

The Consultant's Project Experience in the Detailed Design of Wastewater Treatment System

No.	Project Name	Project Area	Project Description	Type of Project				Project Duration	Client	Project Cost (M฿)
				FS	DD	CS	O&M			
1.	Detailed Design of Wastewater Treatment Plant for O-Sotsapha (Teck Heng Yoo)Co.,Ltd.	Ramkamhaeng Rd., Bangkok	<ul style="list-style-type: none"> O-Sotsapha (Teck Heng Yoo) Co.,Ltd. is a consumer product company under brand name of Lipovitan-D and OLE. Most of wastewater come from washing water in the process and also from toilet. Wastewater Characteristics : Wastewater flow = 900 cu.m./d BOD = 600 mg/l Wastewater Treatment Process : Activated Sludge 		✓			1986	O-Sotsapha (Teck Heng Yoo)Co.,Ltd.	-
2.	Detailed Design of Wastewater Treatment Plant for Nitro Chemical Industry Co.,Ltd.	Tambon Bang Porut, Amphoe Muang, Samut Sakorn	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Nitro Chemical Industry Co.,Ltd. Wastewater Characteristics : Wastewater flow = 500 cu.m./d BOD = 250 mg/l Wastewater Treatment Process : Chemical Treatment and Activated Sludge 		✓			1988	Nitro Chemical Industry Co.,Ltd.	-
3.	Detailed Design of Wastewater Treatment Plant for Varapom and Nurn Sin Drying Co.,Ltd.	Sumut Sakorn	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for drying factory Wastewater Characteristics : Wastewater flow = 10,000 cu.m./d BOD = 300 mg/l Wastewater Treatment Process : Aerated Lagoon 		✓			1988	Varapom Drying Co.,Ltd.	-
4.	Detailed Design and construction supervision of Wastewater Treatment Plant for Siam Food Co.,Ltd.	Amphoe Ban Bung, Chonburi	<ul style="list-style-type: none"> Detailed design and construction supervision of wastewater treatment plant for Siam Food Co.,Ltd. Siam Food Co.,Ltd. Is a vegetable and fruit canning factory. Raw material mostly are young bamboo shoot and pineapple. Wastewater came from two main processes, preparation of vegetable and fruit and cooling water. Wastewater Characteristics : Wastewater flow = 2,500 cu.m./d BOD = 10,000 mg/l Wastewater Treatment Process : Wastewater treatment process used was waste stabilization pond that consisted of Anaerobic pond, Facultative pond 1, Facultative pond 2, Facultative pond 3, Polishing pond and water hyacinth pond 		✓	✓		Nov.1987 to 20 Mar.1988	Siam Food Co.,Ltd.	6.0

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No.	Project Name	Project Area	Project Description	Type of Project				Project Duration	Client	Project Cost (MB)
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5.	Detailed Design of Wastewater Treatment Plant for Thai Plastics and Chemicals Co.,Ltd.	Eastern Industrial Estate (Mab Ta Put), Amphoe Muang, Rayong	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Thai Plastics and Chemicals Co.,Ltd. Wastewater to be treated came from two main points, one was from production process and another was from employee. Wastewater Characteristics : Wastewater flow = 700 cu.m./d BOD = 140 mg/l Wastewater Treatment Process : 1) Primary treatment Physical and Chemical Treatment process comprises screening cooling oil separation, coagulation, sedimentation and neutralization. 2) Secondary treatment Biological treatment used is the activated sludge process consists of an aeration tank and a sedimentation tank. 3) Sludge treatment All sludge from the 1st and 2nd treatment processes are collected for thickening, concentration, conditioning and dewatering. 		✓			Jan.1988 to July 1988	Hydrotek Co.,Ltd.	13.9
6.	Detailed Design of Wastewater Treatment Plant for O-Sotsapha (Teck Heng Yoo) Co.,Ltd.	Suvinthawong Rd., Minburi, Bangkok	<ul style="list-style-type: none"> O-Sotsapha (Teck Heng Yoo) Co.,Ltd. Minburi Factory is an nourishment drinks factory under trade mark M-100 and M-150. Wastewater from process line generated from bottle washing, tank washing, disinfection discharge, wastewater from water treatment process and toilet. Wastewater Characteristics : Wastewater flow = 600 cu.m./d BOD = 700 mg/l Wastewater Treatment Process : The treatment process used is the activated sludge process consists of screen sewage pump sump, Equalization tank, Neutralization tank, Aeration tank, Sedimentation tank, chlorination tank and a flow measuring unit. 		✓	✓		Feb.1989 to 10 June 1989	O-Sotsapha (Teck Heng Yoo)Co.,Ltd.	10.6
7.	Detailed Design of Wastewater Treatment Plant for Thai CRT Co.,Ltd.	Laem Chabang Industrial Estare, Chonburi	<ul style="list-style-type: none"> Detailed design of wastewater collection and treatment systems for Thai CRT Co.,Ltd. Wastewater Characteristics : Wastewater flow = 3,000 cu.m./d Wastewater Treatment Process : Chemical Treatment and Chemical Precipitation 		✓			Mar.1989 to Aug.1989	Hydrotek Co.,Ltd.	40.0

