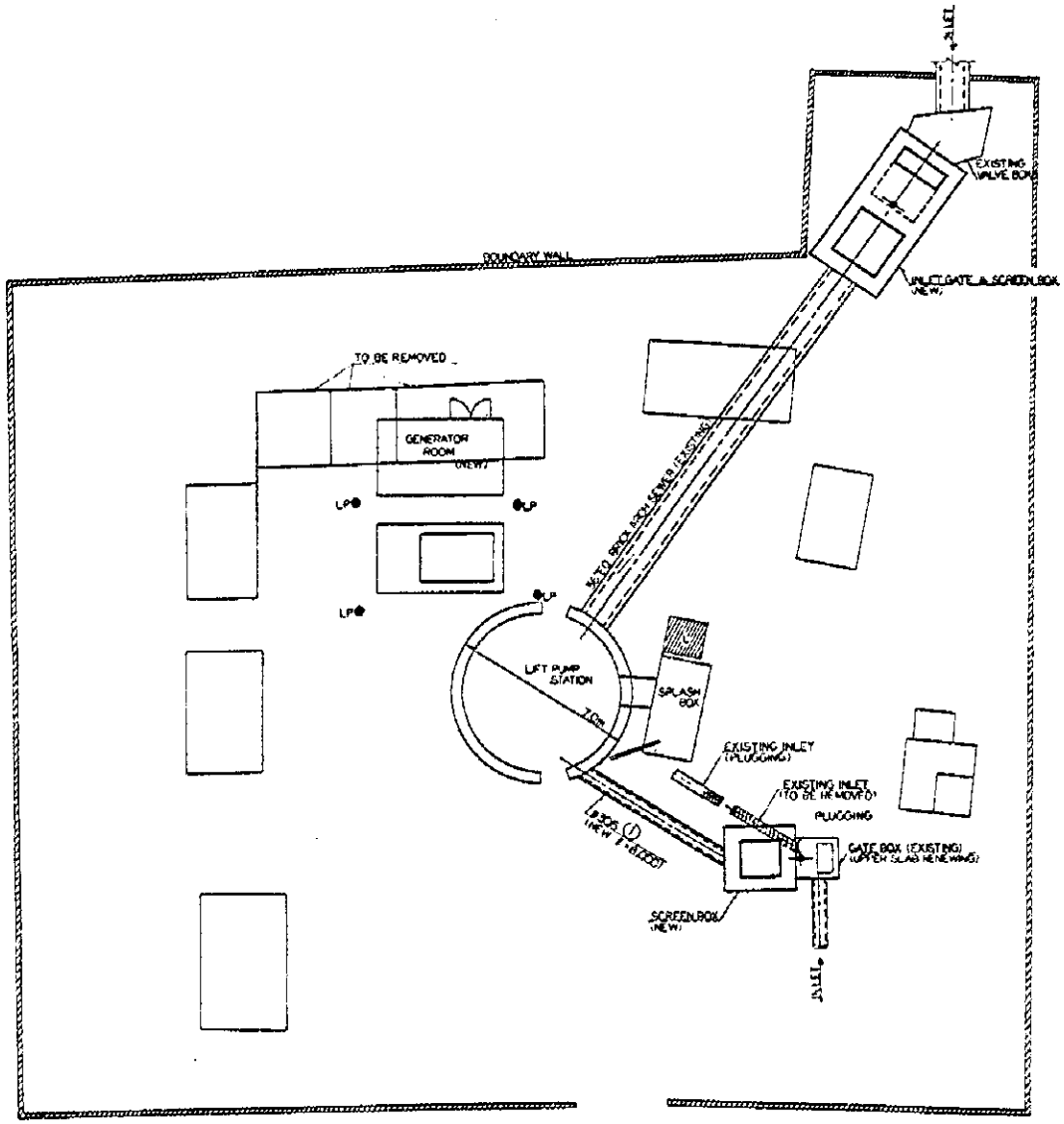


Figure 3.3.2.18

Tejgaon Lift Station (4)

The Study on North Dhaka Sewerage System in North Dhaka



KEY PLAN S=1/100

Figure 3.3.2.19

Bashaboo Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka

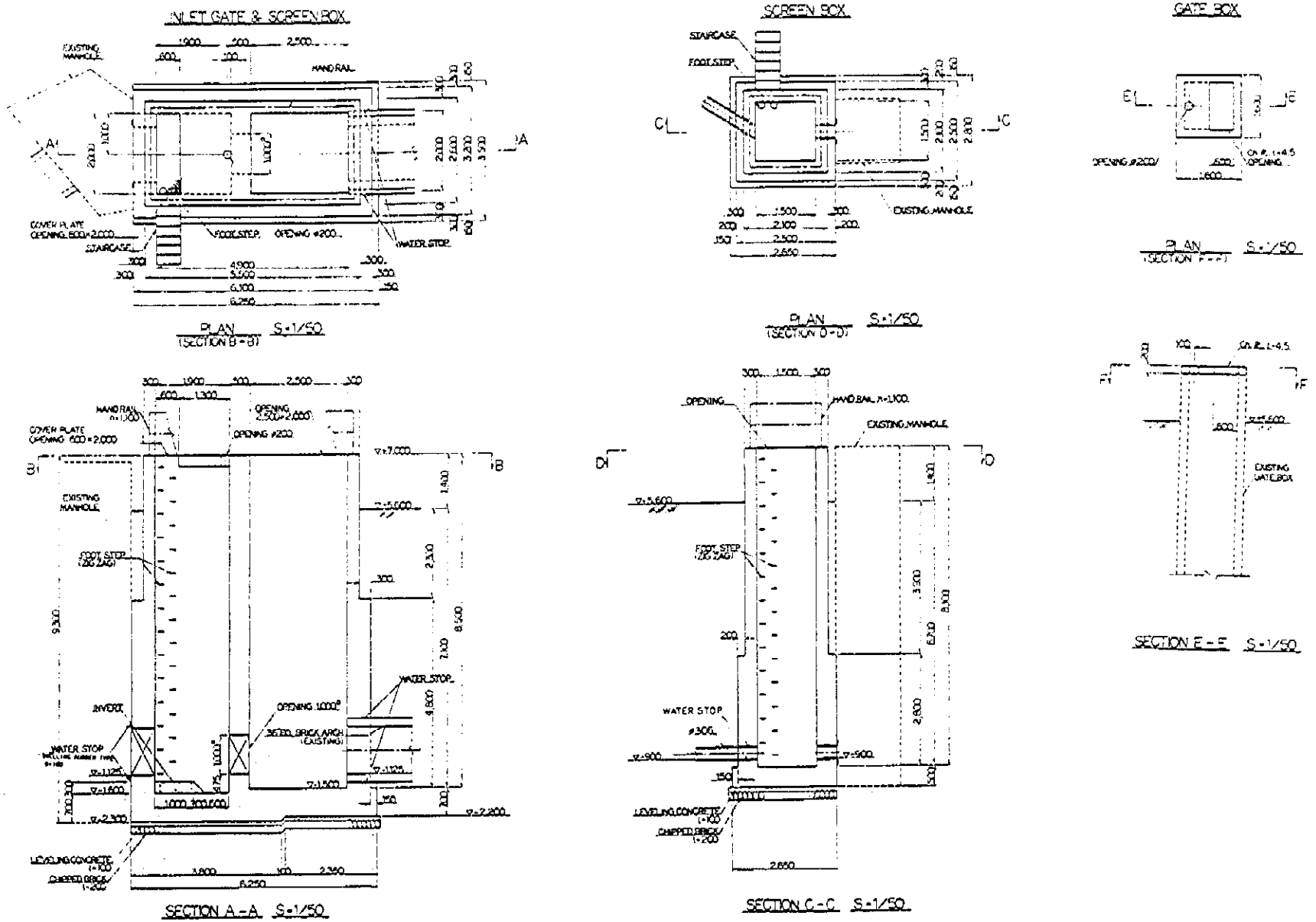


Figure 3.3.2.20

Bashaboo Lift Station (2)

