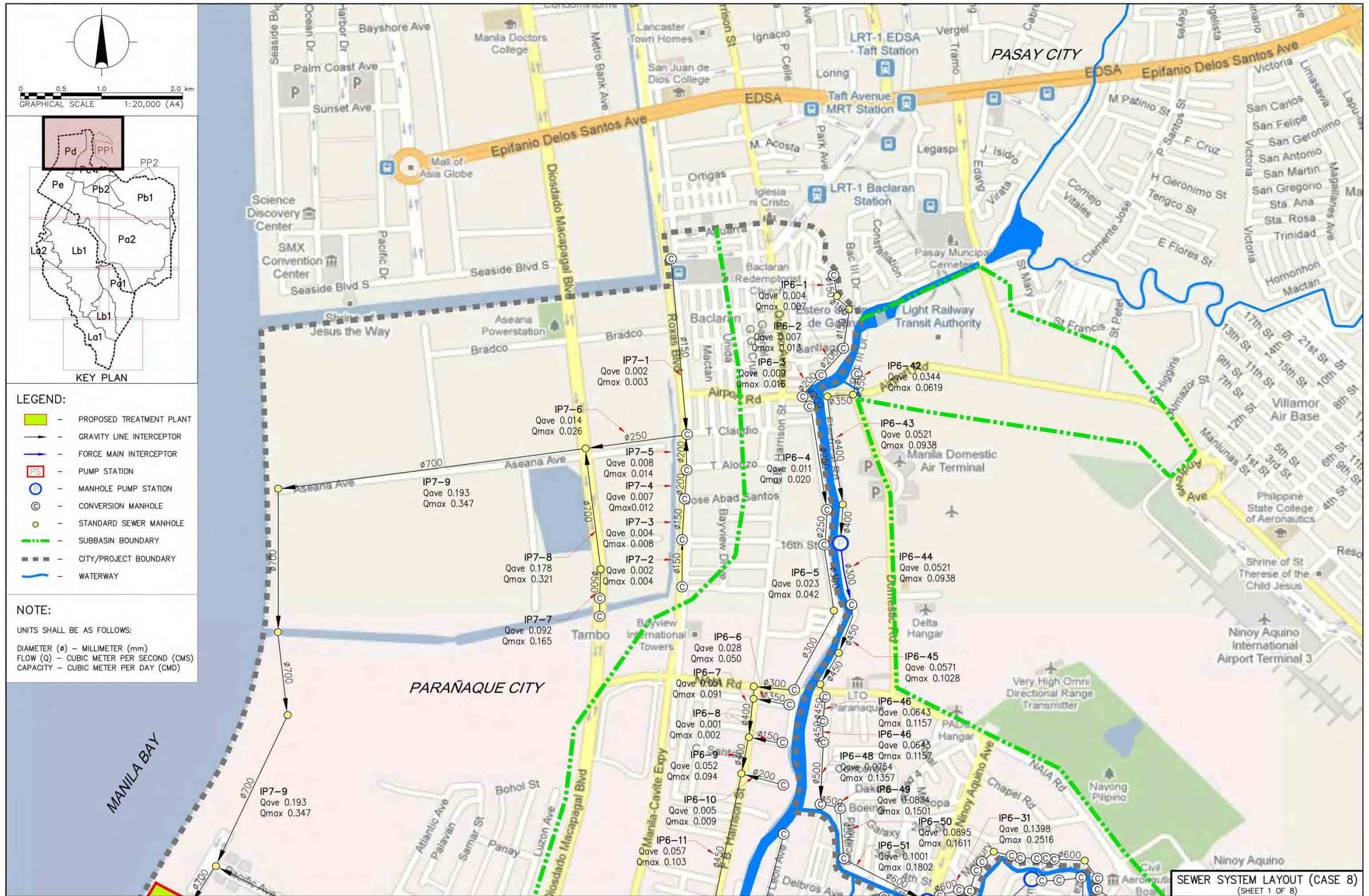


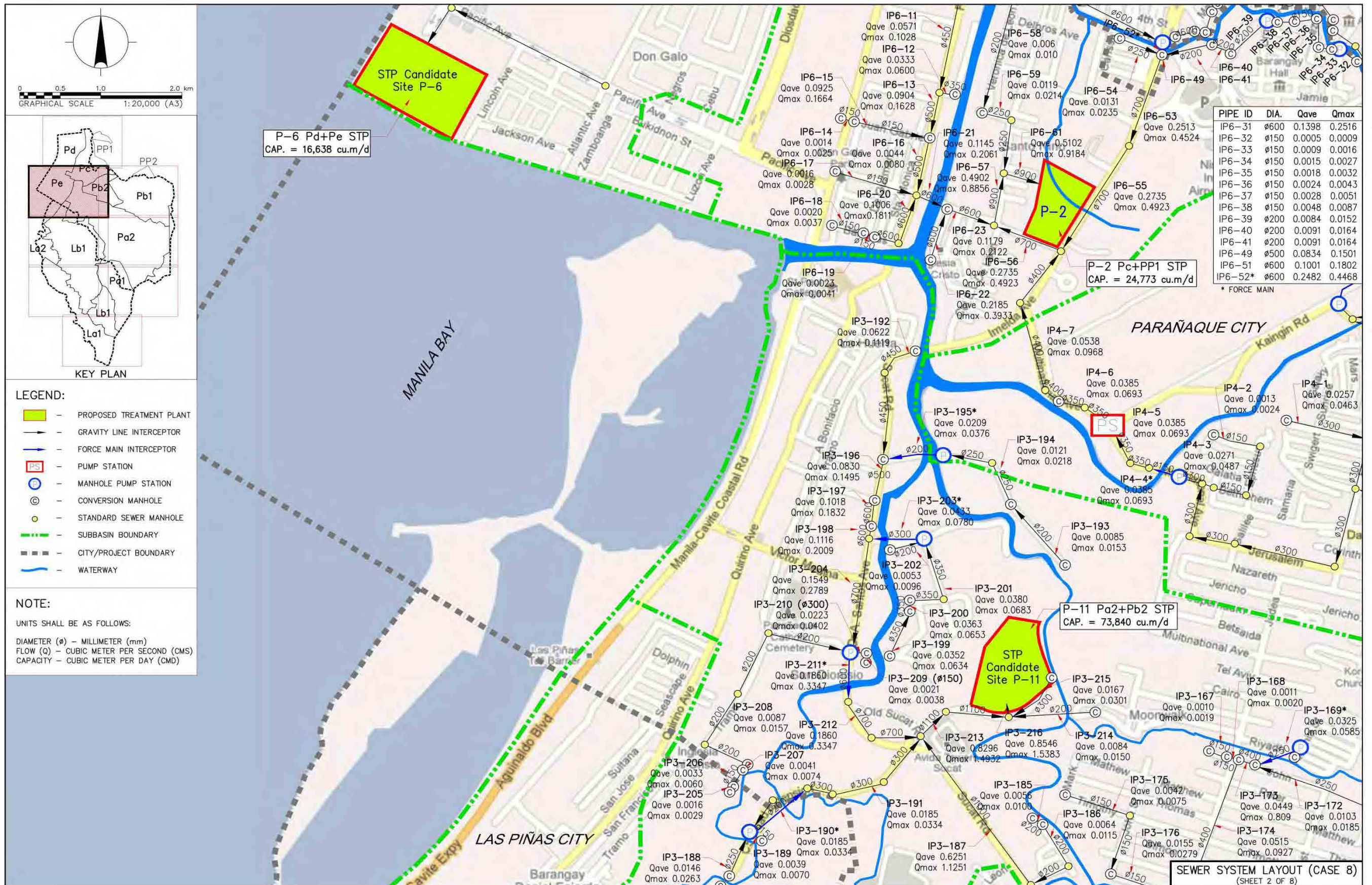
3. CONCEPTUAL DRAWINGS

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3.1 LOCATIONS OF FACILITIES AND INTERCEPTORS

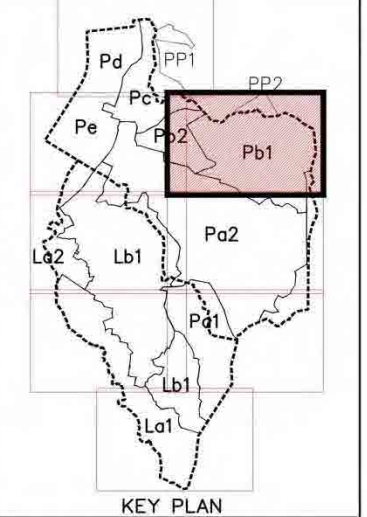
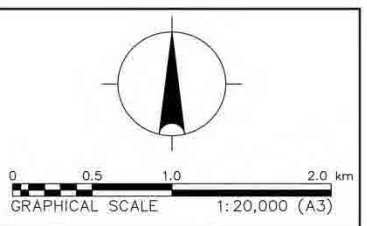
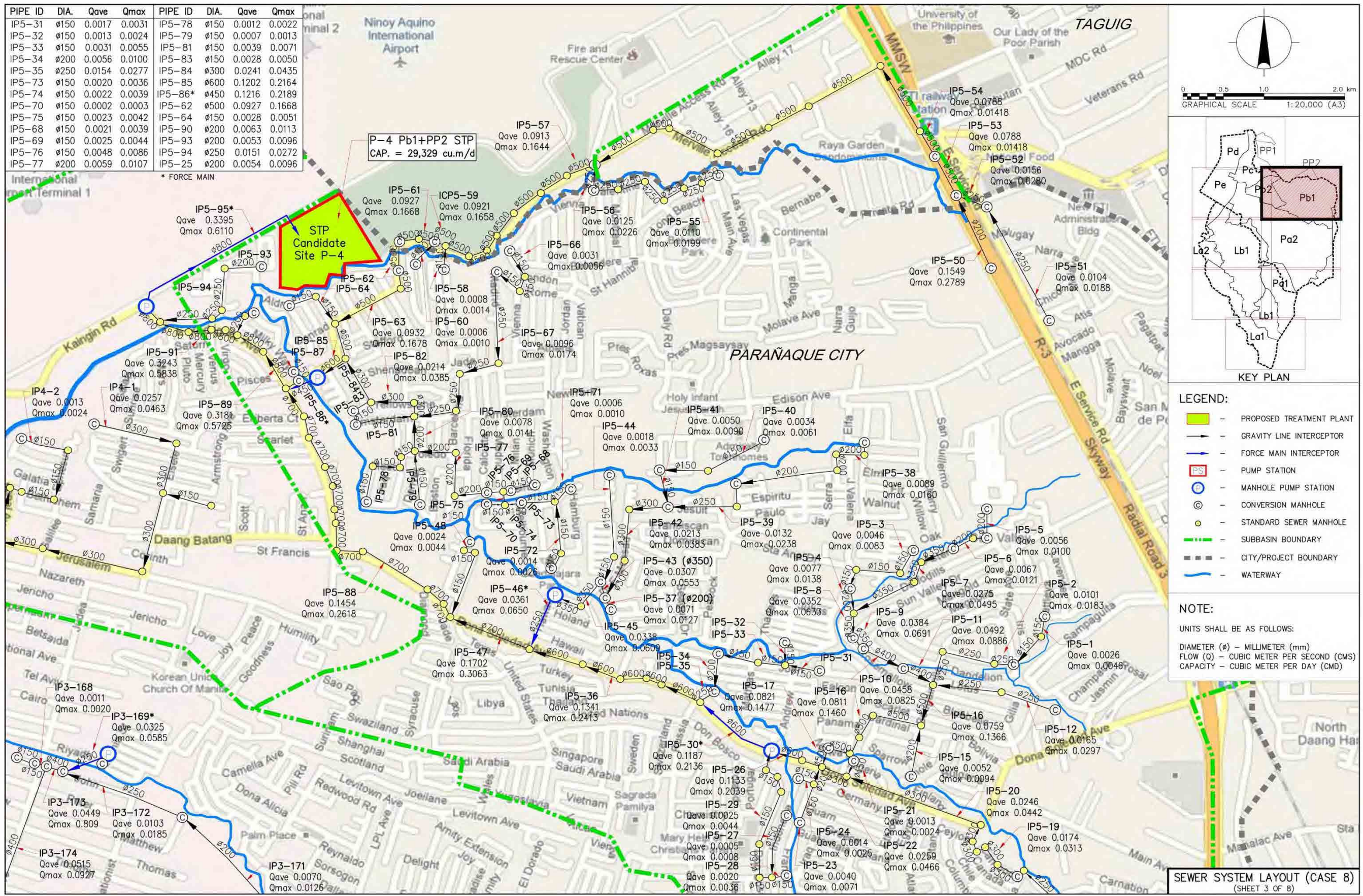
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PIPE ID	DIA.	Qave	Qmax	PIPE ID	DIA.	Qave	Qmax
IP5-31	Ø150	0.0017	0.0031	IP5-78	Ø150	0.0012	0.0022
IP5-32	Ø150	0.0013	0.0024	IP5-79	Ø150	0.0007	0.0013
IP5-33	Ø150	0.0031	0.0055	IP5-81	Ø150	0.0039	0.0071
IP5-34	Ø200	0.0056	0.0100	IP5-83	Ø150	0.0028	0.0050
IP5-35	Ø250	0.0154	0.0277	IP5-84	Ø300	0.0241	0.0435
IP5-73	Ø150	0.0020	0.0036	IP5-85	Ø600	0.1202	0.2164
IP5-74	Ø150	0.0022	0.0039	IP5-86*	Ø450	0.1216	0.2189
IP5-70	Ø150	0.0002	0.0003	IP5-62	Ø500	0.0927	0.1668
IP5-75	Ø150	0.0023	0.0042	IP5-64	Ø150	0.0028	0.0051
IP5-68	Ø150	0.0021	0.0039	IP5-90	Ø200	0.0063	0.0113
IP5-69	Ø150	0.0025	0.0044	IP5-93	Ø200	0.0053	0.0096
IP5-76	Ø150	0.0048	0.0086	IP5-94	Ø250	0.0151	0.0272
IP5-77	Ø200	0.0059	0.0107	IP5-25	Ø200	0.0054	0.0096

