

**BANGKOK METROPOLITAN
ADMINISTRATION (BMA)**

**PREPARATORY SURVEY
FOR
BANGKOK WASTEWATER
TREATMENT PROJECT
IN
THAILAND**

**FINAL REPORT (II)
FEASIBILITY STUDY
VOL. 3 DRAWINGS**

JULY 2011

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

**TOKYO ENGINEERING CONSULTANTS CO., LTD. (TEC)
NIPPON KOEI CO., LTD. (NK)**

SAP
JR
11-023



Department of Drainage & Sewerage
Bangkok Metropolitan Administration

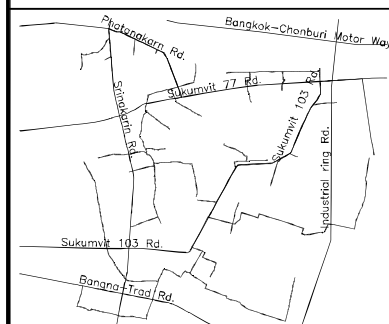
PLAN AND PROFILE
Preparatory Survey For Bangkok
WasteWater Treatment Project



Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

MAR 2011

DRAWING NO.	TITLE	SHEET NO.	DRAWING NO.	TITLE	SHEET NO.
GENERAL			NB-TP-1003	Flow Diagram	28
NB-GN-1001	List of Drawings	01	NB-TP-1004	Lift Pump and Grit Chamber	29
NB-GN-1002	Map of Wastewater Treatment Subdistrict in Bangkok	02	NB-TP-1005	Lift Pump and Grit Chamber	30
			NB-TP-1006	Lift Pump and Grit Chamber	31
NB-GN-1003	Nong Bon Area Overall View Map	03	NB-TP-1007	Lift Pump and Grit Chamber	32
PLAN AND PROFILE OF INTERCEPTOR			NB-TP-1008	Lift Pump and Grit Chamber	33
NB-PF-1001	North Trunk Line	04	NB-TP-1009	Lift Pump and Grit Chamber	34
NB-PF-1002	North Trunk Line	05	NB-TP-1010	Lift Pump and Grit Chamber	35
NB-PF-1003	North Trunk Line-1, 12	06	NB-TP-1011	Aeration Tank	36
NB-PF-1004	North Trunk Line-2, 7	07	NB-TP-1012	Aeration Tank	37
NB-PF-1005	North Trunk Line-3, 4	08	NB-TP-1013	Settling Tank	38
NB-PF-1006	North Trunk Line-5, 10	09	NB-TP-1014	Settling Tank	39
NB-PF-1007	North Trunk Line-6, 8	10	NB-TP-1015	Settling Tank	40
NB-PF-1008	North Trunk Line-9, 11	11	NB-TP-1016	Aeration Tank and Settling Tank	41
NB-PF-1009	South Trunk Line	12	NB-TP-1017	Sludge Dewatering Building	42
NB-PF-1010	South Trunk Line	13	NB-TP-1018	Sludge Dewatering Building	43
NB-PF-1011	South Trunk Line-1	14	NB-TP-1019	Sludge Dewatering Building	44
NB-PF-1012	South Trunk Line-2, 3	15	NB-TP-1020	Sludge Dewatering Building	45
NB-PF-1013	Prawet Trunk Line	16	NB-TP-1021	Effluent and Recycle Facilities	46
NB-PF-1014	Prawet Trunk Line	17	NB-TP-1022	Effluent and Recycle Facilities	47
NB-PF-1015	Prawet Trunk Line-1, 9	18	NB-TP-1023	Administration Building	48
NB-PF-1016	Prawet Trunk Line-2,7	19	NB-TP-1024	Administration Building	49
NB-PF-1017	Prawet Trunk Line-3, 8	20	NB-TP-1025	Administration Building	50
NB-PF-1018	Prawet Trunk Line-4, 5, 6	21	NB-TP-1026	Administration Building	51
NB-PF-1019	Dok Mai Trunk Line	22	NB-TP-1027	Administration Building	52
NB-PF-1020	Dok Mai Trunk Line	23	NB-TP-1028	Administration Building	53
NB-PF-1021	Dok Mai Trunk Line-1, 2	24	NB-TP-1029	Administration Building	54
PLAN AND SECTION OF INTERCEPTOR CHAMBER			NB-TP-1030	Electrical Integrated Control System	55
NB-IC-1001	Typical Interceptor Chambers	25	NB-TP-1031	Instrumentation Diagram	56
NONG BON WWTP			NB-TP-1032	Instrumentation Diagram	57
NB-TP-1001	General Layout	26	NB-TP-1033	Single Line Diagram	58
NB-TP-1002	Hydraoulic Profile	27			



Bangkok Metropolitan Administration



Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

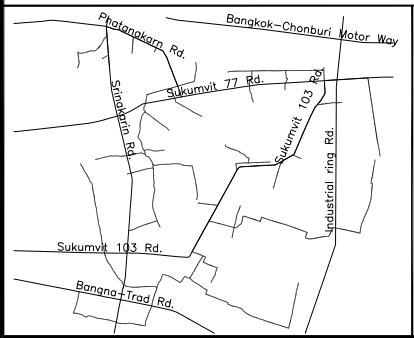
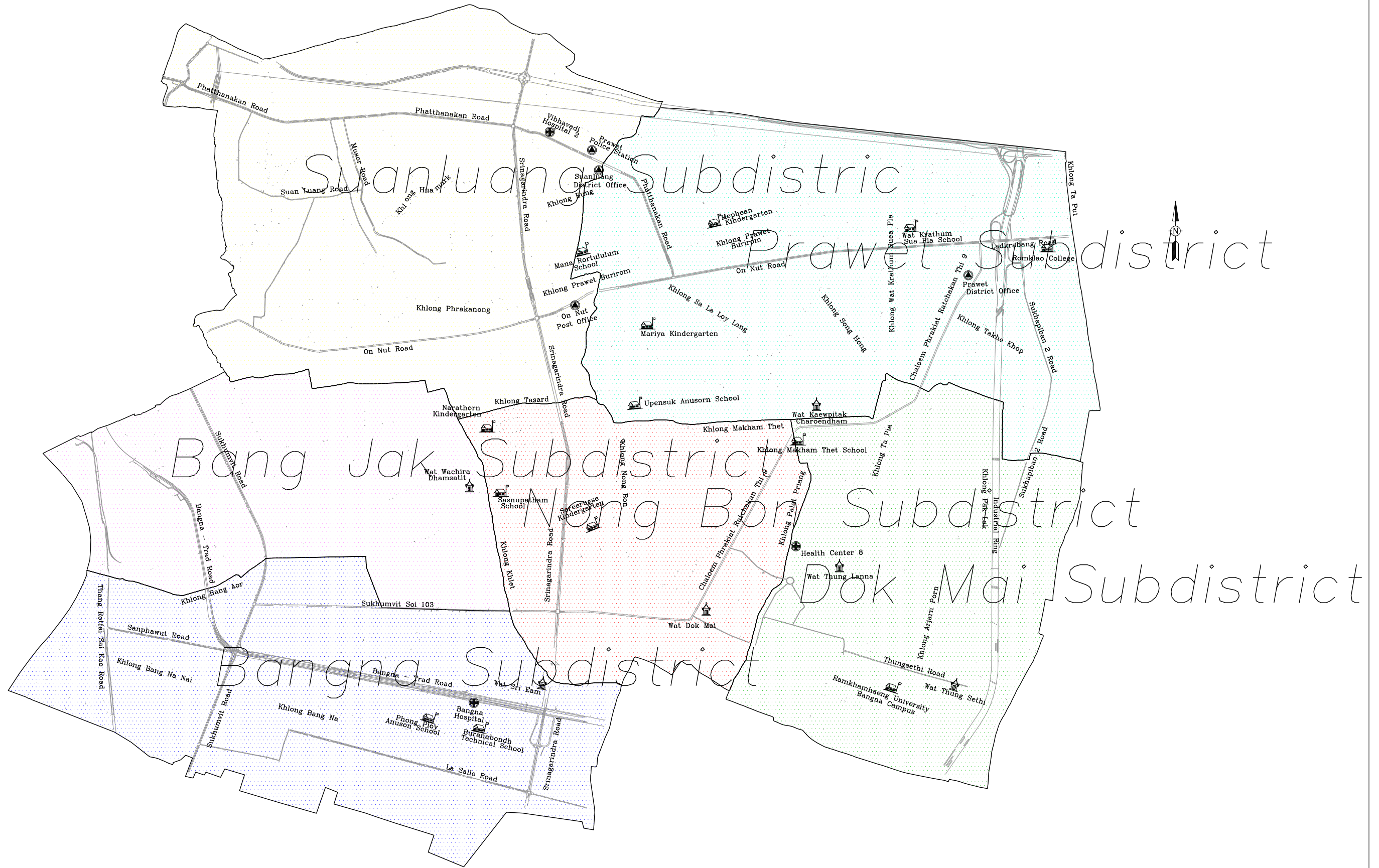
SYMBOL	
●	MANHOLE
⊠	INTERCEPTOR CHAMBER
—	BRIDGE
~	STREAM
⛩	TEMPLE
Ⓒ	GOVERNMENT
Ⓒ	SCHOOL
SCALE.	
A1 = -	A3 = -
DWG. NO. NB-GN-1001	
SHEET NO. 01	