The Study on North Dhaka Sewerage System in North Dhaka

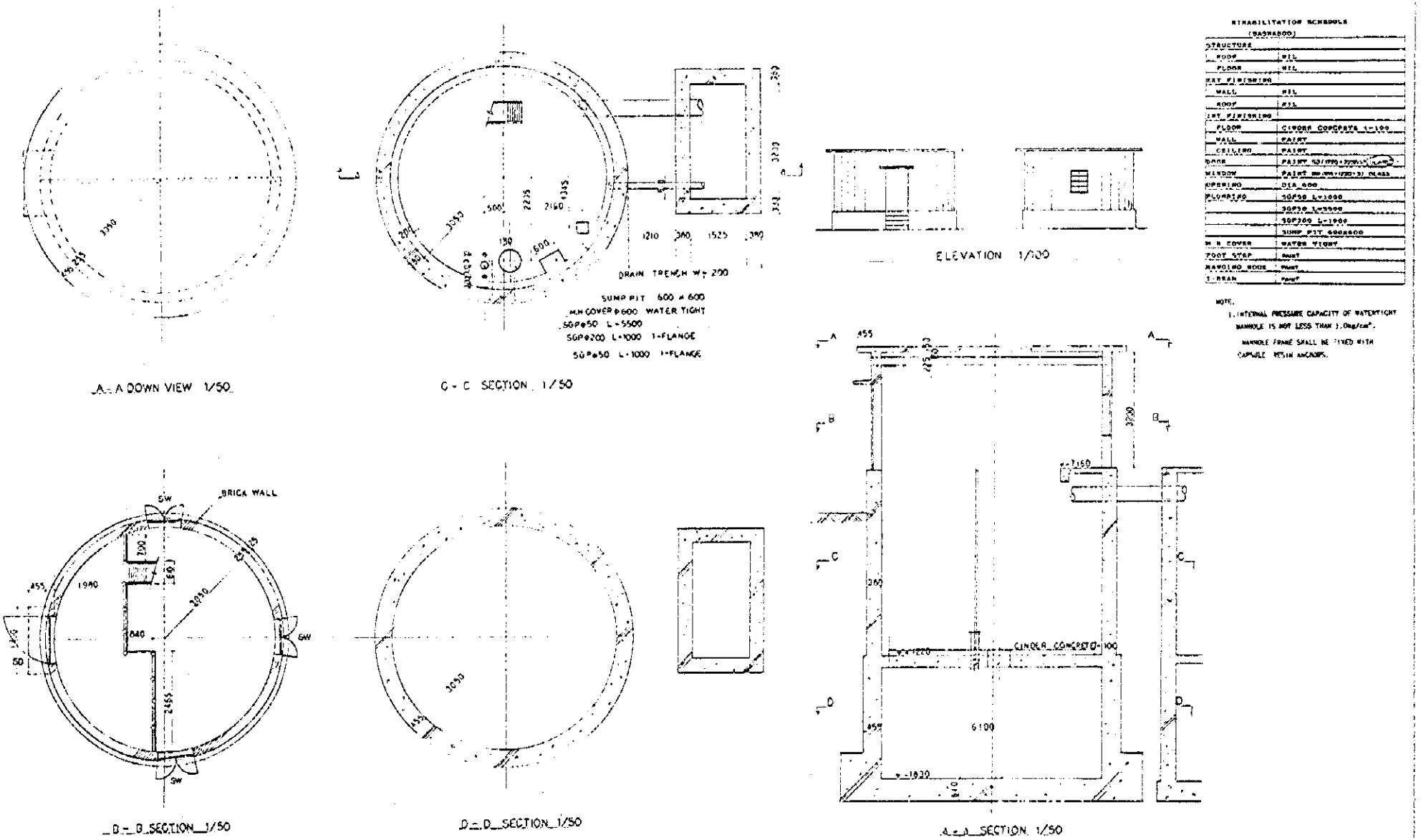
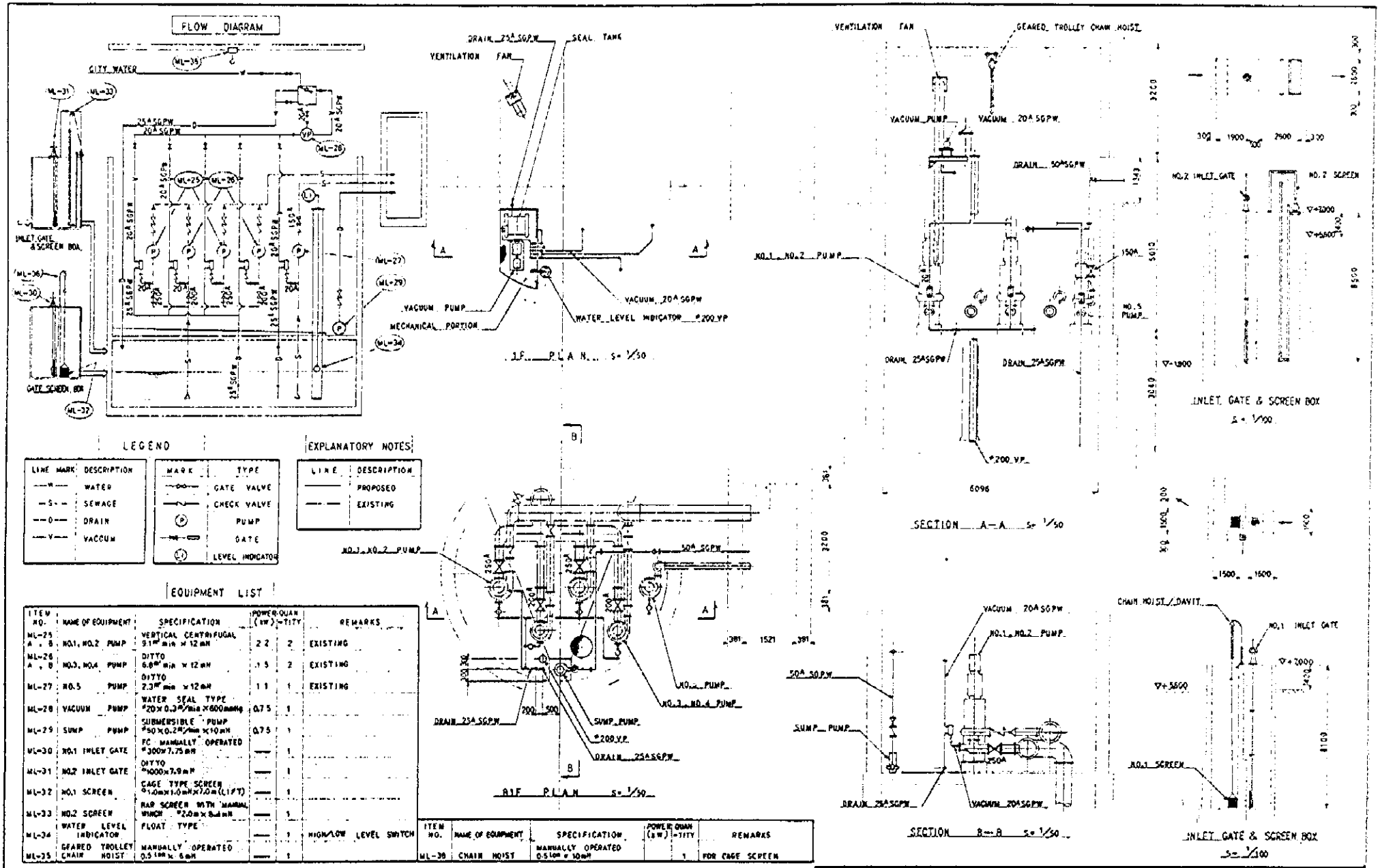


Figure 3.3.2.21

Bashaboo Lift Station (3)

The Study on North Dhaka Sewerage System in North Dhaka



LINE MARK	DESCRIPTION
—W—	WATER
—S—	SEWAGE
—D—	DRAIN
—V—	VACCUM

MARK	TYPE
	GATE VALVE
	CHECK VALVE
P	PUMP
	GATE
LI	LEVEL INDICATOR

LINE	DESCRIPTION
	PROPOSED
	EXISTING

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER (kW)	QUANTITY	REMARKS
ML-25 A, B	NO.1, NO.2 PUMP	VERTICAL CENTRIFUGAL 9.1m³/min × 12mH	22	2	EXISTING
ML-26 A, B	NO.3, NO.4 PUMP	DITTO 6.8m³/min × 12mH	15	2	EXISTING
ML-27	NO.5 PUMP	DITTO 2.3m³/min × 12mH	11	1	EXISTING
ML-28	VACUUM PUMP	WATER SEAL TYPE φ200×0.3m³/min×600mmHg	0.75	1	
ML-29	SUMP PUMP	SUBMERSIBLE PUMP φ50×0.2m³/min×10mH	0.75	1	
ML-30	NO.1 INLET GATE	FC MANUALLY OPERATED φ300×7.75mH	—	1	
ML-31	NO.2 INLET GATE	DITTO φ1000×7.9mH	—	1	
ML-32	NO.1 SCREEN	CAGE TYPE SCREEN 1.0m×1.0mH×7.0m(LIFT)	—	1	
ML-33	NO.2 SCREEN	BAR SCREEN WITH MANUAL WINCH 2.0m×8.0mH	—	1	
ML-34	WATER LEVEL INDICATOR	FLOAT TYPE	—	1	HIGH/LOW LEVEL SWITCH
ML-35	GEARED TROLLEY CHAIN HOIST	MANUALLY OPERATED 0.5ton × 8mH	—	1	