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8.	Detailed Design of Wastewater Treatment Plant for Toshiba Display Devices (Thailand) Co.,Ltd.	Bangkradi Industrial Estate, Bangkradi, Pathum Thani	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Toshiba Display Devices (Thailand) Co., Ltd. Wastewater treatment plant for television screen, cathode-ray tube and electronics factory. Wastewater consisted of Hydrofluoric acid, alkaline and heavy metal (Chromium, Lead, Zinc, Cadmium) Wastewater Characteristics : <ol style="list-style-type: none"> Wastewater from Hydrofluoric acid <table style="margin-left: 20px;"> <tr><td>Flow</td><td>=</td><td>444</td><td>cu.m./d</td></tr> <tr><td>Fluoride</td><td>=</td><td>424</td><td>mg/l</td></tr> <tr><td>pH</td><td>=</td><td></td><td>2-4</td></tr> </table> Wastewater Treatment Process <table style="margin-left: 20px;"> <tr><td>Flow</td><td>=</td><td>1,896</td><td>cu.m./d</td></tr> <tr><td>Suspended solid</td><td>=</td><td>170</td><td>mg/l</td></tr> <tr><td>Cr</td><td>=</td><td>13</td><td>mg/l</td></tr> <tr><td>Pb</td><td>=</td><td>15</td><td>mg/l</td></tr> <tr><td>Zn</td><td>=</td><td>22</td><td>mg/l</td></tr> <tr><td>Cd</td><td>=</td><td>0.004</td><td>mg</td></tr> </table> Wastewater Treatment Process : Chemical Treatment and Chemical Precipitation 	Flow	=	444	cu.m./d	Fluoride	=	424	mg/l	pH	=		2-4	Flow	=	1,896	cu.m./d	Suspended solid	=	170	mg/l	Cr	=	13	mg/l	Pb	=	15	mg/l	Zn	=	22	mg/l	Cd	=	0.004	mg		✓			Mar.1989 to Aug.1989	Hydrotek Co.,Ltd.	40.0
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9.	Detailed Design of Wastewater Treatment Plant for Leewiwat Dyeing Industry Co.,Ltd.	Tambon Klong Mai, Amphoe Sampran, Nakhon Pathom	<ul style="list-style-type: none"> Detailed design and construction supervision of wastewater treatment plant for Leewiwat Dyeing Industry Co.,Ltd. Lee Viwat dyeing factory is a dyeing factory for various type Knitting consists of Cotton fibre, Polyester, T-C and T-R, production capacity 39 tons/month. Wastewater mostly came from the Dyeing, Soaping and Finishing processes at the ratio of 30%, 60% and 10% respectively. Wastewater Characteristics : <table style="margin-left: 20px;"> <tr><td>Wastewater flow</td><td>=</td><td>1,000</td><td>cu.m./d</td></tr> <tr><td>BOD</td><td>=</td><td>600</td><td>mg/l</td></tr> </table> Wastewater Treatment Process : Activated sludge 	Wastewater flow	=	1,000	cu.m./d	BOD	=	600	mg/l		✓	✓		Nov.1989 to Apr.1990	Leewiwat Dyeing Industry Co.,Ltd.	15.0																												
Wastewater flow	=	1,000	cu.m./d																																											
BOD	=	600	mg/l																																											
10.	Detailed Design of Wastewater Treatment Plant for K-World Textile Co.,Ltd.	Tambon Nadee, Amphoe Muang, Samut Sakorn	<ul style="list-style-type: none"> Detailed design of wastewater collection and treatment systems for K-World Textile Co.,Ltd. Wastewater Characteristics : <table style="margin-left: 20px;"> <tr><td>Wastewater flow</td><td>=</td><td>4,800</td><td>cu.m./d</td></tr> <tr><td>BOD</td><td>=</td><td>350</td><td>mg/l</td></tr> </table> Wastewater Treatment Process : Activated Sludge 	Wastewater flow	=	4,800	cu.m./d	BOD	=	350	mg/l		✓			Dec.1989 to Apr.1990	K-World Textile Co.,Ltd.	30.0																												
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11.	Detailed Design of Wastewater Treatment Plant for Chonburi Industrial Estate (Bo Win)	Tambon Bo Win, Amphoe Sriracha, Chonburi	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant : activated sludge system with a capacity of 8,400 cu.m./day at BOD concentration of 500 mg/l. Primary treatment system consists of automatic screen, pumping station, grit chamber, equalization tank and neutralization tank. Secondary treatment system consists of aeration tank, sedimentation tank and chlorine contact tank. Sludge treatment system consists of sludge thickener and sludge dewatering system. 		✓			Mar.1990 to Mar.1991	Act Consultants Co.,Ltd. and Hemaraj Land Development Co.,Ltd.	80.0																																				