* FORCE MAIN



- LEGEND:**
- PROPOSED TREATMENT PLANT
 - GRAVITY LINE INTERCEPTOR
 - FORCE MAIN INTERCEPTOR
 - PUMP STATION
 - MANHOLE PUMP STATION
 - CONVERSION MANHOLE
 - STANDARD SEWER MANHOLE
 - SUBBASIN BOUNDARY
 - CITY/PROJECT BOUNDARY
 - WATERWAY

NOTE:

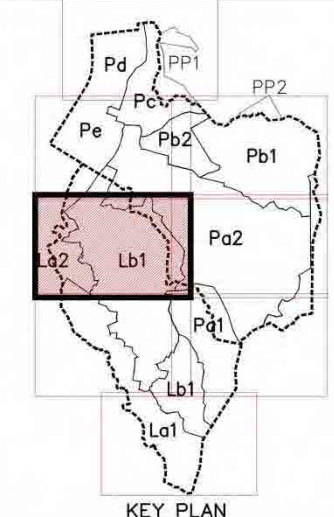
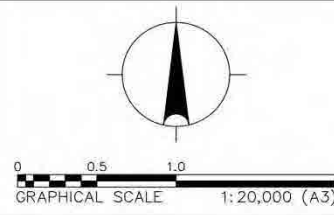
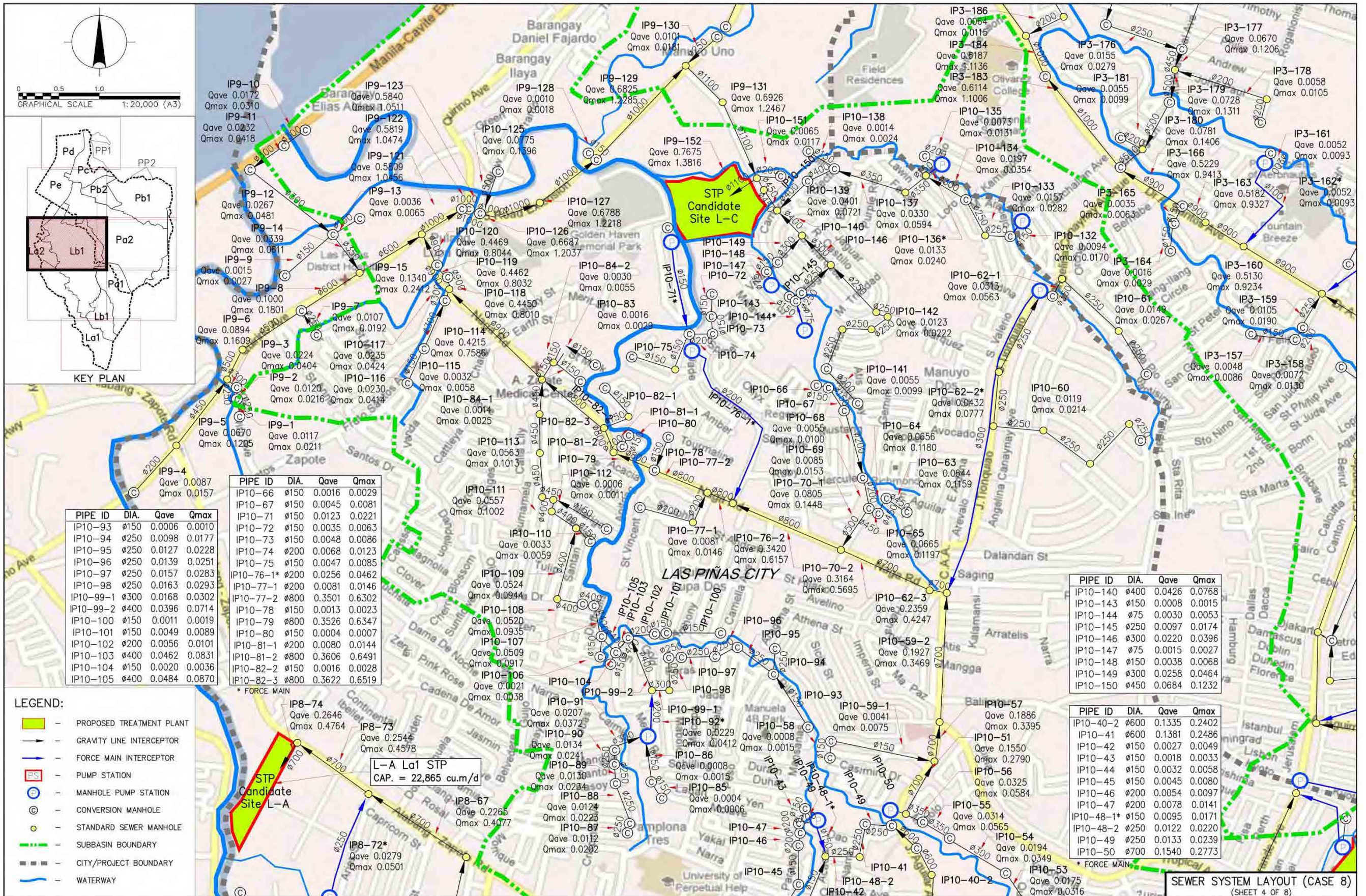
UNITS SHALL BE AS FOLLOWS:

DIAMETER (Ø) - MILLIMETER (mm)

FLOW (Q) - CUBIC METER PER SECOND (CMS)

CAPACITY - CUBIC METER PER DAY (CMD)

SEWER SYSTEM LAYOUT (CASE 8)
(SHEET 3 OF 8)



PIPE ID	DIA.	Qave	Qmax
IP10-93	Ø150	0.0006	0.0010
IP10-94	Ø250	0.0098	0.0177
IP10-95	Ø250	0.0127	0.0228
IP10-96	Ø250	0.0139	0.0251
IP10-97	Ø250	0.0157	0.0283
IP10-98	Ø250	0.0163	0.0293
IP10-99-1	Ø300	0.0168	0.0302
IP10-99-2	Ø400	0.0396	0.0714
IP10-100	Ø150	0.0011	0.0019
IP10-101	Ø150	0.0049	0.0089
IP10-102	Ø200	0.0056	0.0101
IP10-103	Ø400	0.0462	0.0831
IP10-104	Ø150	0.0020	0.0036
IP10-105	Ø400	0.0484	0.0870

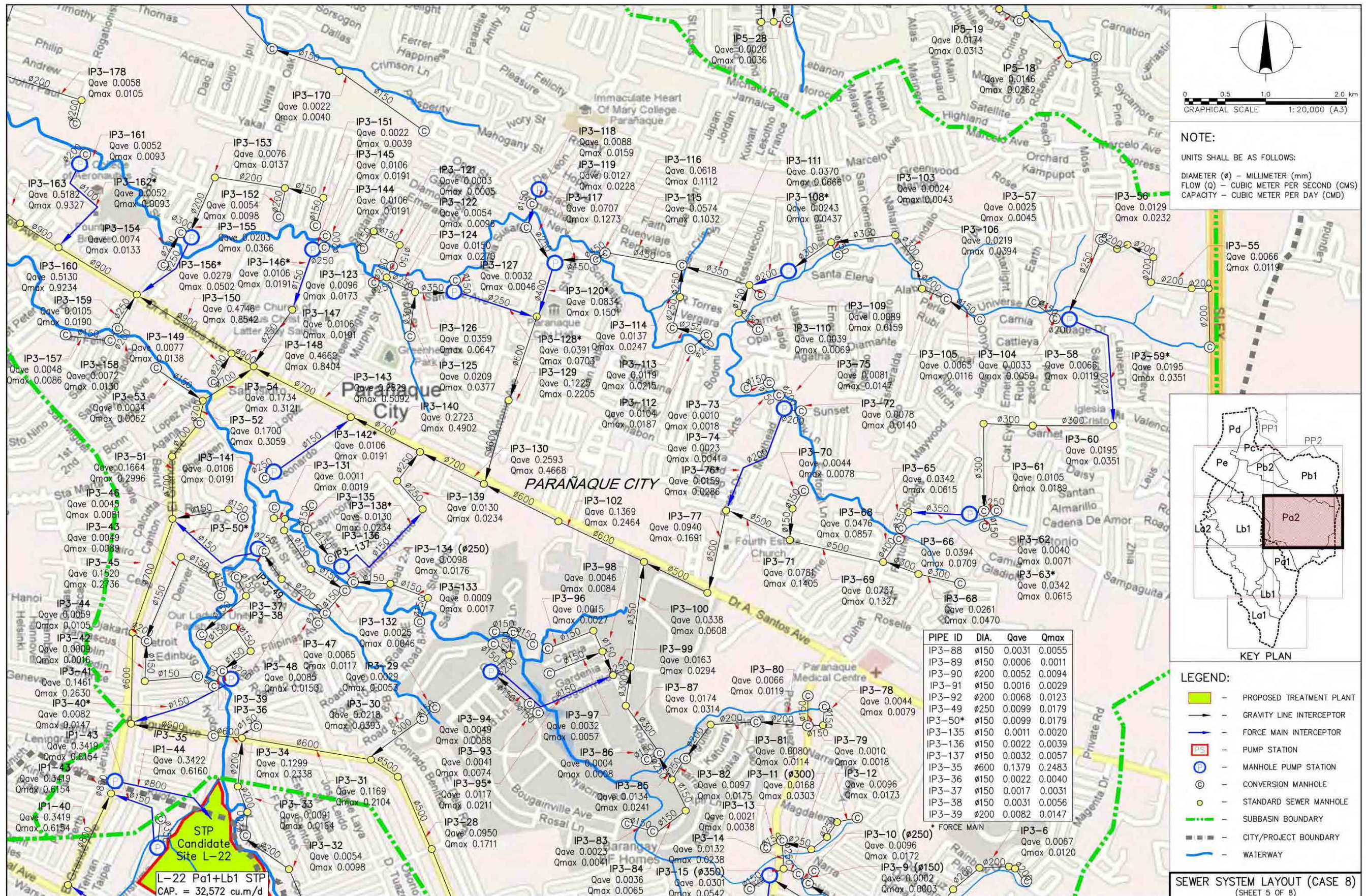
PIPE ID	DIA.	Qave	Qmax
IP10-66	Ø150	0.0016	0.0029
IP10-67	Ø150	0.0045	0.0081
IP10-71	Ø150	0.0123	0.0221
IP10-72	Ø150	0.0035	0.0063
IP10-73	Ø150	0.0048	0.0086
IP10-74	Ø200	0.0068	0.0123
IP10-75	Ø150	0.0047	0.0085
IP10-76-1*	Ø200	0.0256	0.0462
IP10-77-1	Ø200	0.0081	0.0146
IP10-77-2	Ø800	0.3501	0.6302
IP10-78	Ø150	0.0013	0.0023
IP10-79	Ø800	0.3526	0.6347
IP10-80	Ø150	0.0004	0.0007
IP10-81-1	Ø200	0.0080	0.0144
IP10-81-2	Ø800	0.3606	0.6491
IP10-82-2	Ø150	0.0016	0.0028
IP10-82-3	Ø800	0.3622	0.6519