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER (kW)	QUANTITY	REMARKS
ML-36	CHAIN HOIST	MANUALLY OPERATED 0.5ton × 10mH		1	FOR CAGE SCREEN

Figure 3.3.2.22

Bashaboo Lift Station (4)

The Study on North Dhaka Sewerage System in North Dhaka

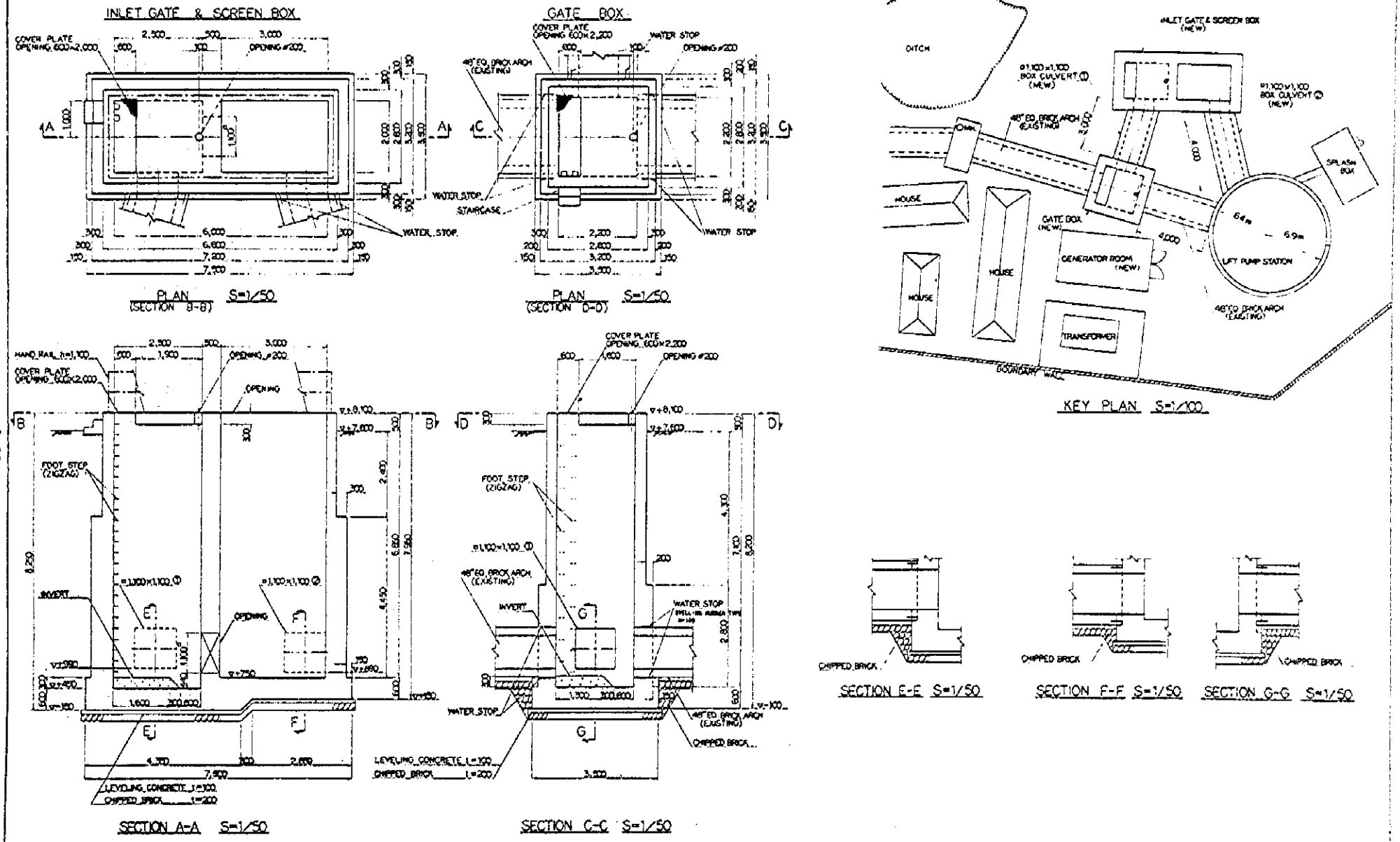
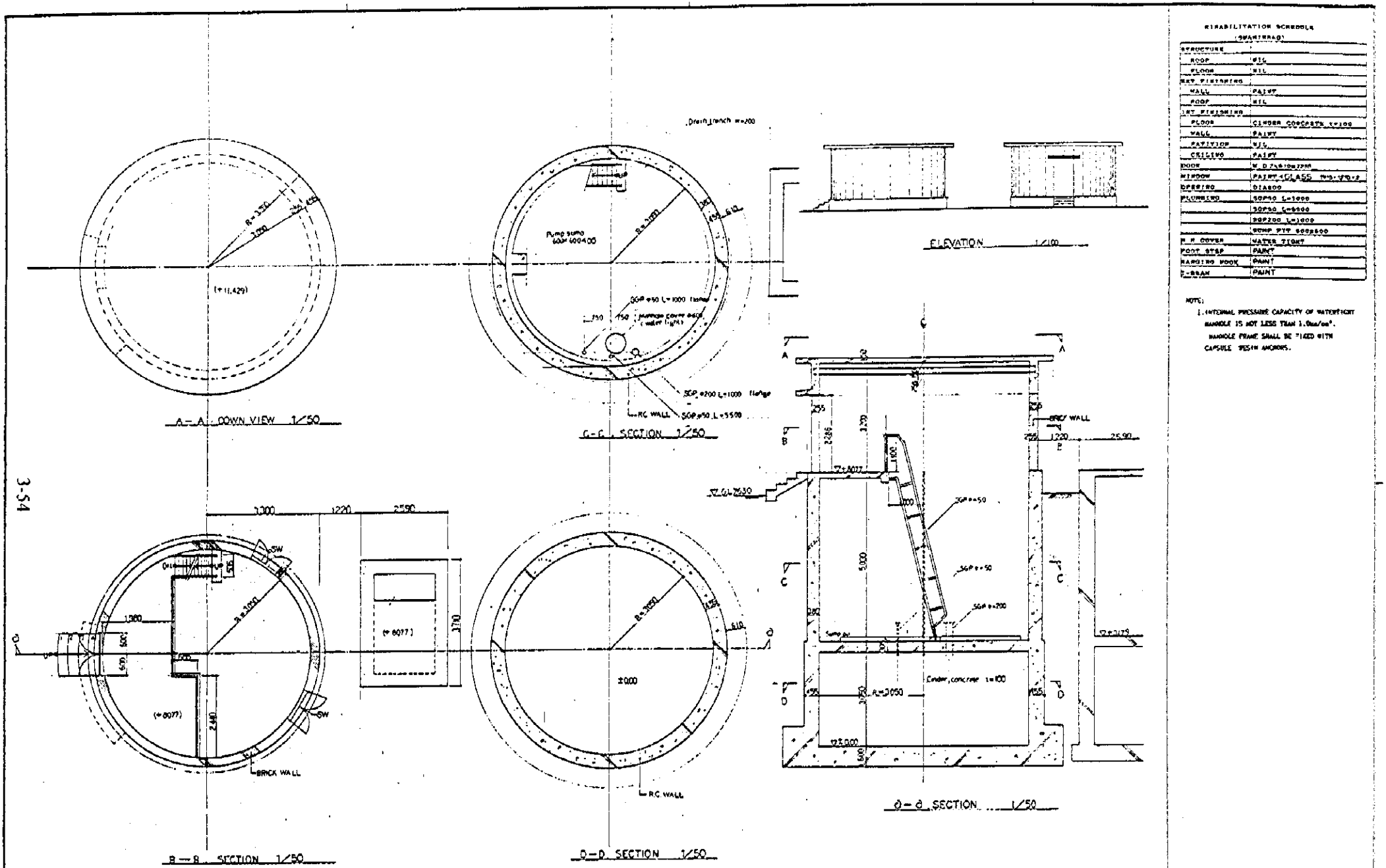