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No.	Project Name	Project Area	Project Description	Type of Project				Project Duration	Client	Project Cost (M฿)
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12.	Detailed Design of Wastewater Treatment Plant for Don Muang Pattana Co.,Ltd.	Tambon Kukot, Amphoe Lumlukka, Pathum Thani	<ul style="list-style-type: none"> Land Development of Don Muang Pattana Co.,Ltd, is a development project for 2,000 houses dwelling, 1 Nursery school and 4 Fruit and vegetable markets. The project area is approximately 15 rais. Wastewater came from houses, schools and markets and collected by the existing storm drainage system to the central treatment plant. Wastewater Characteristics : Wastewater flow = 2,550 cu.m./d BOD = 260 mg/l Wastewater Treatment Process : Aerated Lagoon 		✓			Dec.1990 to Apr.1991	Don Muang Pattana Co.,Ltd.	3.7
13.	Detailed Design of Wastewater Treatment Plant for Air Lanka Flight Kitchen	Columbo, Sri Lanka	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for air lanka flight kitchen Wastewater Characteristics : Wastewater flow = 500 cu.m./d BOD = 800 mg/l Wastewater Treatment Process : Activated Sludge 		✓			Oct.1990 to Feb.1991	Architects 110 Co.,Ltd.	4.165 m\$
14.	Detailed Design of Wastewater Treatment Plant for GFPT Co.,Ltd.	Amphoe Bangplee, Samut Prakarn	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for GFPT Co.,Ltd. Wastewater Characteristics : Wastewater flow = 5,000 cu.m./d BOD = 1,400 mg/l Wastewater Treatment Process : Two Stage Activated Sludge 		✓			Dec.1991 to Mar.1992	GFPT Co.,Ltd.	35.0
15.	Detailed Design of Wastewater Treatment Plant for Malee Sampran Public Co.,Ltd.	Tambon Yai Cha, Amphoe Sampran, Nakhon Prathom	<ul style="list-style-type: none"> Malee Sampran Co.,Ltd. is a food-canning factory, product can be classified by raw material into two groups, one is meat canning and another is vegetable and fruit canning. Wastewater mostly comes from preparation of raw material and machine washing . Wastewater Characteristics : Wastewater flow = 2,000 cu.m./d BOD = 8,000 mg/l Wastewater Treatment Process : Wastewater Treatment Plant consists of Physical and Biological treatment units. The treatment process consists of screening, equalization tank, anaerobic filter and activated sludge. 		✓		✓	1992	Malee Sampran Public Co.,Ltd.	-
16.	Detailed Design of Wastewater Treatment Plant for CP Food Industry	Bangkok	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for slaughterhouse of CP Food Co., Ltd. Wastewater Characteristics : Wastewater flow = 2,000 cu.m./d BOD = 800 mg/l Wastewater Treatment Process : Activated sludge 		✓			1992	CP Food Co.,Ltd.	-

The Consultant's Project Experience in the Detailed Design of Wastewater Treatment System (cont.)