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

Preparatory Survey for Bangkok WasteWater Treatment Project

General
List of Drawings

FINAL




Bangkok Metropolitan Administration

Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

SYMBOL	
●	MANHOLE
⊠	INTERCEPTOR CHAMBER
—	BRIDGE
~	STREAM
⛪	TEMPLE
Ⓐ	GOVERNMENT
🎓	SCHOOL

SCALE	
A1 = 1:25,000	A3 = 1:50,000
-	-

DWG. NO.	SHEET NO.
NB-GN-1002	02

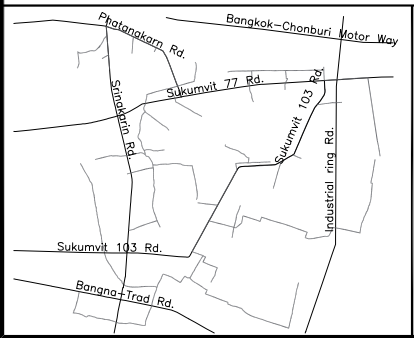
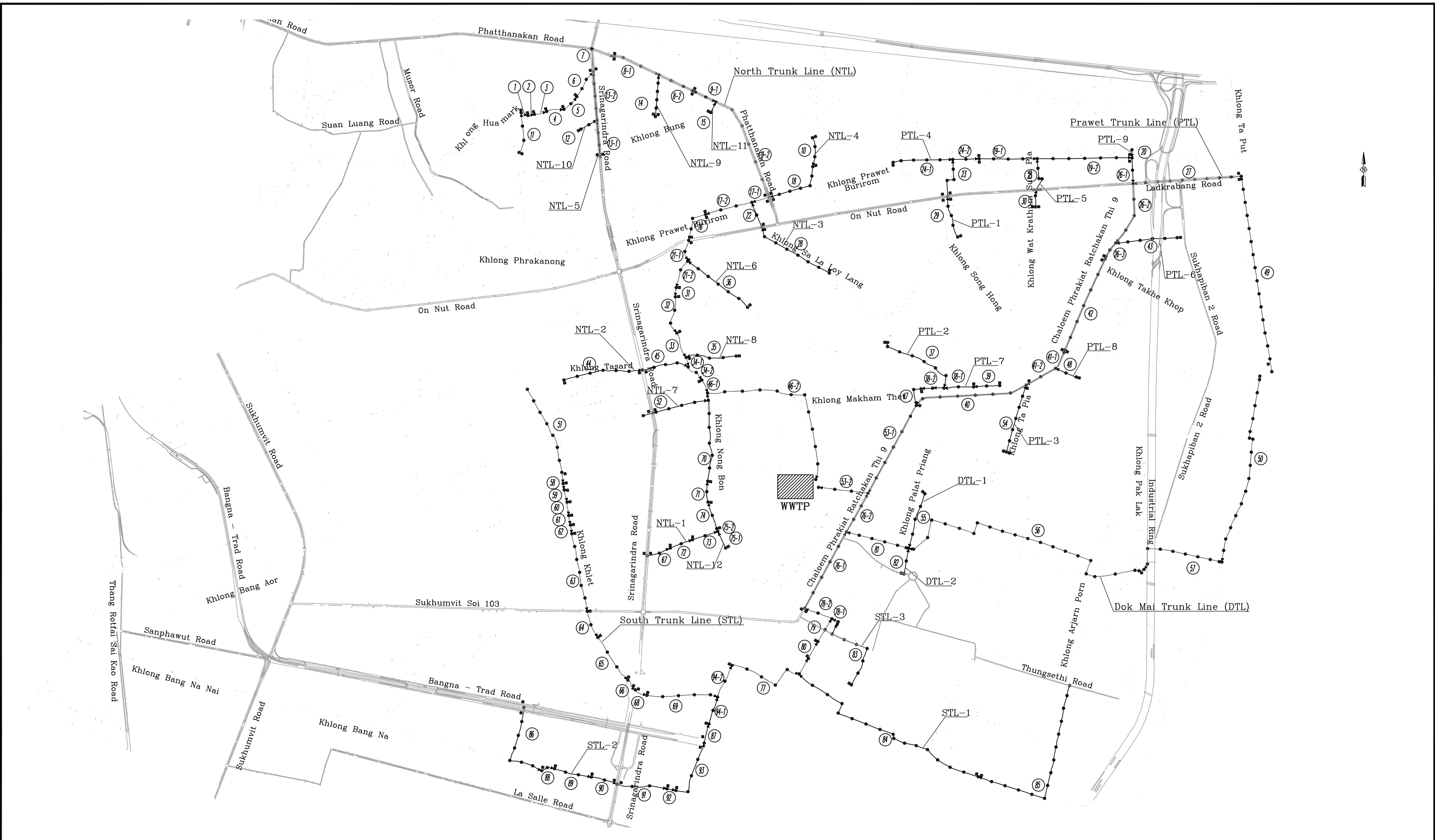
Department of Drainage & Sewerage
Bangkok Metropolitan Administration



Preparatory Survey for Bangkok WasteWater Treatment Project

General

Map of Wastewater Treatment Subdistrict in Bangkok

FINAL




Bangkok Metropolitan Administration

Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

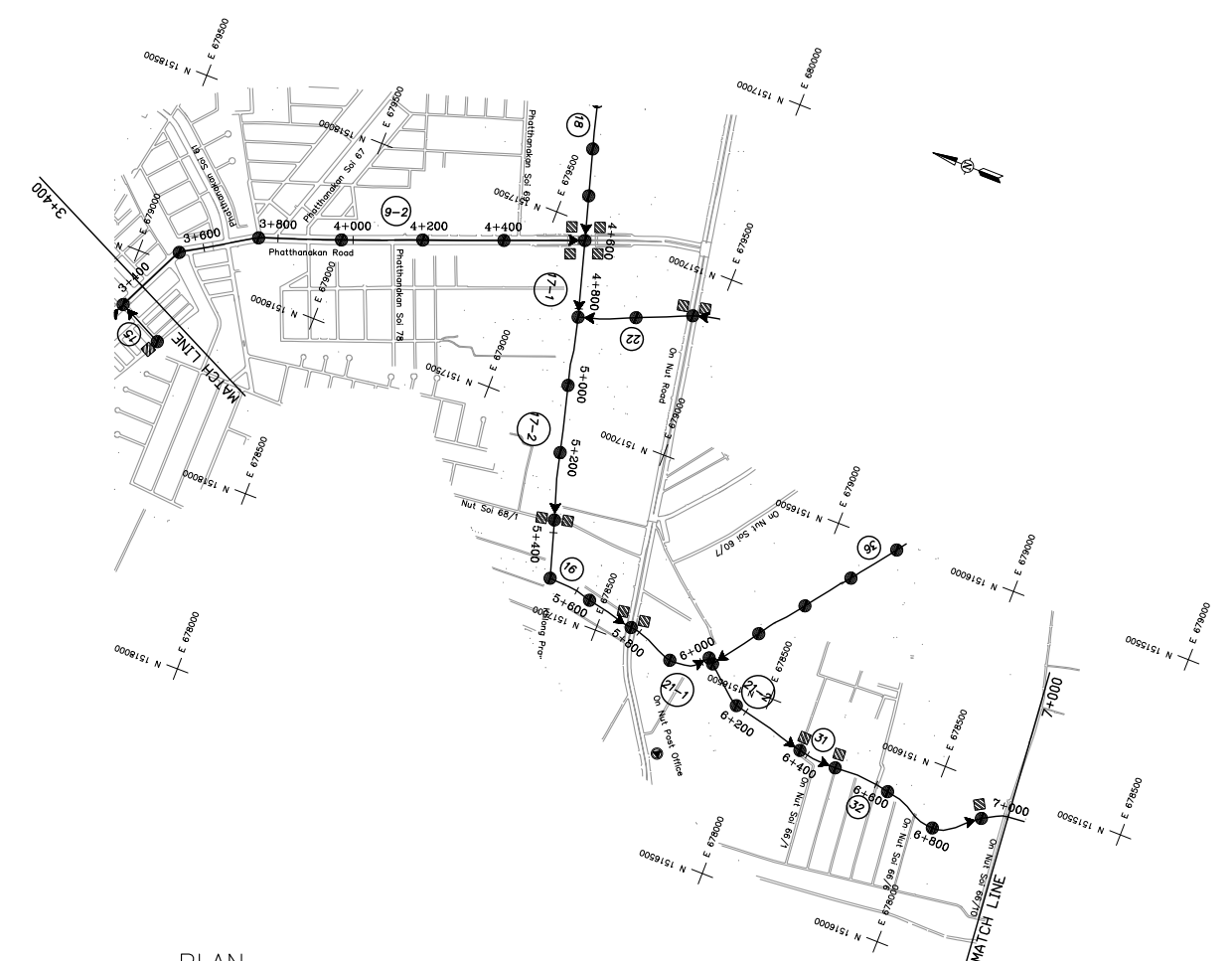
<p>SYMBOL</p> <ul style="list-style-type: none"> ● MANHOLE ▣ INTERCEPTOR CHAMBER — BRIDGE ~ STREAM ⛪ TEMPLE ⚓ GOVERNMENT 🎓 SCHOOL <p>SCALE:</p> <p>A1 = 1:20,000 A3 = 1:40,000</p> <p>DWG. NO. NB-GN-1003</p>	<p>SHEET NO. 03</p>
---	---------------------