Figure 3.3.2.23

Sayedabad Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka

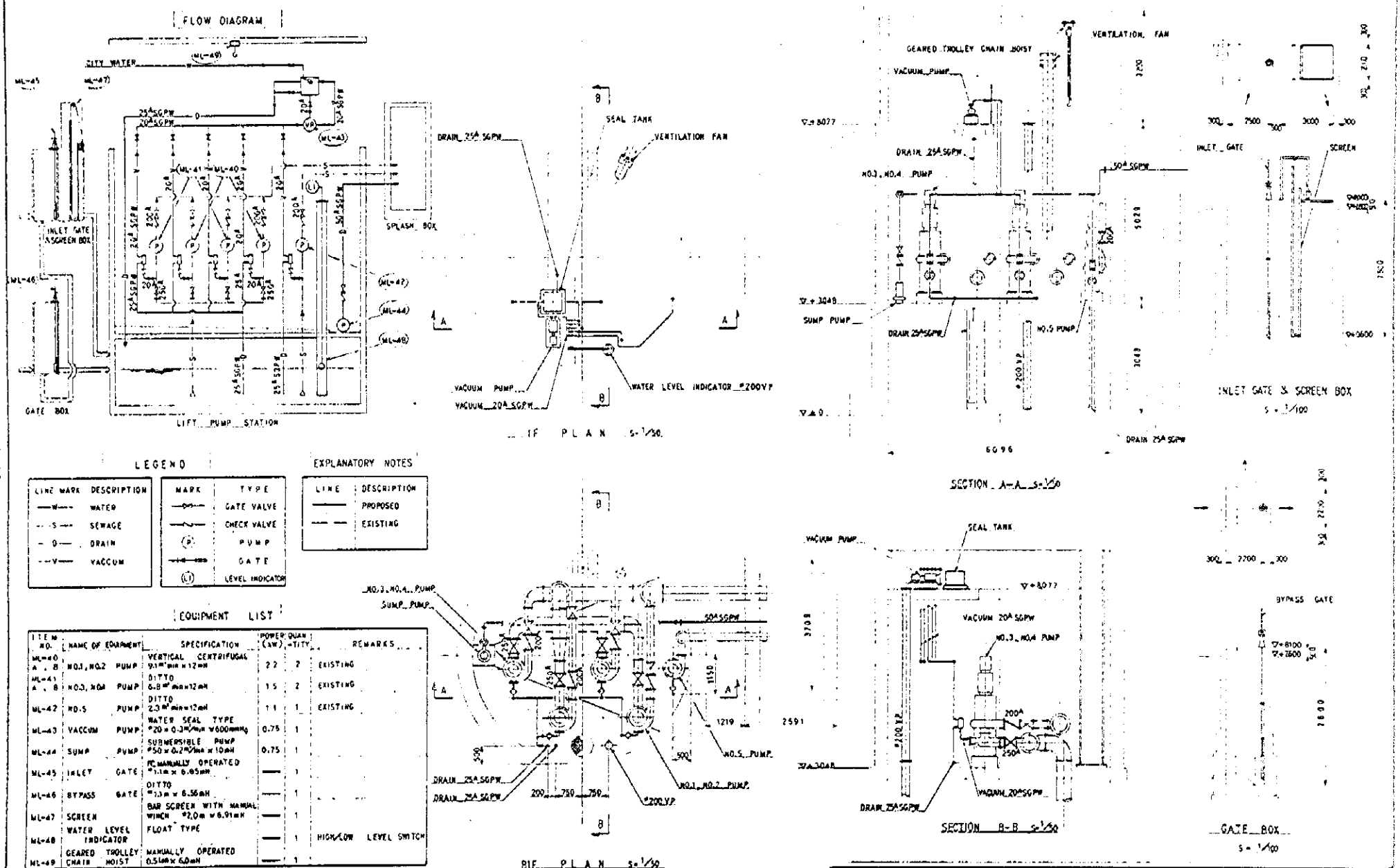


3-54

Figure 3.3.2.24

Sayedabad Lift Station (2)

The Study on North Dhaka Sewerage System in North Dhaka

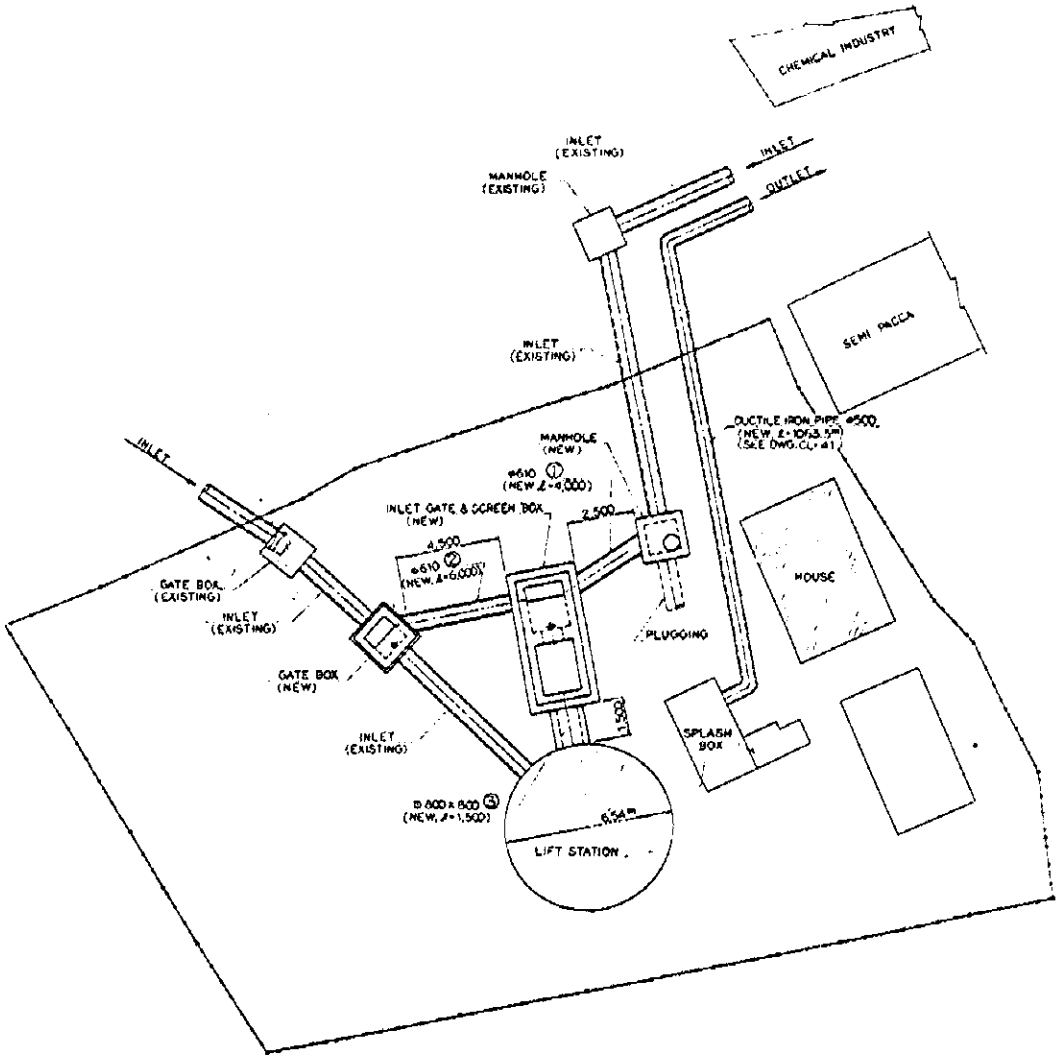


ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER (kW)	QUANTITY	REMARKS
ML-40 A, B	NO.1, NO.2 PUMP	VERTICAL CENTRIFUGAL 9.1m³/min x 12mH	22	2	EXISTING
ML-41 A, B	NO.3, NO.4 PUMP	DITTO 6.8m³/min x 12mH	15	2	EXISTING
ML-42	NO.5 PUMP	DITTO 2.3m³/min x 12mH	11	1	EXISTING
ML-43	VACCUM PUMP	WATER SEAL TYPE Φ20 x 0.3m³/min x 600mmHg	0.75	1	
ML-44	SUMP PUMP	SUBMERSIBLE PUMP Φ50 x 0.2m³/min x 10mH	0.75	1	
ML-45	INLET GATE	Φ MANUALLY OPERATED Φ1.1m x 6.85mH	—	1	
ML-46	BYPASS GATE	DITTO Φ1.1m x 6.56mH	—	1	
ML-47	SCREEN	BAR SCREEN WITH MANUAL WINCH Φ2.0m x 6.91mH	—	1	
ML-48	WATER LEVEL INDICATOR	FLOAT TYPE	—	1	HIGH-LOW LEVEL SWITCH
ML-49	GEARED TROLLEY CHAIN HOIST	MANUALLY OPERATED 0.5ton x 6.0mH	—	1	