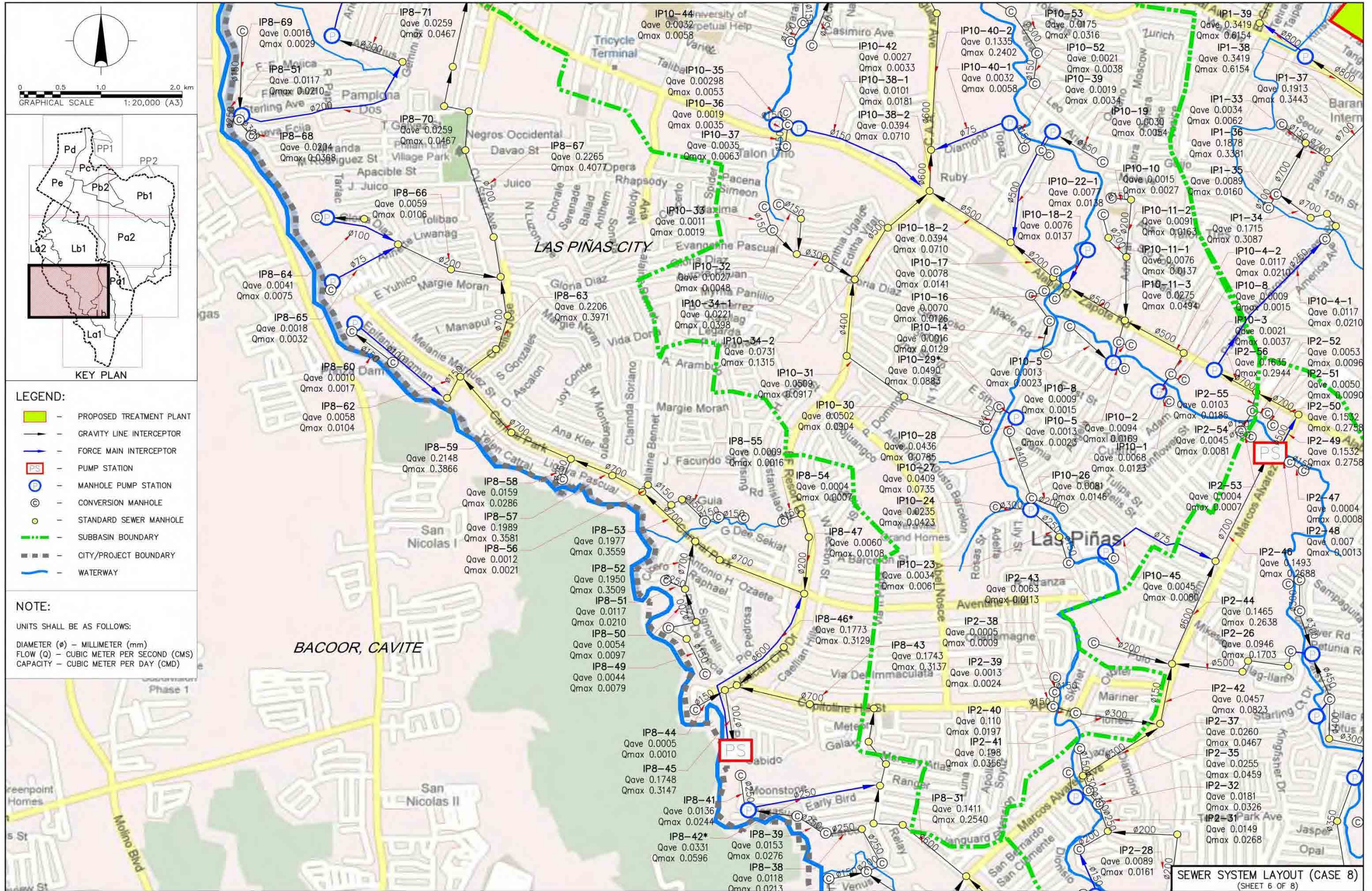
PIPE ID	DIA.	Qave	Qmax
IP10-140	Ø400	0.0426	0.0768
IP10-143	Ø150	0.0008	0.0015
IP10-144	Ø75	0.0030	0.0053
IP10-145	Ø250	0.0097	0.0174
IP10-146	Ø300	0.0220	0.0396
IP10-147	Ø75	0.0015	0.0027
IP10-148	Ø150	0.0038	0.0068
IP10-149	Ø300	0.0258	0.0464
IP10-150	Ø450	0.0684	0.1232