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

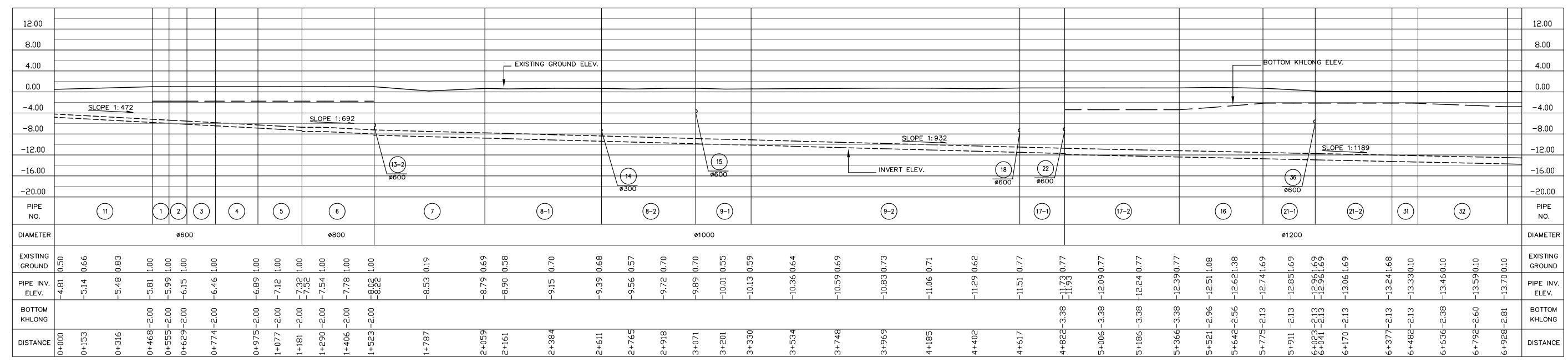
Preparatory Survey for Bangkok WasteWater Treatment Project

General
Nong Bon Area Overall View Map

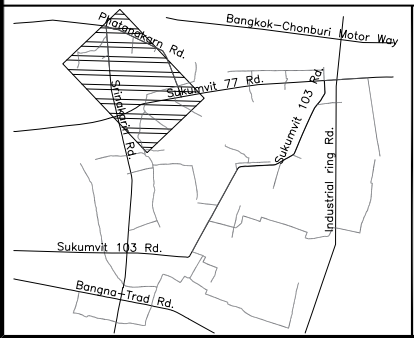
FINAL



PLAN



LONGITUDINAL PROFILE



Bangkok Metropolitan Administration
Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

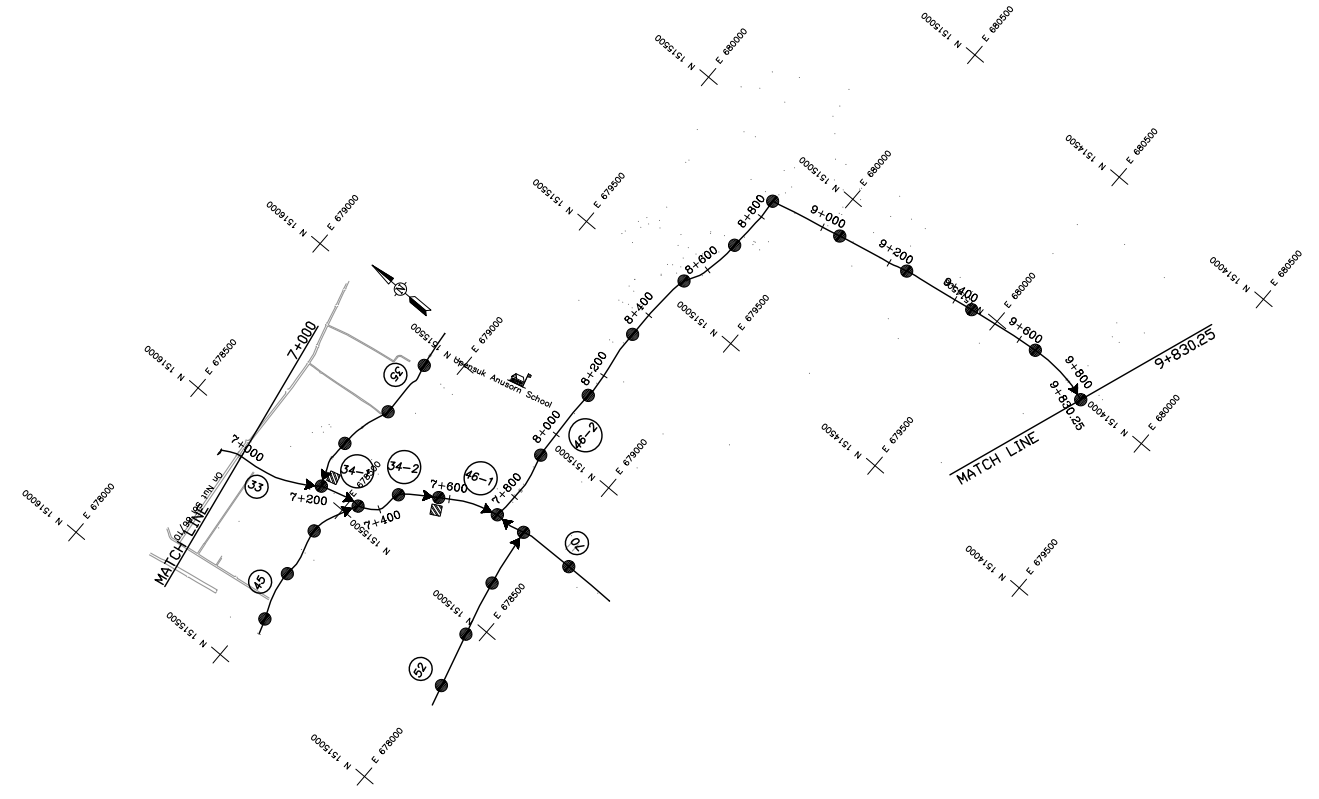
<ul style="list-style-type: none"> MANHOLE INTERCEPTOR CHAMBER BRIDGE STREAM 	<ul style="list-style-type: none"> TEMPLE GOVERNMENT SCHOOL
SCALE: A1 = 1:10,000 A3 = 1:20,000 1:400 1:800	
DWG. NO. NB-PF-1001	SHEET NO. 04