Figure 3.3.2.25

Sayedabad Lift Station (3)

The Study on North Dhaka Sewerage System in North Dhaka



KEY PLAN S=1/100

Figure 3.3.2.26

Hazaribag Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka

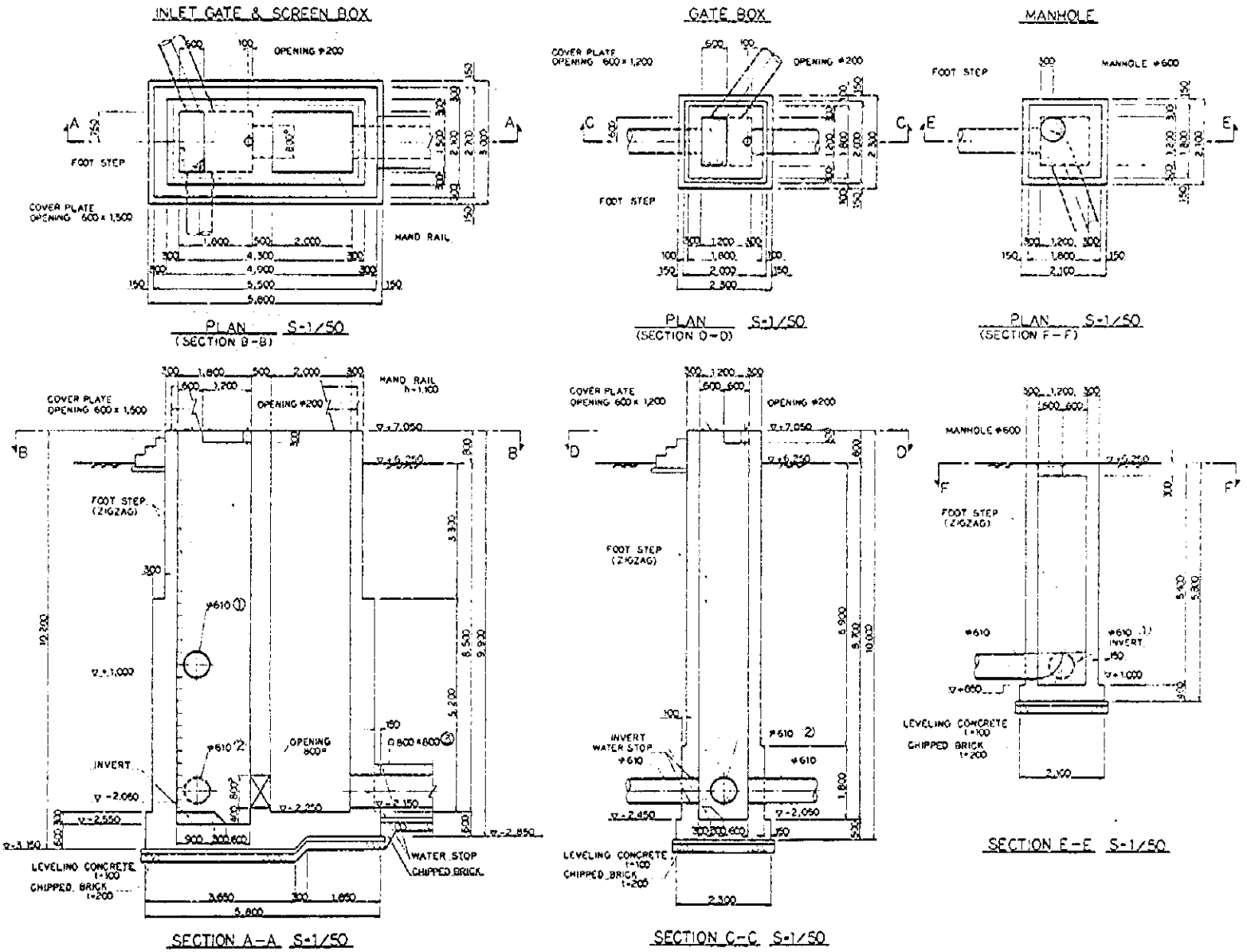


Figure 3.3.2.27

Hazaribag Lift Station (2)

The Study on North Dhaka Sewerage System in North Dhaka

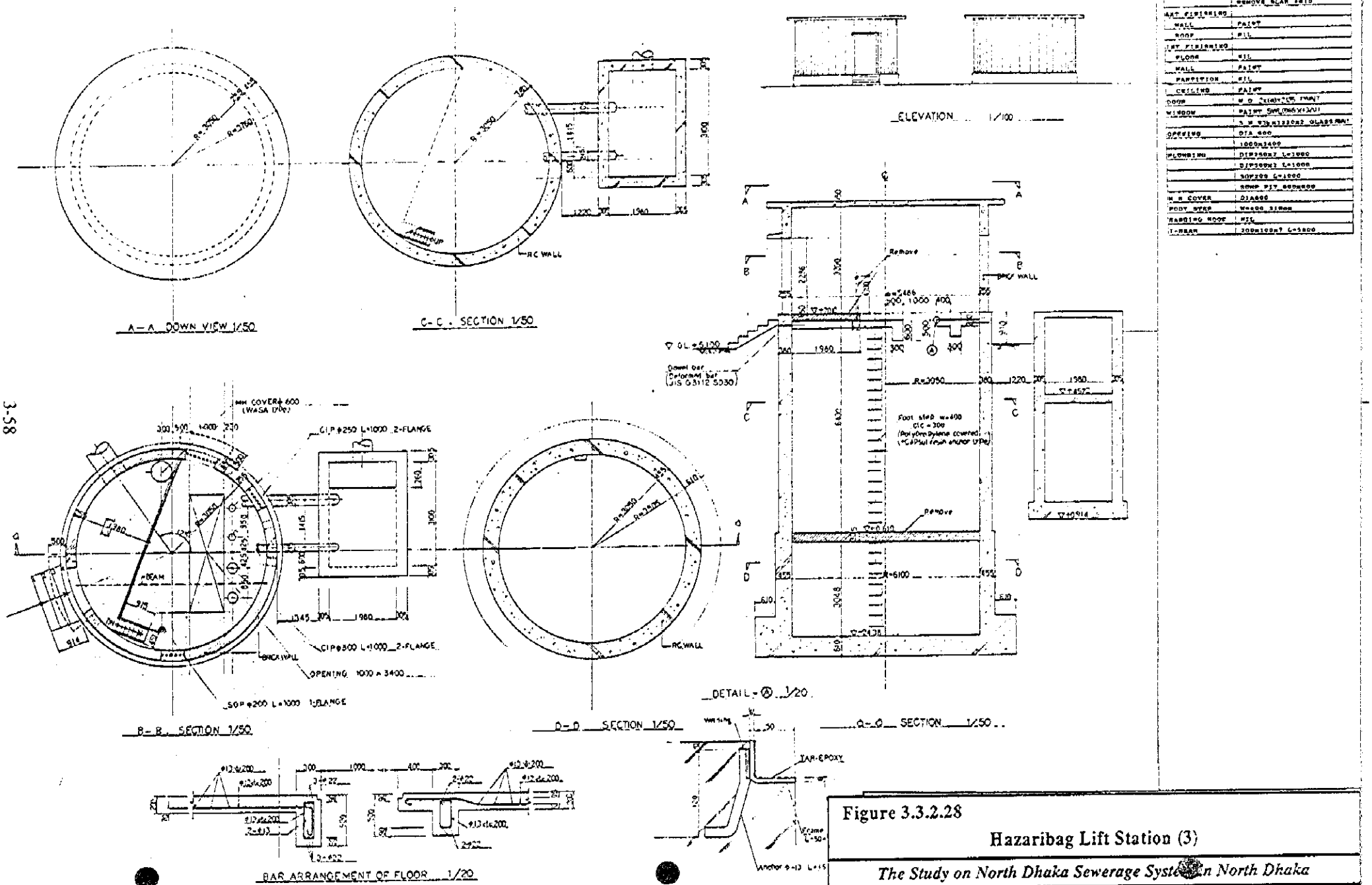


Figure 3.3.2.28

Hazaribag Lift Station (3)