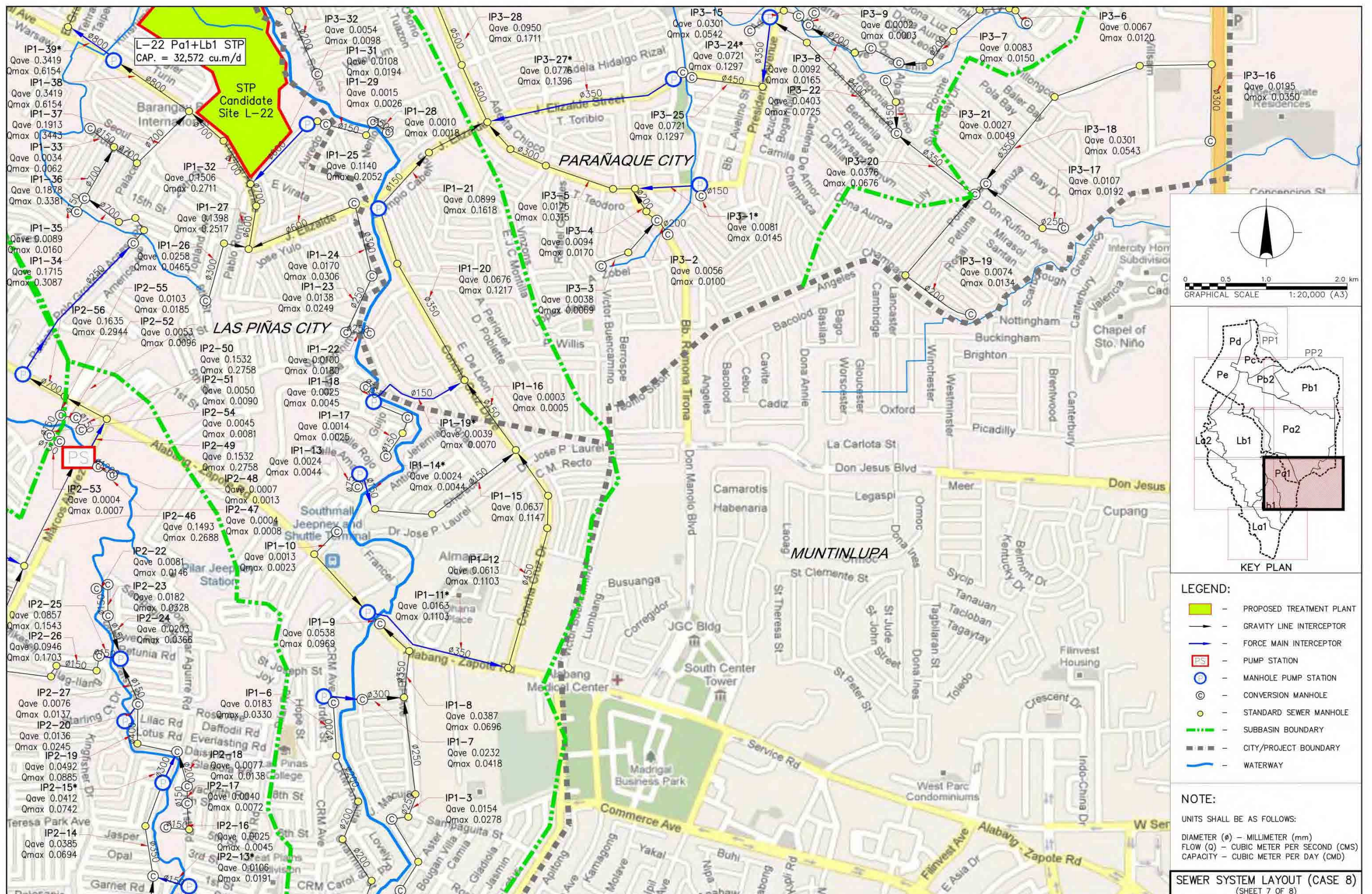
PIPE ID	DIA.	Qave	Qmax
IP10-40-2	Ø600	0.1335	0.2402
IP10-41	Ø600	0.1381	0.2486
IP10-42	Ø150	0.0027	0.0049
IP10-43	Ø150	0.0018	0.0033
IP10-44	Ø150	0.0032	0.0058
IP10-45	Ø150	0.0045	0.0080
IP10-46	Ø200	0.0054	0.0097
IP10-47	Ø200	0.0078	0.0141
IP10-48-1*	Ø150	0.0095	0.0171
IP10-48-2	Ø250	0.0122	0.0220
IP10-49	Ø250	0.0133	0.0239
IP10-50	Ø700	0.1540	0.2773