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

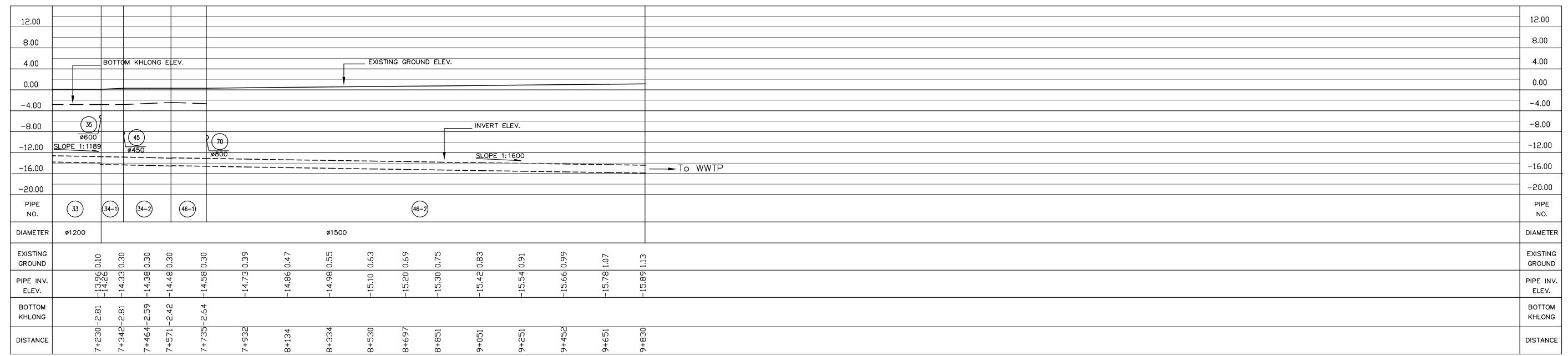
Preparatory Survey for Bangkok WasteWater Treatment Project

Plan and Profile
 North Trunk Line

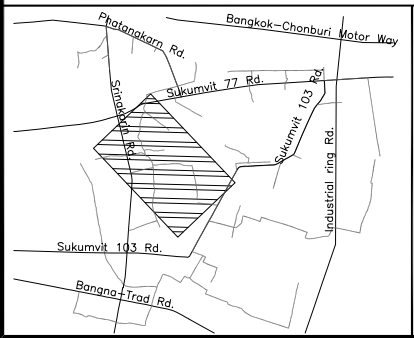
FINAL



PLAN



LONGITUDINAL PROFILE



Bangkok Metropolitan Administration



Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

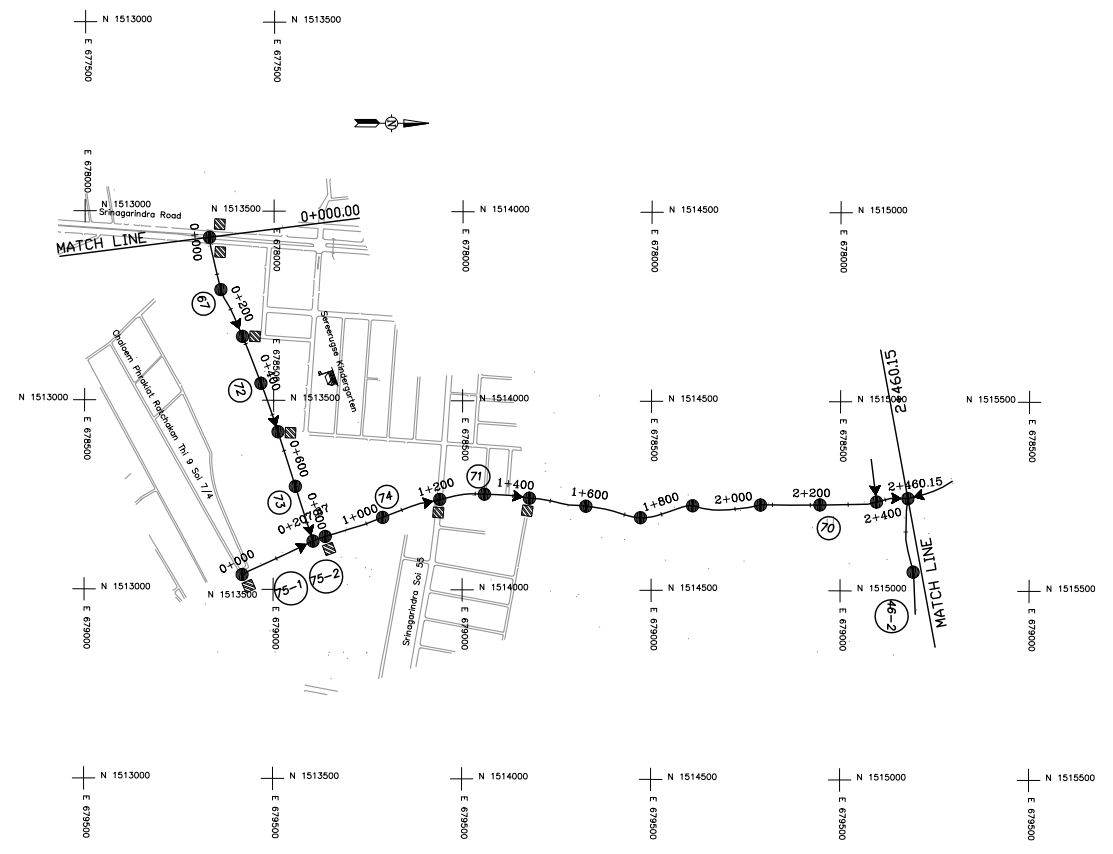
SYMBOL	
●	MANHOLE
■	INTERCEPTOR CHAMBER
—	BRIDGE
~	STREAM
⛩	TEMPLE
Ⓐ	GOVERNMENT
🎓	SCHOOL
SCALE:	
A1 = 1:10,000	A3 = 1:20,000
1:400	1:800
DWG. NO.	SHEET NO.
NB-PF-1002	05

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

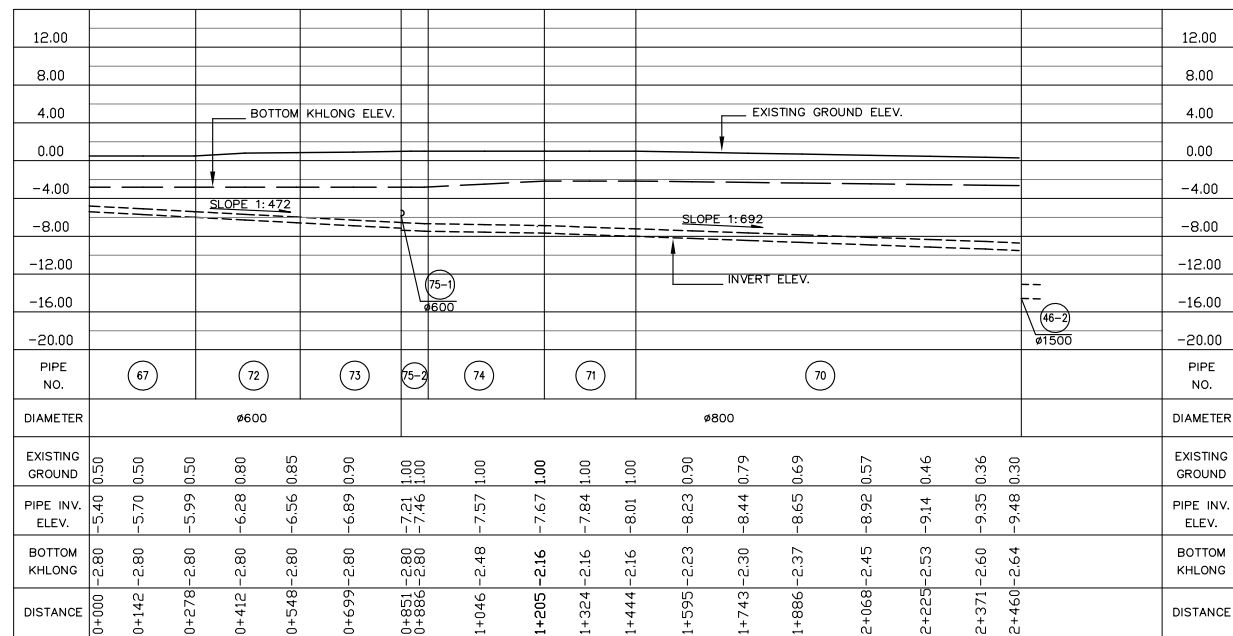
Preparatory Survey for Bangkok WasteWater Treatment Project