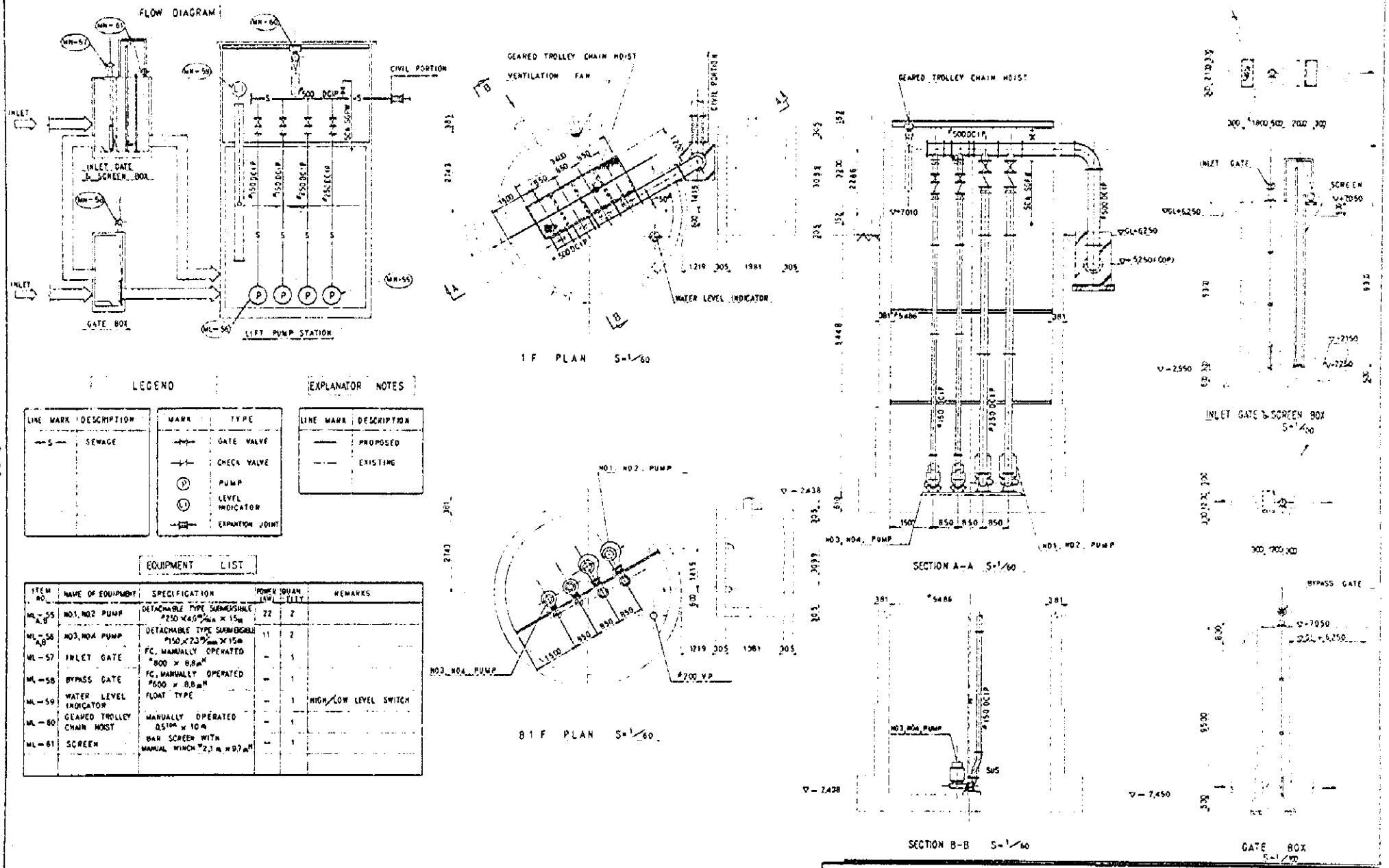
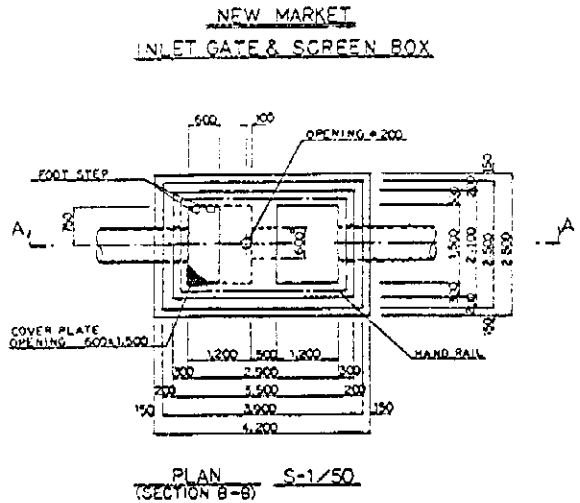
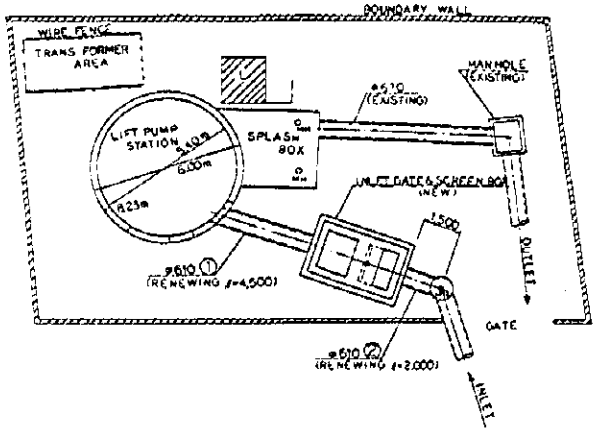


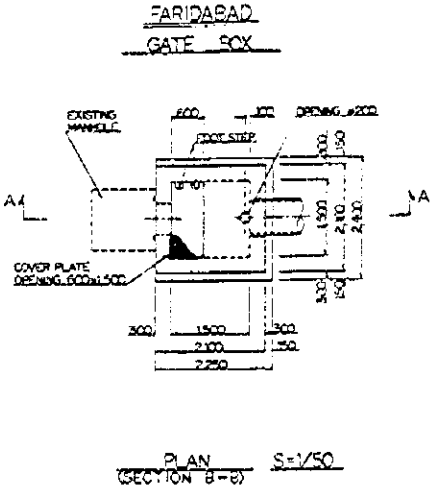
Figure 3.3.2.29

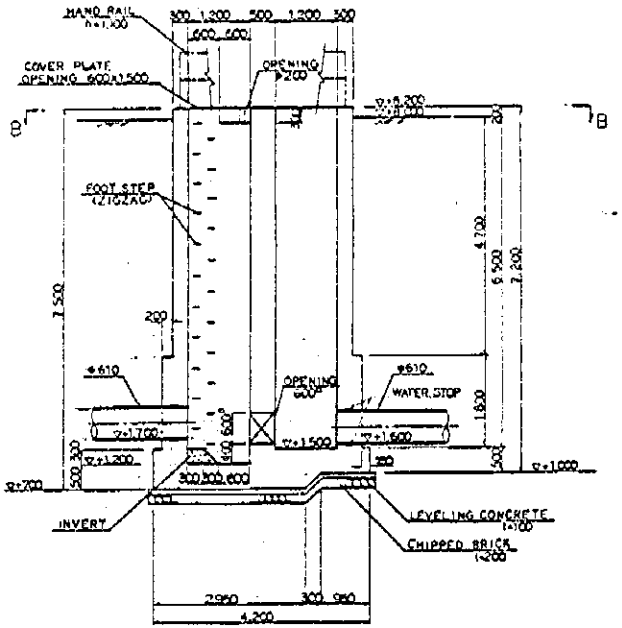
Hazaribag Lift Station (4)

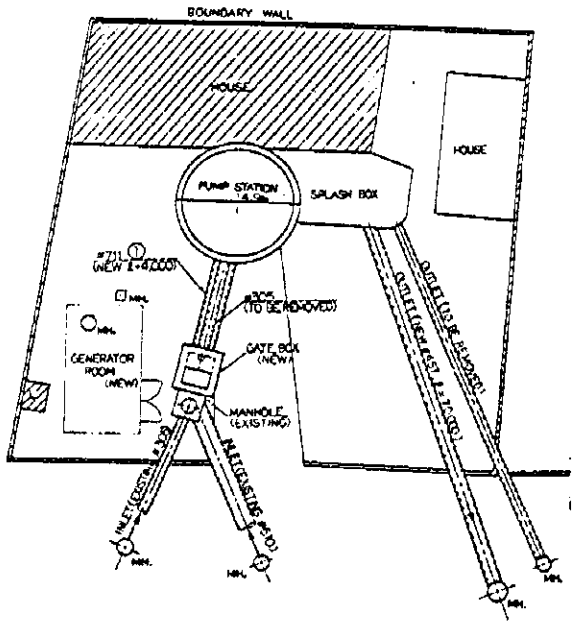
The Study on North Dhaka Sewerage System in North Dhaka