No.	Project Name	Project Area	Project Description	Type of Project				Project Duration	Client	Project Cost (MB)
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17.	Detailed Design of Wastewater Treatment Plant for The Thai Dairy Industry Co.,Ltd.	Bangkok	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for The Thai Dairy Industry Co., Ltd. Wastewater Characteristics : Wastewater flow = 700 cu.m./d BOD = 1,500 mg/l Wastewater Treatment Process : Two-Stage Activated Sludge 		✓			1994	The Thai Dairy Industry Co.,Ltd.	-
18.	Detailed Design of Wastewater Treatment Plant for Songkhla Hospital	Tambon Pawong, Muang, Songkhla Amphoe	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Songkhla Hospital Wastewater Characteristics : Wastewater flow = 1,000 cu.m./d BOD = 250 mg/l Wastewater Treatment Process : Activated Sludge 		✓			30 Aug.1995 to Oct.1995	Songkhla Province	25.0
19.	Detailed Design of Wastewater Treatment and Water Reuse Systems for Elephant Building	Paholyothin Rd., Bangkok	<ul style="list-style-type: none"> The wastewater treatment system was designed in accordance with the existing of wastewater treatment system. It was Activated-sludge process wastewater treatment system and was a kind of sequencing batch reactor which can remove Nitrogen and Phosphorus by Biological process. The potential of the wastewater treatment system designed can storage the wastewater flow rate with approximately 1,150 cu.m./day and BOD of 325 mg/l. Water treated will be on the effluent standard of the BMA Act entitled control of wastewater drainage. Wastewater from the aggregated wastewater treatment system was used in water recycled system in the project. It was also used in flushing system and planting. Water recycling will be on the effluent standard for save the consumer. The waste recycled system was designed on the standard of US EPA and used Direct Filtration system, Dual Media Pressure Filter and GAC Pressure Filter, due to filtration in high flow rate, but need small space. It was suitable for the building where have a limited space. Disinfection system: Ultraviolet rays is high effectiveness and low cost of the maintenance and operation. The system was designed for recycling water, with a capacity of 500 cu.m./day 		✓			26 Oct.1995 to Jan.1996	Thamthani Co.,Ltd.	19.6
20.	Detailed Design of Wastewater Treatment Plant for Thai Plastics and Chemicals Co.,Ltd.	Eastern Industrial Estate (Mab Ta Put), Rayong	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Thai Plastics and Chemicals Co.,Ltd. Wastewater Characteristics : Wastewater flow = 2,300 cu.m./d BOD = 300 mg/l Wastewater Treatment Process : Chemical Treatment and Activated Sludge 		✓		✓	Mar.1996 to Sept.1996	Hydrotek Co.,Ltd.	64.2
21.	Detailed Design of Wastewater Treatment Plant for Kungwan Polyester Co.,Ltd.	Amphoe Khaoyoi, Phetburi	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Kungwan Polyester Co.,Ltd. Wastewater Characteristics : Wastewater flow = 350 cu.m./d BOD = 7,000 mg/l Wastewater Treatment Process : Hybrid Anaerobic and Two-Stage Activated Sludge 		✓			15 Sept.1996 to 14 Dec.1996	Kungwan Polyester Co.,Ltd.	45.0

The Consultant's Project Experience in the Detailed Design of Wastewater Treatment System (cont.)