Plan and Profile
North Trunk Line

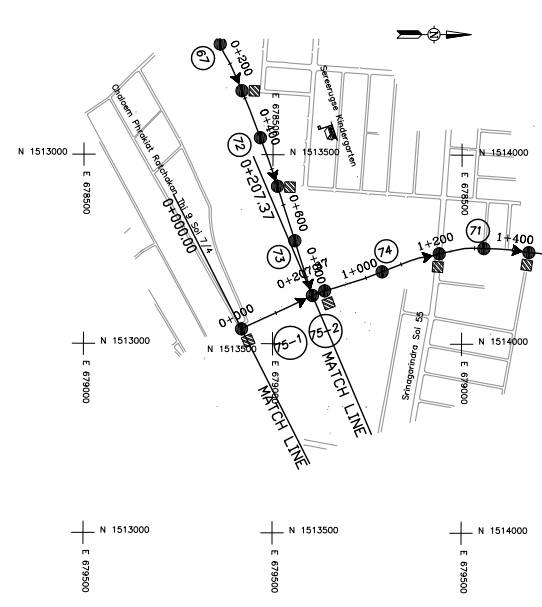
FINAL



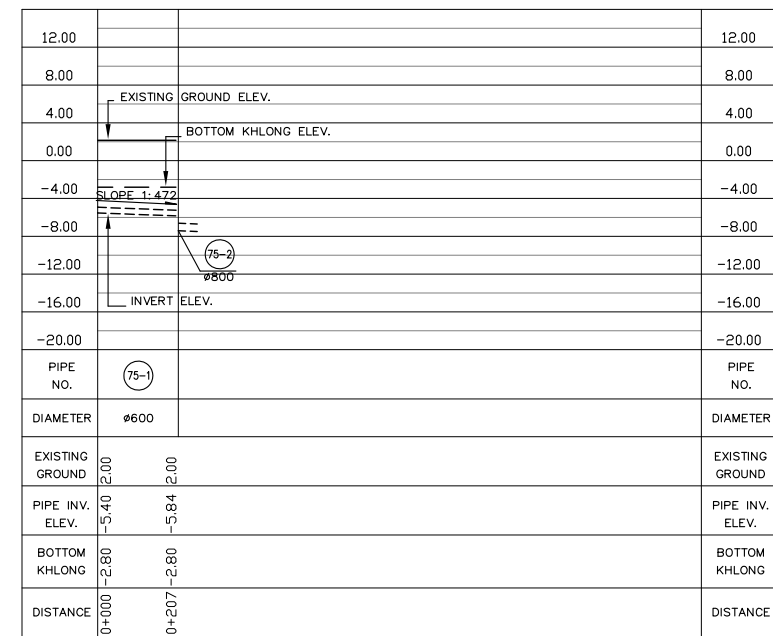
PLAN



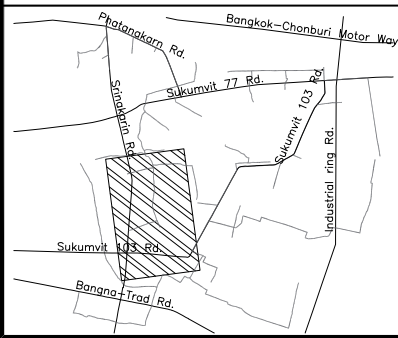
LONGITUDINAL PROFILE



PLAN



LONGITUDINAL PROFILE



Bangkok Metropolitan Administration



Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

SYMBOL	
●	MANHOLE
⊠	INTERCEPTOR CHAMBER
—	BRIDGE
~	STREAM
⛩	TEMPLE
Ⓒ	GOVERNMENT
Ⓔ	SCHOOL

SCALE:
A1 = 1:10,000 A3 = 1:20,000
1:400 1:800

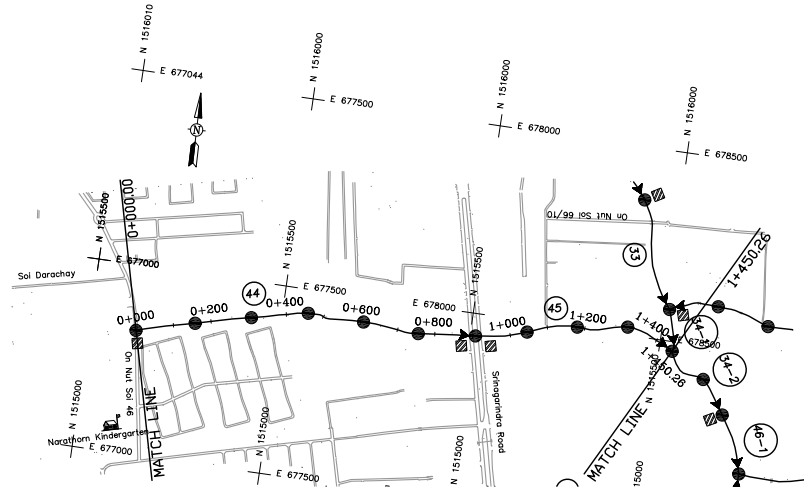
DWG. NO. NB-PF-1003 SHEET NO. 06

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

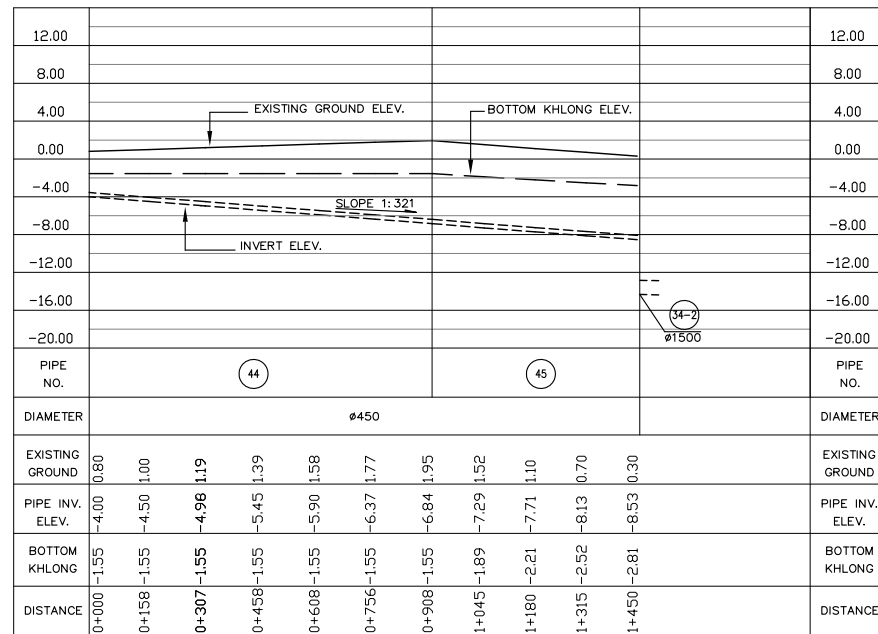
Preparatory Survey for Bangkok WasteWater Treatment Project