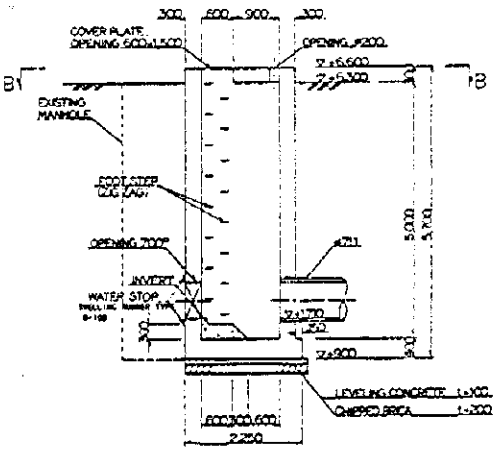
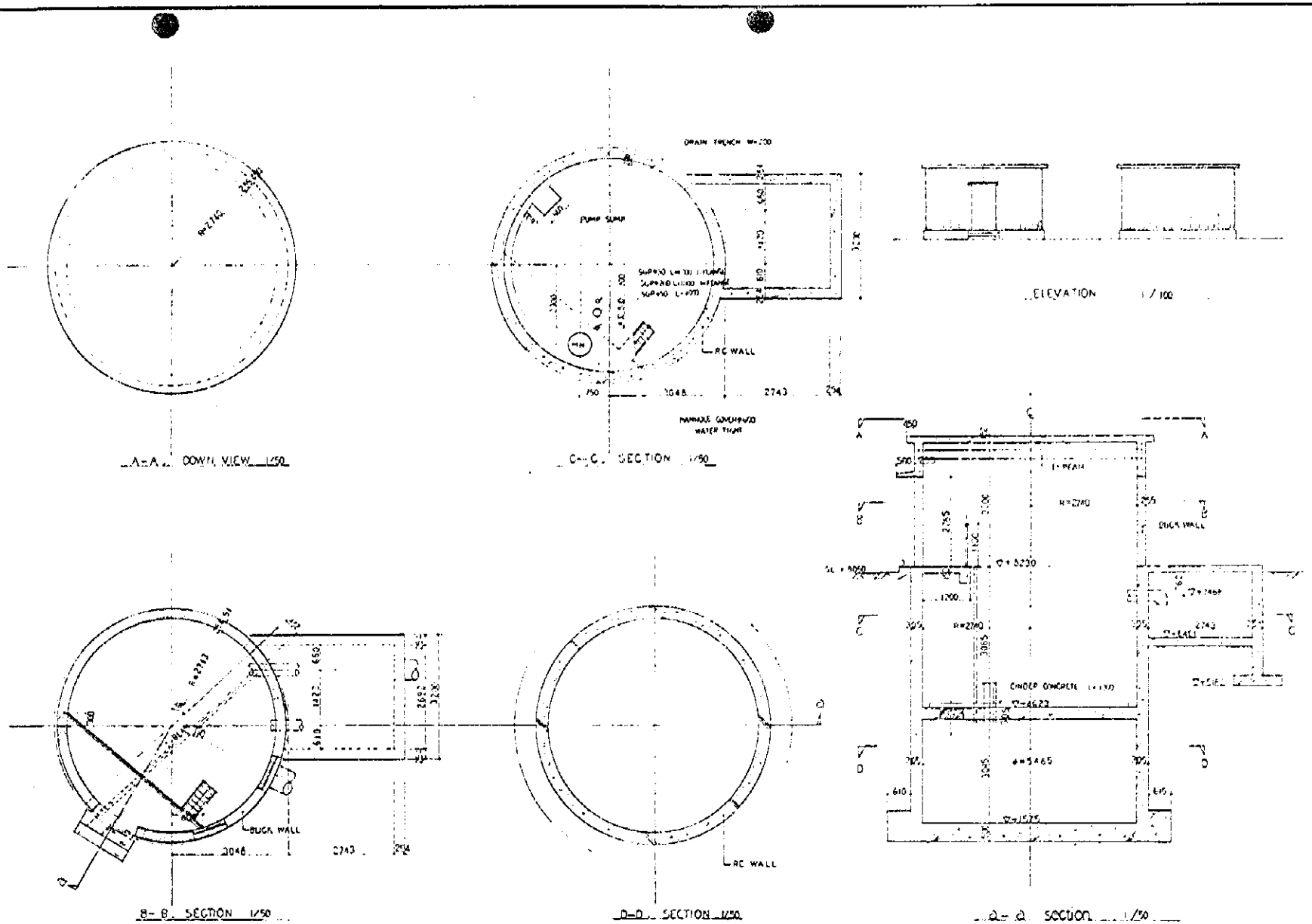


Figure 3.3.2.30

New Market & Faridabad Lift Station

The Study on North Dhaka Sewerage System in North Dhaka



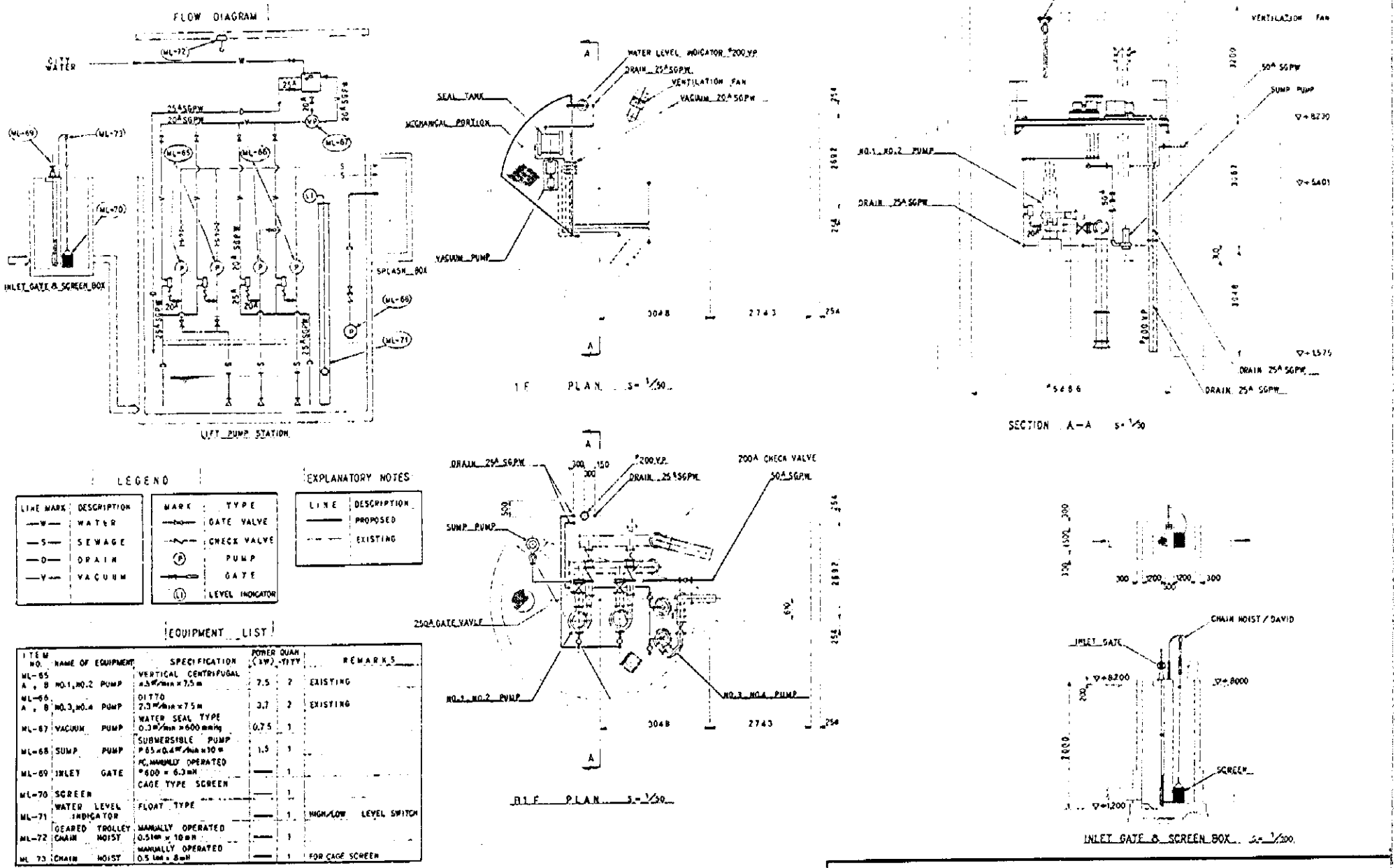
MARKETING SCHEDULE (PPW MARKET)

STRUCTURE	
ROOF	RCC
FLOOR	RCC
EXT. FINISHING	
WALL	PAINT
ROOF	RCC
INT. FINISHING	
FLOOR	CINDER CONCRETE t=150
WALL	PAINT
PARTITION	RCC
CEILING	PAINT
DOOR	1 W.D. FLUSH DOOR 1000x2100
WINDOW	2 SWL-PAINT 1000x1200
	W.W. 1000x1000
GRARING	CI t600
PLUMBING	SUPW t=1000
	SUPW t=1000
	SUP t=1000
	SUMP PIT 800x800
M.H. COVER	WATER TIGHT
FOOT STEP	Nos.
WARNING ROPE	Nos.
I-BEAM	Nos.