No.	Project Name	Project Area	Project Description	Type of Project				Project Duration	Client	Project Cost (MB)
				FS	DD	CS	O&M			
22.	Detailed Design of Wastewater Treatment Plant for CRT Display Technology Co.,Ltd.	Rayong	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for CRT Display Technology Co.,Ltd. Wastewater Characteristics : Wastewater flow = 3,775 cu.m./d Wastewater Treatment Process : Chemical Treatment and Activated Sludge 		✓			Feb.1997 to July 1997	Hydrotek Co.,Ltd.	50.1
23.	Detailed Design of Wastewater Treatment Plant for Thai CRT Co.,Ltd.	Laem Chabang Industrial Estate, Chonburi	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Thai CRT Co.,Ltd. Wastewater Characteristics : Wastewater flow = 6,000 cu.m./d Wastewater Treatment Process : Chemical Treatment and Chemical Precipitation 		✓			26 Aug.1997 to 25 Oct.1997	Hydrotek Co.,Ltd.	12.2
24.	Detailed Design of Wastewater Treatment Plant for Greenspot (Thailand) Co.,Ltd.	Amphoe Poonpin, Suratthani	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Greenspot (Thailand) Co.,Ltd. Wastewater Characteristics : Wastewater flow = 1,760 cu.m./d BOD = 3,000 mg/l Wastewater Treatment Process : Activated Sludge 		✓	✓	✓	20 Oct.1997 to 19 Dec.1997	Greenspot (Thailand) Co.,Ltd.	25.0
25.	Detailed Design of Wastewater Treatment Plant for Bangpu Industrial Estate	Bangpu Industrial Estate, Samut Prakam	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Bangpu Industrial Estate Wastewater Characteristics : Wastewater flow = 30,000 cu.m./d BOD = 500 mg/l Wastewater Treatment Process : Activated Sludge 		✓			14 Aug.1998 to 15 Nov.1998	Chemitreat (Thailand) Co.,Ltd.	-
26.	Detailed Design of Wastewater Treatment Plant for Greenspot (Thailand) Co.,Ltd.	Amphoe Thunyaburi, Pathumthani	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Greenspot (Thailand) Co.,Ltd. Wastewater Characteristics : Wastewater flow = 6,200 cu.m./d BOD = 3,000 mg/l Wastewater Treatment Process : Activated Sludge 		✓			20 Feb.1999 to 10 May 1999	Greenspot (Thailand) Co.,Ltd.	57.6
27.	Detailed Design of Wastewater Treatment Plant for Malee Sampran Public Co.,Ltd.	Tambon Banpaeng, Amphoe Talad, Nakhon Panom	<ul style="list-style-type: none"> Malee Sampran Co.,Ltd. is a vegetable and fruit canning factory, Wastewater mostly comes from preparation of raw material and machine washing . Wastewater Characteristics : Wastewater flow = 600 cu.m./d BOD = 4,000 mg/l Wastewater Treatment Process : Anaerobic Pond and Facultative Pond 		✓			15 Mar.1999 to 30 Apr.1999	Malee Sampran Public Co.,Ltd.	9.84
28.	Detailed Design of Wastewater Treatment Plant for Thai Polyester Co.,Ltd.	Chonburi	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Thai Polyester Co.,Ltd. Wastewater Characteristics : Wastewater flow = 2,200 cu.m./d BOD = 5,300 mg/l Wastewater Treatment Process : Two Stage Activated Sludge 		✓			16 May 2002 to 26 Nov.2002	Thai Polyester Co.,Ltd.	45.0

The Consultant's Project Experience in the Detailed Design of Wastewater Treatment System (cont.)

No.	Project Name	Project Area	Project Description	Type of Project				Project Duration	Client	Project Cost (MB)
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29.	Detailed Design of Wastewater Treatment Plant for Infinite Progress Textile Co.,Ltd.	Ratburi	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Infinite Progress Textile Co.,Ltd. Wastewater Characteristics : Wastewater flow = 4,000 cu.m./d BOD = 400 mg/l Wastewater Treatment Process : Activated Sludge 		✓			26 July 2002 to 12 Nov.2002	Infinite Progress Textile Co.,Ltd.	45.0
30.	Upgrading of Wastewater Treatment Plant (2nd Phase) for Eastern Hemaraj Industrial Estate (Map Ta Phut)	Eastern Hemaraj Industrial Estate (Map Ta Phut),Rayong	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Eastern Hemaraj Industrial Estate (Map Ta Phut) Wastewater Characteristics : Wastewater flow = 30,000 cu.m./d BOD = 500 mg/l Wastewater Treatment Process : Activated Sludge 		✓			26 Mar.2003 to 31 May 2003	Eastern Industrial Estate Co.,Ltd.	77.71
31.	The Design of the Wastewater Treatment Plant Second Stream of the Suvarnabhumi Airport	Suvarnabhumi Airport, Sumut Prakan	<p>The scope of the design of the Wastewater Treatment Plant Second Stream includes the following tasks:</p> <ul style="list-style-type: none"> Review as built construction drawings for the first stream wastewater treatment process already constructed Detailed design of the Second Stream of Wastewater Treatment Process for the treatment capacity of 9,000 cu.m./day to raise the Airport to 18,000 cu.m./day. The treatment plant must include the tertiary treatment process for recycled water. Preparation of Tender Documentation 		✓			17 June 2004 to 15 Aug.2004	New Bangkok International Airport Co., Ltd.	297.9
32.	Detailed Design of Wastewater Treatment Plant Improvement for Siam Food Factory	Amphoe Banbung, Chonburi	<ul style="list-style-type: none"> Detailed Design of wastewater treatment system improvement of Siam Food Factory Wastewater Characteristics : Wastewater flow (max) = 4,000 cu.m./d Wastewater flow (avg) = 2,520 cu.m./d COD (max) = 10,000 mg/l COD (avg) = 6,850 mg/l Wastewater Treatment Process : UASB and Stabilization Pond 		✓			28 March 2006 to 20 June 2006	Siam Food Products Public Co.,Ltd.	40.41
33.	Detailed Design of Wastewater Treatment Plant for Siam Food Factory	Amphoe Banbung, Chonburi	<ul style="list-style-type: none"> Detailed Design of wastewater treatment plant for Deionization process of Siam Food Factory Wastewater Characteristics : Wastewater flow = 400 cu.m./d COD = 2,200 mg/l BOD = 1,100 mg/l With high Sulfate content (40,000-60,000 mg/l) Wastewater Treatment Process : Sequencing Batch Reactor 		✓			19 JSept 2007 to 22 Nov..2007	Siam Food Products Public Co.,Ltd.	15.78