Plan and Profile
North Trunk Line-1,12

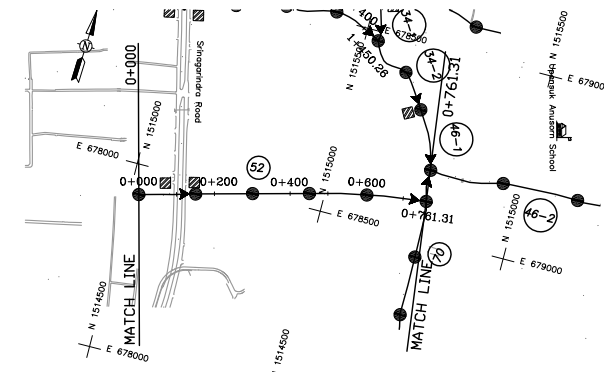
FINAL



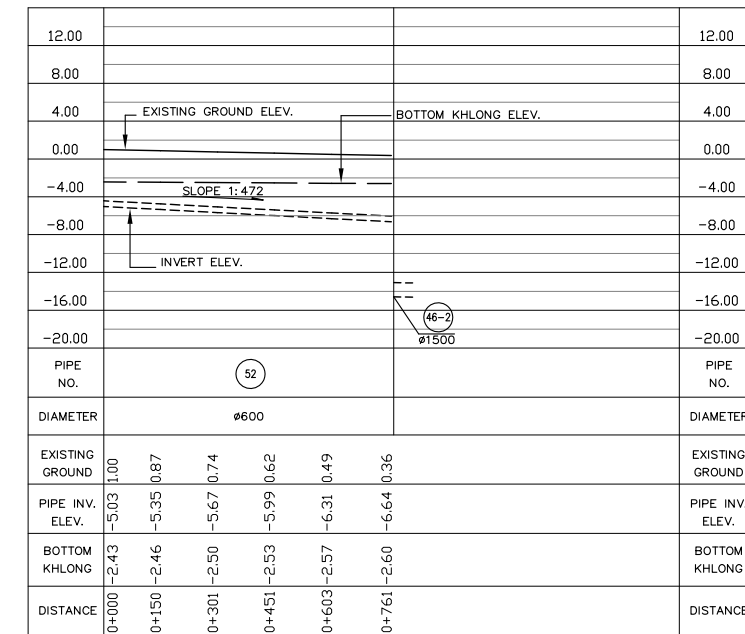
PLAN



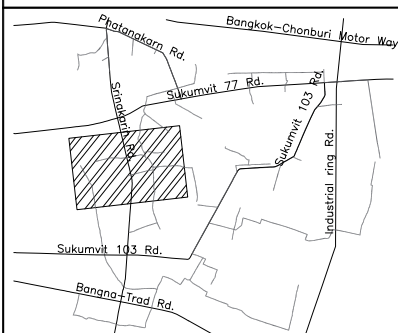
LONGITUDINAL PROFILE



PLAN



LONGITUDINAL PROFILE



Bangkok Metropolitan Administration



Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

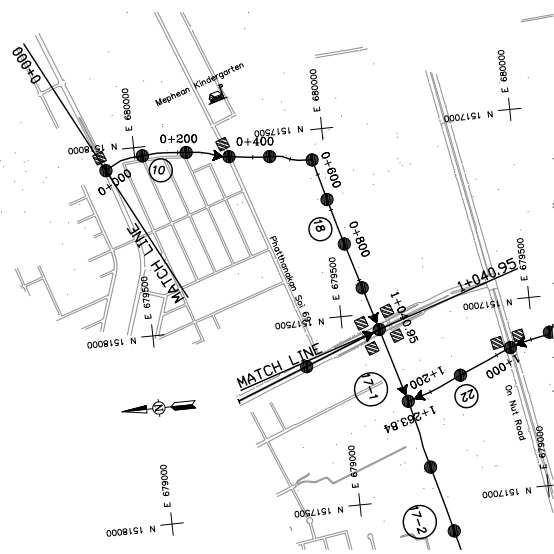
SYMBOL	
●	MANHOLE
⊠	INTERCEPTOR CHAMBER
— —	BRIDGE
~	STREAM
⛩	TEMPLE
Ⓔ	GOVERNMENT
Ⓒ	SCHOOL
SCALE:	
A1 = 1:10,000	A3 = 1:20,000
1:400	1:800
DWG. NO.	SHEET NO.
NB-PF-1004	07

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

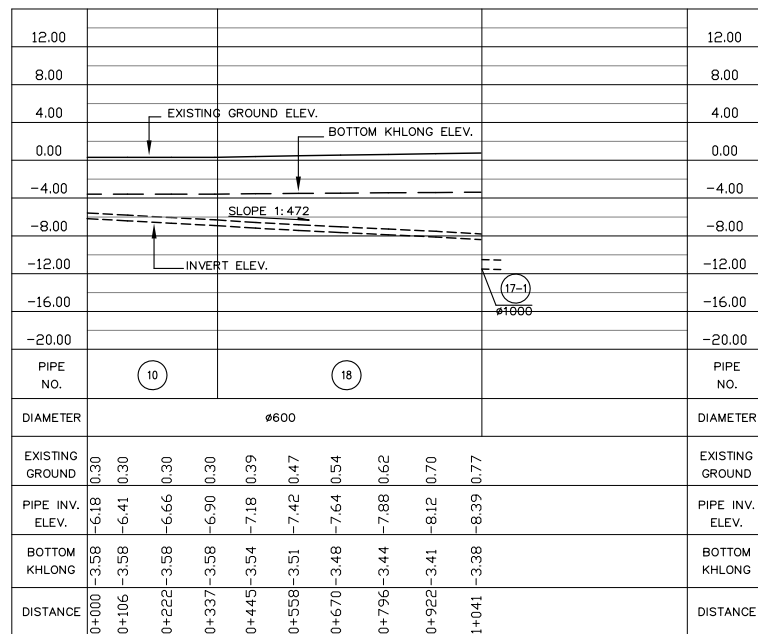
Preparatory Survey for Bangkok WasteWater Treatment Project

Plan and Profile
North Trunk Line-2,7

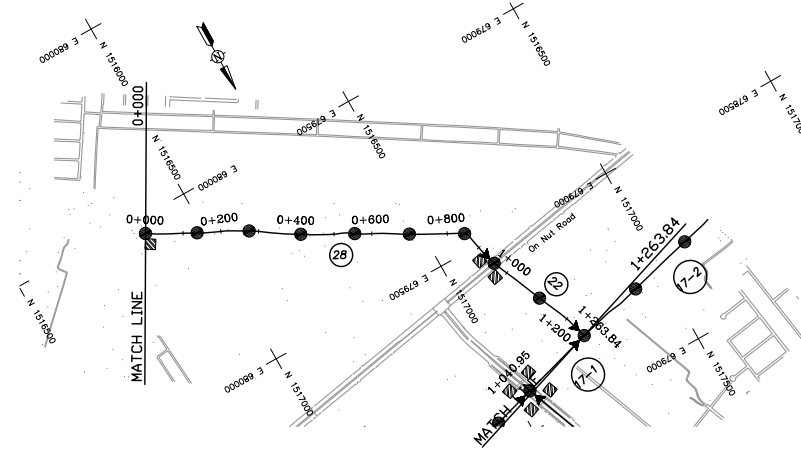
FINAL



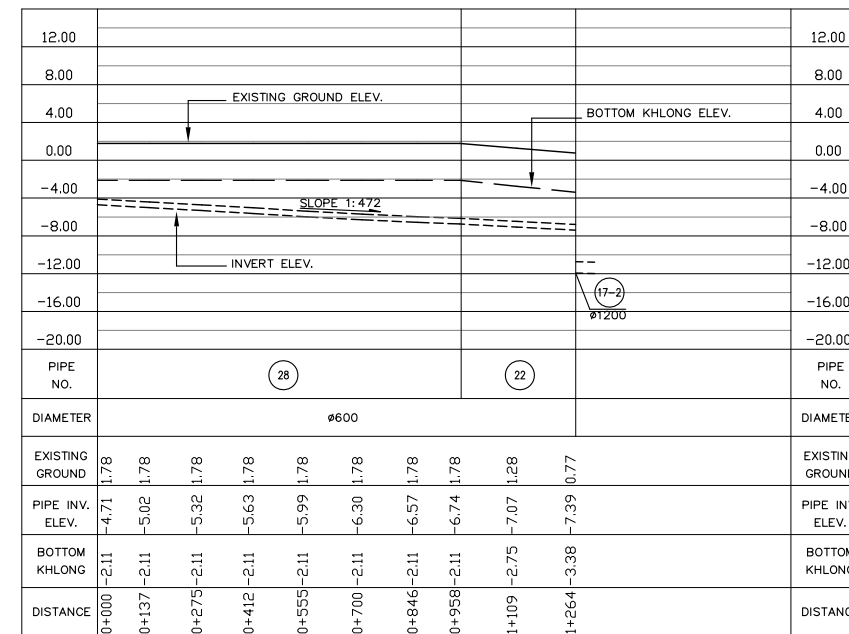
PLAN



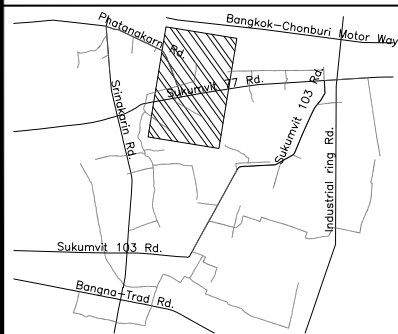
LONGITUDINAL PROFILE



PLAN



LONGITUDINAL PROFILE



Bangkok Metropolitan Administration



Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

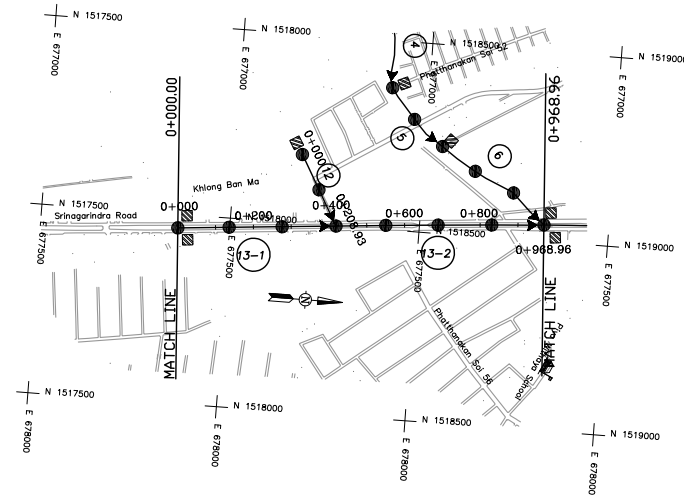
SYMBOL	MANHOLE	TEMPLE
	INTERCEPTOR CHAMBER	GOVERNMENT
	BRIDGE	SCHOOL
	STREAM	
SCALE:	A1 = 1:10,000	A3 = 1:20,000
	1:400	1:800
DWG. NO.	NB-PF-1005	
SHEET NO.	08	