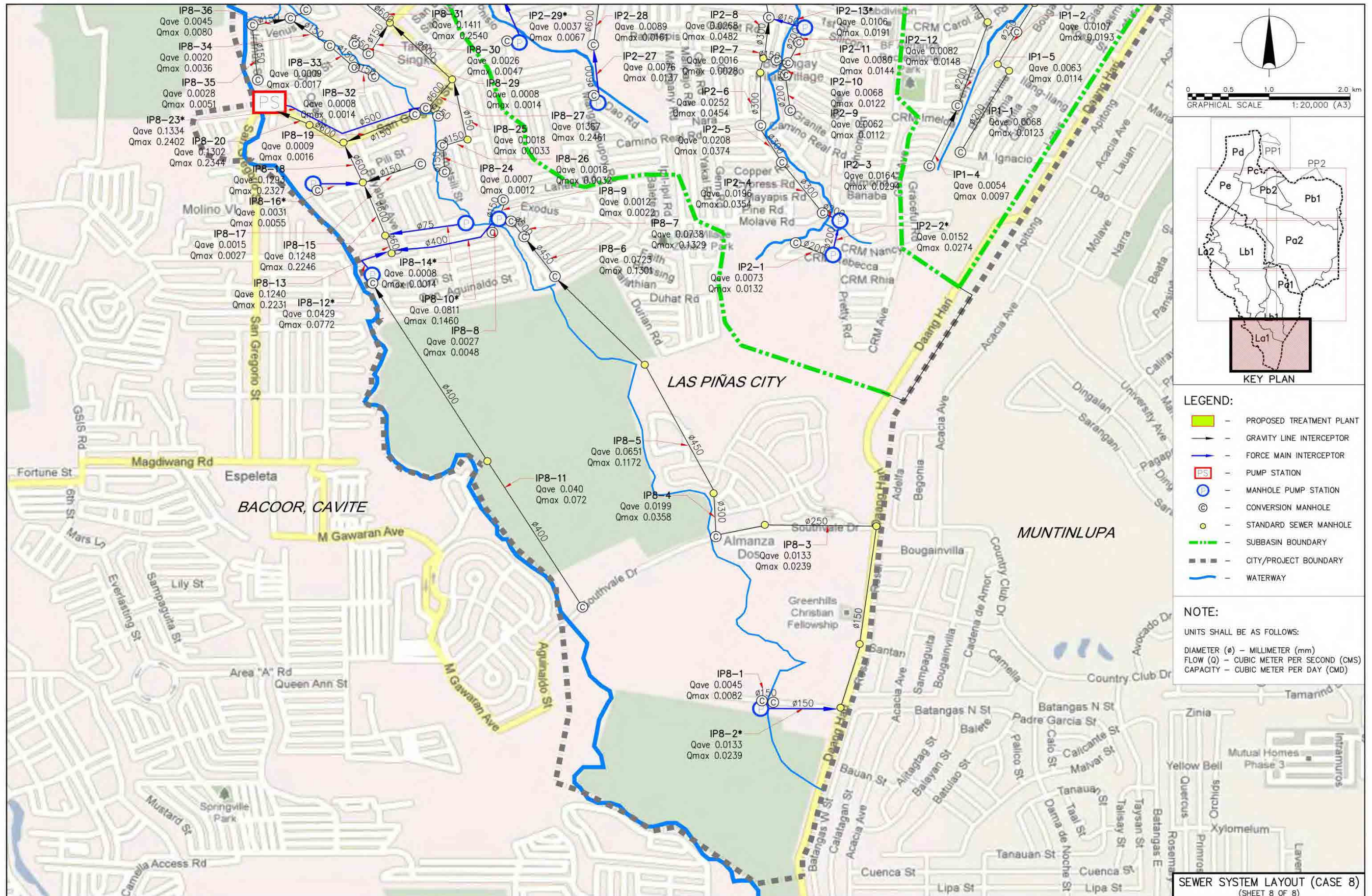
- LEGEND:**
- PROPOSED TREATMENT PLANT
 - GRAVITY LINE INTERCEPTOR
 - FORCE MAIN INTERCEPTOR
 - PS — PUMP STATION
 - ⊙ — MANHOLE PUMP STATION
 - ⊙ — CONVERSION MANHOLE
 - ⊙ — STANDARD SEWER MANHOLE
 - SUBBASIN BOUNDARY
 - CITY/PROJECT BOUNDARY
 - WATERWAY

SEWER SYSTEM LAYOUT (CASE 8)
(SHEET 4 OF 8)









SUMMARY OF TREATMENT DISTRICT BOUNDARY SURVEYS, OUTFALL SURVEYS, & DRAINAGE PIPE SURVEYS

DAY	SURVEY AREAS	SURVEY PREAMBLE	TREATMENT DISTRICT BOUNDARY SURVEY	OUTFALL SURVEY	DRAINAGE PIPE SURVEY
1	PARAÑAQUE Brgy. Baclaran	<i>Survey Date</i> : July 1, 2010 <i>Weather</i> : Sunny <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Robert Baricaua; Fzoe-Rauld Yambao; Clayton Bergado; Rizza Raymundo; Haidee Hernandez <i>Target STP</i> : none <i>Discharge Creek</i> : Manila Bay and Parañaque River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captain</i> : Dullio Cailles	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies (Accessible) <i>Material(s)</i> : RCP <i>State:</i> : Visible garbages and informal settlers along the Parañaque River	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe and Box Culvert) <i>Dimensions</i> : Ø1500 and 3-Ø900 RCP to creek along Roxas Blvd. and 2 Barrels of 3.5m RCBC to Paranaque River near Airport Road <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Roxas Boulevard (Approx. 40.0m) <i>No. of Lanes</i> : Eight (8) Lanes <i>Pavement</i> : Asphalt Concrete Pavement <i>Traffic Controls</i> : Possible (Highway) <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : Various drainage lines are clogged specifically at Baclaran Shopping Mall and <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
2	PARAÑAQUE Brgy. Tambo Asia World City	<i>Survey Date</i> : July 2, 2010 <i>Weather</i> : Sunny <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Clayton Bergado; Robert Baricaua (DCCD) <i>Target STP</i> : none <i>Discharge Creek</i> : Manila Bay and Parañaque River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captain</i> : Wilfredo R. dela Cruz	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RCP <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø900 RCP <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Some outfalls are partially submerged	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Roxas Boulevard (Approx. 40.0m) <i>No. of Lanes</i> : Eight (8) Lanes <i>Pavement</i> : Asphalt Concrete Pavement <i>Traffic Controls</i> : Possible (Highway) <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : State of drainage lines are fair <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
3	PARAÑAQUE Brgy. Tambo (South) and Don Galo	<i>Survey Date</i> : July 5, 2010 <i>Weather</i> : Cloudy <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez Robert Baricaua (DCCD) <i>Target STP</i> : Proposed Parañaque STP at Salt Field <i>Discharge Creek</i> : Manila Bay and Parañaque River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Wilfredo R. dela Cruz : Marilyn F. Burgos	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø900 and Ø450 RCP to creek along Roxas Blvd. <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Roxas Boulevard (Approx. 40.0m) <i>No. of Lanes</i> : Eight (8) Lanes <i>Pavement</i> : Asphalt Concrete Pavement <i>Traffic Controls</i> : Possible (Highway) <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : Various drainage lines are clogged specifically at Camp Claudio <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
3	LAS PIÑAS Brgy. Pulang Lupa Uno Brgy. Ilaya Brgy. Elias Aldana Brgy. Manuyo Uno Brgy. Daniel Fajardo	<i>Survey Date</i> : July 5, 2010 <i>Weather</i> : Cloudy <i>Recorder(s)</i> : Yasuhisa Sakurai (OEC) Clayton Bergado; Rizza Raymundo; Robert Ajaban (DCCD) <i>Target STP</i> : None <i>Discharge Creeks</i> : Balihatar Creek, Las Piñas River & Manila Bay <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Reynato A. Alfonso : Vicente T. Miranda Jr. : Rodrigo Janice C. Tiongkiao : Florante S. Dela Cruz : Shirley S. Quilatan	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : Some curb inlets are damaged	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø450 - Ø1350 RCP : 0.6x0.6 RCBC along Tramo Road <i>Material</i> : Reinforced Concrete <i>State:</i> : Some outfalls are partially submerged and some are full of garbage	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 7 to 15 meters <i>No. of Lanes</i> : Two(2) to Four(4) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : Some parts of Tramo Road experience ponding <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
4	PARAÑAQUE Brgy. Sto. Niño Brgy. Vitalez	<i>Survey Date</i> : July 6, 2010 <i>Weather</i> : Sunny <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez (DCCD) <i>Target STP</i> : Proposed Parañaque STP at Salt Field <i>Discharge Creek</i> : Parañaque River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Ismael V. De Leon : Teresita A. Gatchalian	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø900 RCP to creek from V. de Leon Ave. Ø300, Ø450, Ø600 and Ø900RCP to creek beside Mendoza and Vitalez Cmpd. Rd. <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible garbage at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 8.0m <i>No. of Lanes</i> : Four (4.0) Lanes <i>Pavement</i> : Concrete Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
4	LAS PIÑAS Brgy. Pulang Lupa Uno Brgy. Pulang Lupa Dos Brgy. Manuyo Dos	<i>Survey Date</i> : July 6, 2010 <i>Weather</i> : Sunny <i>Recorder(s)</i> : Yasuhisa Sakurai (OEC) Clayton Bergado; Rizza Raymundo (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : Naga Creek, Marulas Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Reynato A. Alfonso : Julie R. Quines : Gil M. Galvez	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø375 - Ø1200 RCP <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : No visible abnormality	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 6 meters <i>No. of Lanes</i> : Two(2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
5	PARAÑAQUE Brgy. Moonwalk Brgy. Merville	<i>Survey Date</i> : July 7, 2010 <i>Weather</i> : Sunny Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez Robert Baricaua (DCCD) <i>Target STP</i> : Prop. 2 Parañaque STPs at Moonwalk <i>Discharge Creek</i> : Dongalo River and Libho Creek <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Winnie D. Esplana : Gloria C. Gutierrez	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : 3-Ø600 RCPs from Moonwalk village, 1-trapezoidal channel and 2-1.0m x 1.0m RCBC from airport area to Libho creek <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes/garbages at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Concrete Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)