The Consultant's Project Experience in the Detailed Design of Wastewater Treatment System (cont.)

No.	Project Name	Project Area	Project Description	Type of Project				Project Duration	Client	Project Cost (M/B)
				FS	DD	CS	O&M			
34.	Detailed Design of Wastewater Treatment Plant for OISHI Factory at Navanakorn Industrial Estate, Pathumthani	Navanakorn Industrial Estate, Pathumthani	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for tea, fruit juice, and bakery factory Wastewater Characteristics : Wastewater flow = 3,000 cu.m./d BOD = 1,200 mg/l Wastewater Treatment Process : Hybrid UASB and Two Stage Activated Sludge 		✓			27 Sept. 2007 to Dec.2007	Oishi Trading Co.,Ltd.	45.0
35.	Detailed Design of Wastewater Treatment Plant for OISHI Factory at Amatanakorn Industrial Estate, Chonburi	Amatanakorn Industrial Estate, Chonburi	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for tea, fruit juice and bakery factory Wastewater Characteristics : Wastewater flow = 2,000 cu.m./d BOD = 2,000 mg/l Wastewater Treatment Process : Hybrid UASB and Two Stage Activated Sludge 		✓			27 Sept. 2007 to Dec.2007	Oishi Trading Co.,Ltd.	40.0
36.	Feasibility Study for Upgrading of Wastewater Treatment Plant for Eastern Hemaraj Industrial Estate (Map Ta Phut)	Eastern Hemaraj Industrial Estate (Map Ta Phut), Rayong	<ul style="list-style-type: none"> Feasibility Study for upgrading of wastewater treatment plant for Eastern Hemaraj Industrial Estate (Map Ta Phut) Wastewater Characteristics : Wastewater flow = 60,000 cu.m./d BOD = 200 mg/l Wastewater Treatment Process : Contact Stabilization Activated Sludge (CSAS) 	✓				27 Aug.2008 to 31 Dec.2008	Eastern Industrial Estate Co.,Ltd.	382.70
37.	Detailed design for Upgrading of Wastewater Treatment Plant for Eastern Hemaraj Industrial Estate (Map Ta Phut)	Eastern Hemaraj Industrial Estate (Map Ta Phut),Rayong	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for Eastern Hemaraj Industrial Estate (Map Ta Phut) Wastewater Characteristics : Wastewater flow = 60,000 cu.m./d BOD = 200 mg/l Wastewater Treatment Process : Contact Stabilization Activated Sludge (CSAS) 		✓			2 Apr.2009 to 13 May 2010	Eastern Industrial Estate Co.,Ltd.	156.42
38.	Detailed design for Upgrading of Wastewater Treatment Plant for O-Sotsapha Co.,Ltd. , Phra Nakhon Si Ayuthaya	Phra Nakhon Si Ayuthaya	<ul style="list-style-type: none"> Detailed design of wastewater treatment plant for O-Sotsapha Co.,Ltd. Wastewater Characteristics : Wastewater flow = 2,500 cu.m./d BOD = 500 mg/l Wastewater Treatment Process : Modified Sequencing Batch Reactor 		✓			5 Aug..2010 to Mar. 2011	O-Sotsapha Co.,Ltd	79.79

Remarks : FS : Feasibility Study

DD : Detailed Design and Tender Documents Preparation

CS : Construction Supervision

O&M : Operation and Maintenance Training