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

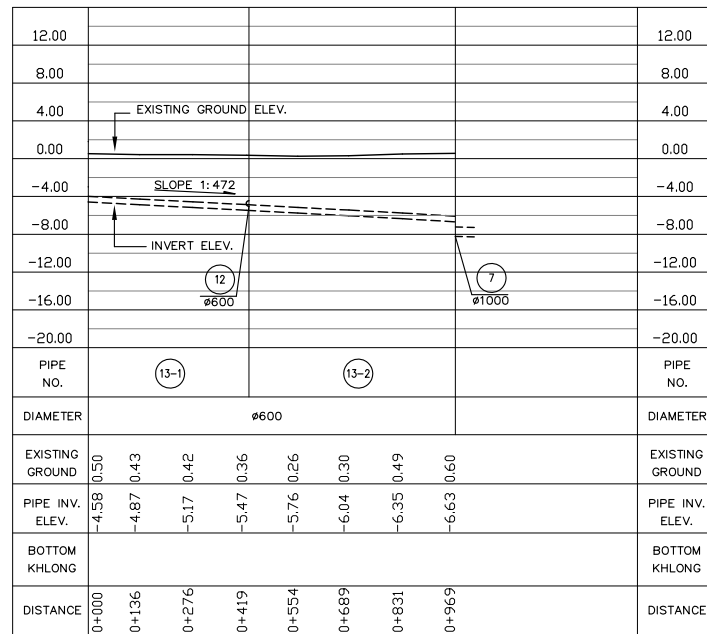
FINAL

Preparatory Survey for Bangkok WasteWater Treatment Project

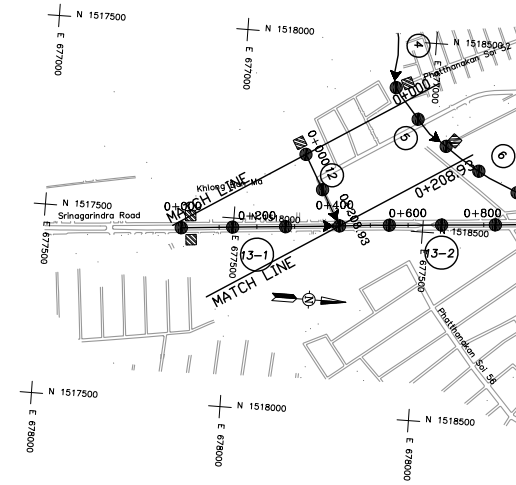
Plan and Profile
North Trunk Line-3,4



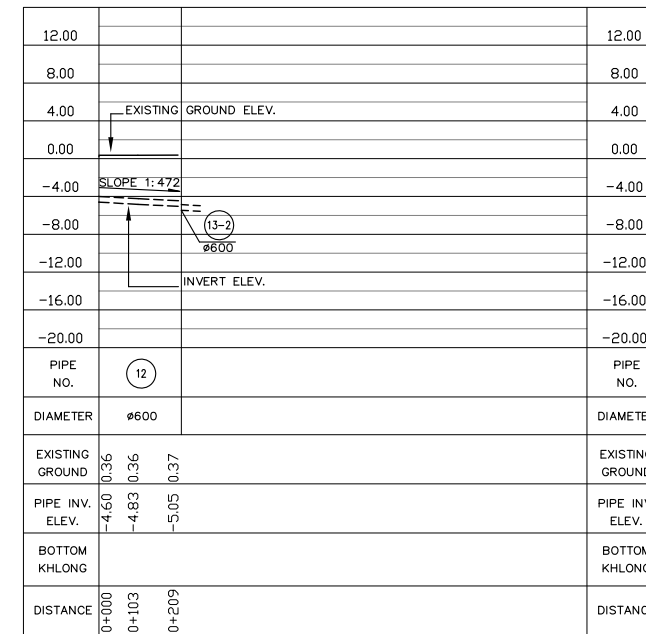
PLAN



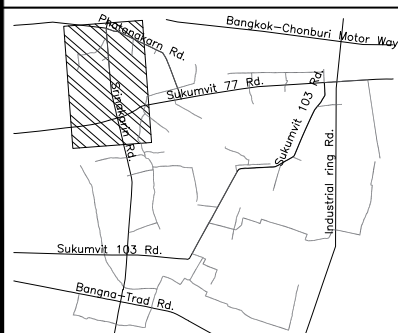
LONGITUDINAL PROFILE



PLAN



LONGITUDINAL PROFILE



Bangkok Metropolitan Administration



Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

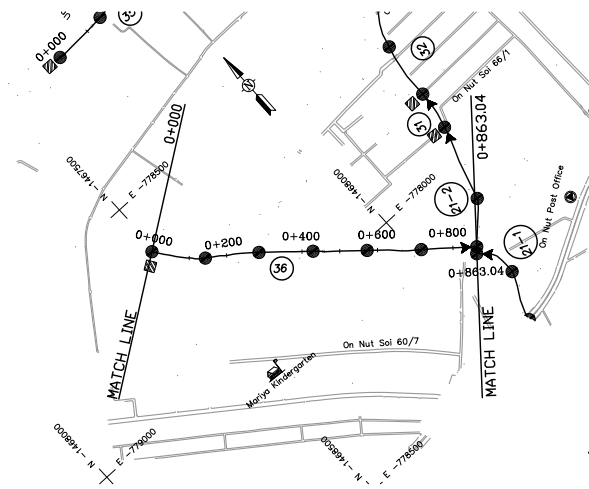
SYMBOL	
●	MANHOLE
⊠	INTERCEPTOR CHAMBER
—	BRIDGE
~	STREAM
⛪	TEMPLE
Ⓒ	GOVERNMENT
Ⓔ	SCHOOL
SCALE:	
A1 = 1:10,000	A3 = 1:20,000
1:400	1:800
DWG. NO. NB-PF-1006	SHEET NO. 09