Figure 3.3.2.31

New Market Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka



LEGEND

LINE MARK	DESCRIPTION
—W—	WATER
—S—	SEWAGE
—D—	DRAIN
—V—	VACUUM

MARK	TYPE
	GATE VALVE
	CHECK VALVE
P	PUMP
	GATE
LI	LEVEL INDICATOR

EXPLANATORY NOTES

LINE	DESCRIPTION
	PROPOSED
	EXISTING

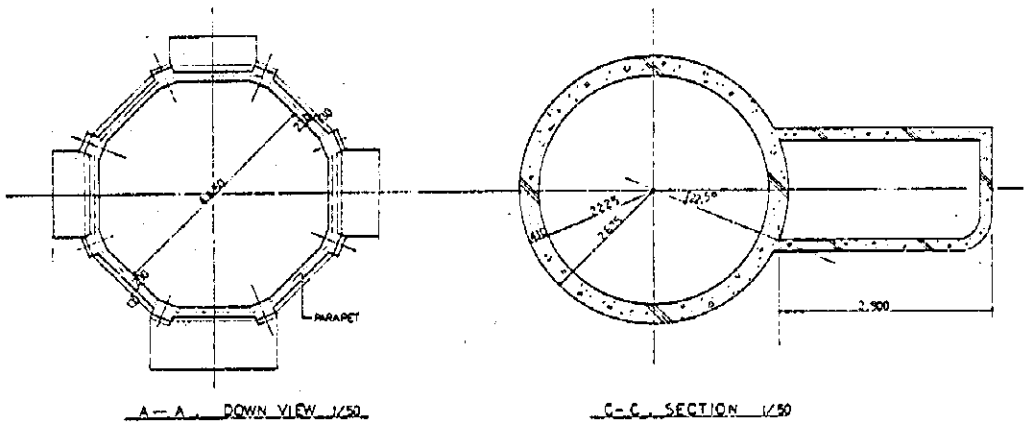
EQUIPMENT LIST

ITEM NO.	NAME OF EQUIPMENT	SPECIFICATION	POWER (kW)	QUAN-TITY	REMARKS
ML-65 A, B	NO.1, NO.2 PUMP	VERTICAL CENTRIFUGAL	7.5	2	EXISTING
ML-66 A, B	NO.3, NO.4 PUMP	DITTO	3.7	2	EXISTING
ML-67	VACUUM PUMP	WATER SEAL TYPE	0.75	1	
ML-68	SUMP PUMP	SUBMERSIBLE PUMP	1.5	1	
ML-69	INLET GATE	FC, MANUALLY OPERATED	—	1	
ML-70	SCREEN	CAGE TYPE SCREEN	—	1	
ML-71	WATER LEVEL INDICATOR	FLOAT TYPE	—	1	HIGH/LOW LEVEL SWITCH
ML-72	GEARED TROLLEY CHAIN HOIST	MANUALLY OPERATED 0.5t×10m	—	1	
ML-73	CHAIN HOIST	MANUALLY OPERATED 0.5 t×8m	—	1	FOR CAGE SCREEN

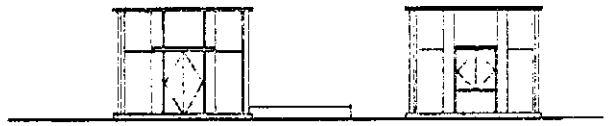
Figure 3.3.2.32

New Market Lift Station (2)

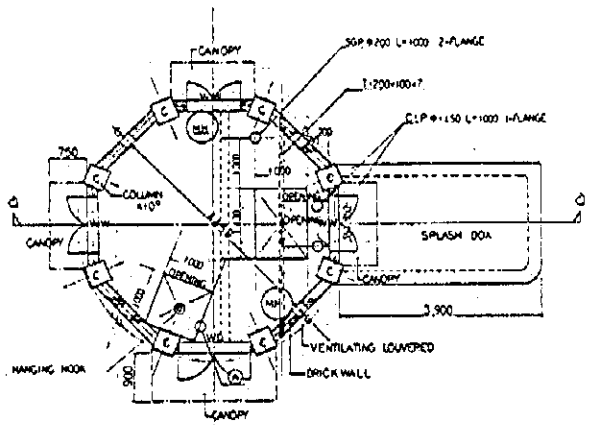
The Study on North Dhaka Sewerage System in North Dhaka



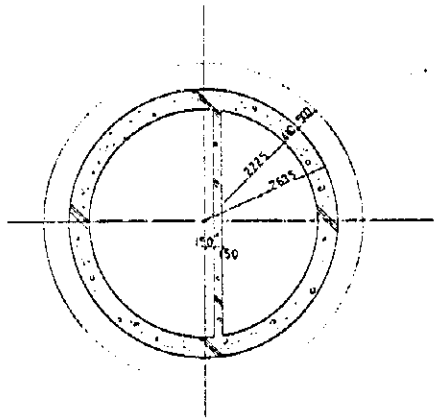
A – A DOWN VIEW 1/50 C – C SECTION 1/50



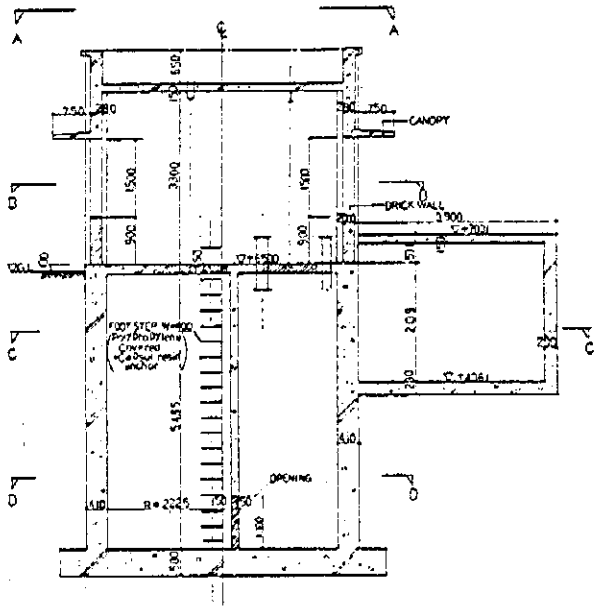
ELEVATION 1/100



D – D SECTION 1/50

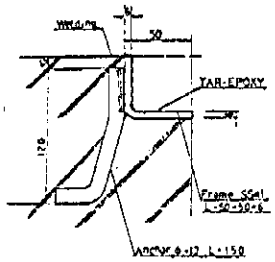


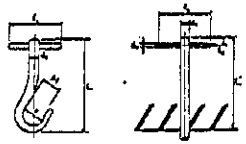
D – D SECTION 1/50



D – D SECTION 1/50

DETAIL – Ⓐ 1/20





DETAIL OF HOOK

STRUCTURE	
ROOF	RCC
FLOOR	RCC
EXT FINISHING	
WALL	PAINT
ROOF	RCC
INT FINISHING	
FLOOR	RCC
WALL	PAINT
PARTITION	OPENING H=1000
CEILING	PAINT
DOOR	Paint 1020×2440
WINDOW	Paint 1000×1525×4
OPENING	1000×1000
	1000×1400
	DIA600
PLUMBING	SGP200 L=1000
	CIP150 2 L=1000
M.H COVER	DIA600
FOOT STEP	2×19 W=400
HANGING HOOK	RH1
I-BEAM	I-200×100×7 L=6300
	REMOVE I-200×100

Figure 3.3.2.33

Faridabad Lift Station (1)

The Study on North Dhaka Sewerage System in North Dhaka