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

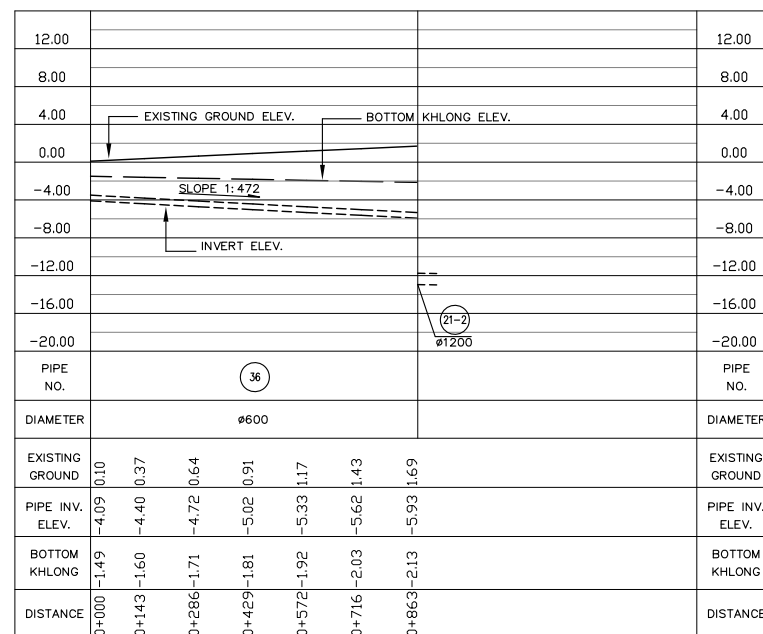
FINAL

Preparatory Survey for Bangkok WasteWater Treatment Project

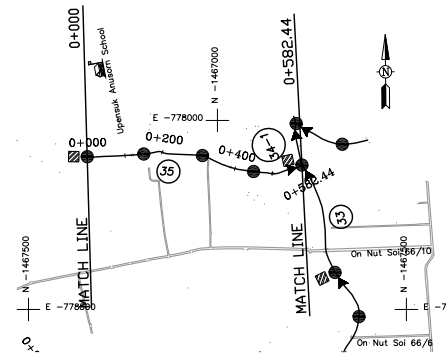
Plan and Profile
North Trunk Line-5,10



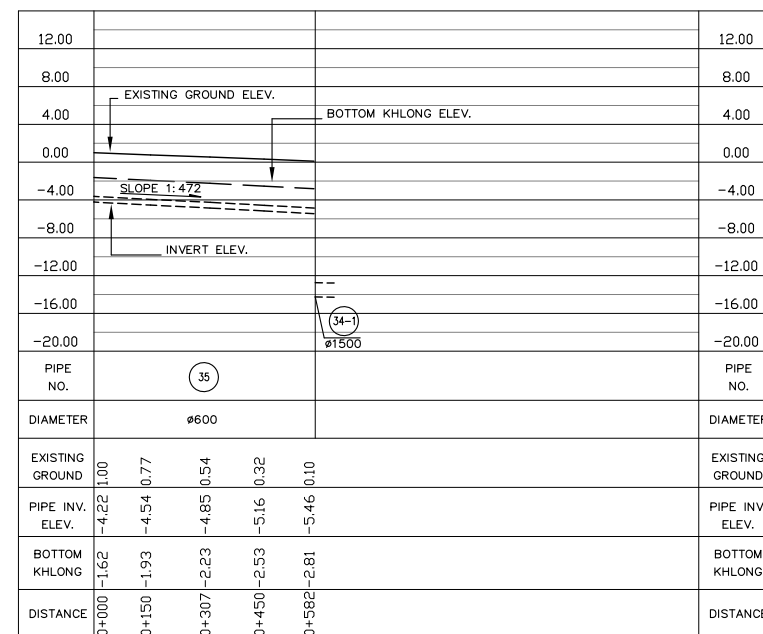
PLAN



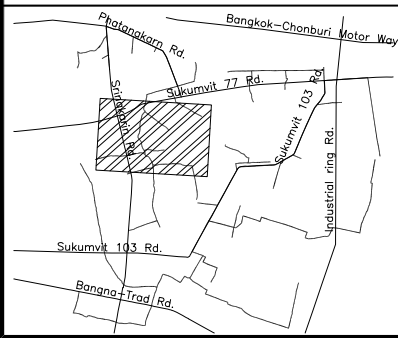
LONGITUDINAL PROFILE



PLAN



LONGITUDINAL PROFILE



Bangkok Metropolitan Administration



Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

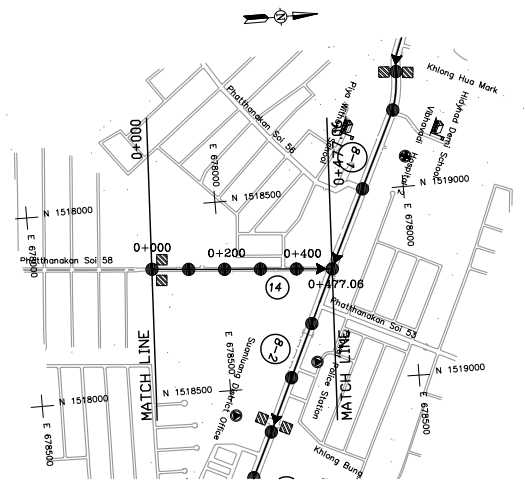
SYMBOL	
● MANHOLE	⛪ TEMPLE
⊠ INTERCEPTOR CHAMBER	Ⓒ GOVERNMENT
— BRIDGE	Ⓒ SCHOOL
~ STREAM	
SCALE:	
A1 = 1:10,000	A3 = 1:20,000
1:400	1:800
DWG. NO. NB-PF-1007	SHEET NO. 10

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

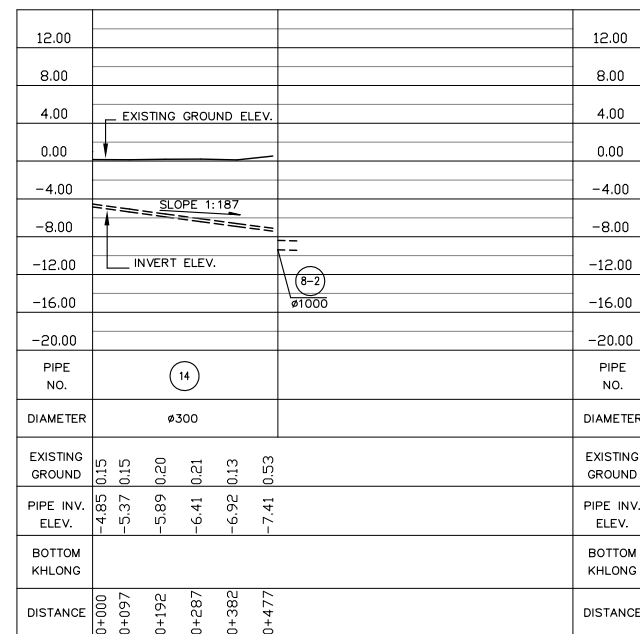
FINAL

Preparatory Survey for Bangkok WasteWater Treatment Project

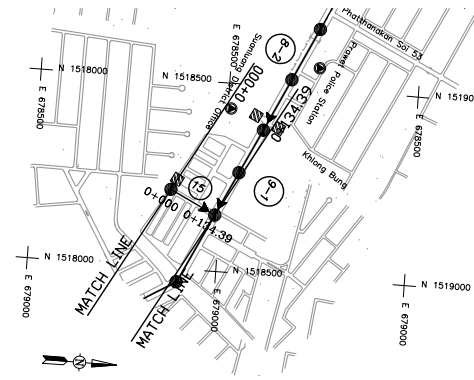
Plan and Profile
North Trunk Line-6,8



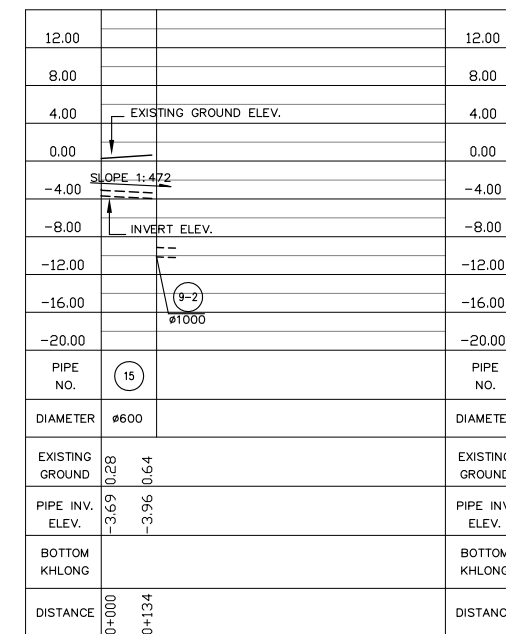
PLAN



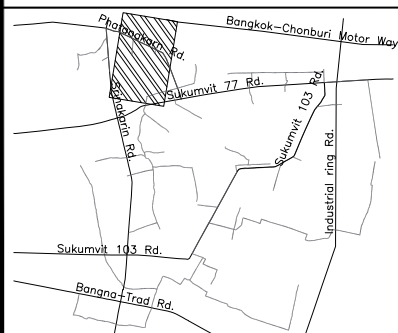
LONGITUDINAL PROFILE



PLAN



LONGITUDINAL PROFILE



Bangkok Metropolitan Administration



Japan International Cooperation Agency
Tokyo Engineering Consultants Co.,Ltd
Nippon Koei Co.,Ltd

DESIGNED :	REV.NO.	DATE	DESCRIPTION	APPROVED
DRAWN : SULIYA S.				
CHECKED :				
PROJECT MANAGER :				
PROJECT ENGINEER :				
DATE : MAR , 2011				

SYMBOL	
●	MANHOLE
⊠	INTERCEPTOR CHAMBER
—	BRIDGE
~	STREAM
⛩	TEMPLE
Ⓒ	GOVERNMENT
Ⓔ	SCHOOL
SCALE:	
A1 = 1:10,000	A3 = 1:20,000
1:400	1:800
DWG. NO.	SHEET NO.
NB-PF-1008	11

Department of Drainage & Sewerage
Bangkok Metropolitan Administration

FINAL

Preparatory Survey for Bangkok WasteWater Treatment Project

Plan and Profile
North Trunk Line-9,11