SUMMARY OF TREATMENT DISTRICT BOUNDARY SURVEYS, OUTFALL SURVEYS, & DRAINAGE PIPE SURVEYS

DAY	SURVEY AREAS	SURVEY PREAMBLE	TREATMENT DISTRICT BOUNDARY SURVEY	OUTFALL SURVEY	DRAINAGE PIPE SURVEY	
5	LAS PIÑAS Brgy. Manuyo Dos Brgy. BF International Brgy. Pulang Lupa Dos	<i>Survey Date</i> : July 7, 2010 <i>Weather</i> : Sunny(AM) & Cloudy(PM) <i>Recorder(s)</i> : Yasuhisa Sakurai (OEC) Clayton Bergado; Robert Ajaban (DCCD) <i>Target STP</i> : None <i>Discharge Creeks</i> : Marulas Creek, Tungtong Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Gil M. Galvez Filemon A. Aguilar Julie R. Quines	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø375 - Ø1200 RCP <i>Material</i> : Reinforced Concrete <i>State:</i> : Some outfalls are partially submerged and some are full of garbage	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 7 to 15 meters <i>No. of Lanes</i> : Two(2) to Four(4) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
6	PARAÑAQUE Brgy. Moonwalk Brgy. Merville Brgy. La Huerta Brgy. Sto. Niño	<i>Survey Date</i> : July 8, 2010 <i>Weather</i> : Sunny Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez (DCCD) <i>Target STP</i> : Prop. 2 Parañaque STPs along C-5 Road <i>Discharge Creek</i> : San Dionisio and Dongalo Rivers <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captain</i> : Ernesto J. San Agustin Gloria C. Gutierrez Ernesto J. San Agustin Ismael V. De Leon	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø1200 RCP from Moonwalk village, to Dongalo River <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes/garbage at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two(2) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
6	LAS PIÑAS Brgy. Pamplona Uno Brgy. Zapote(Las Piñas) Brgy. Pulang Lupa Uno Brgy. Pulang Lupa Dos Brgy. Pamplona Tres	<i>Survey Date</i> : July 8, 2010 <i>Weather</i> : Sunny <i>Recorder(s)</i> : Yasuhisa Sakurai (OEC) Clayton Bergado; Rizza Raymundo (DCCD) <i>Target STP</i> : Proposed Las Piñas STP <i>Discharge Creek</i> : Zapote River, Dalig Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Aurelio E. Bonifacio Edgardo F. Reyes Reynato A. Alfonso Julie R. Quines Emmanuel C. Ochoa	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : Some manhole cover are damaged	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø600 - Ø1500 RCP <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Some outfalls are partially submerged	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 7 meters <i>No. of Lanes</i> : Two(2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
7	PARAÑAQUE Brgy. Merville	<i>Survey Date</i> : July 9, 2010 <i>Weather</i> : Cloudy Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez Robert Baricaua (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : Libho Creek <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captain</i> : Gloria C. Gutierrez	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Outfall from Moonwalk village, to Libho Creeek <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Not accessible (High Fence)	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
7	LAS PIÑAS Brgy. BF International	<i>Survey Date</i> : July 9, 2010 <i>Weather</i> : Sunny <i>Recorder(s)</i> : Yasuhisa Sakurai (OEC) Clayton Bergado; Rizza Raymundo; Robert Ajaban (DCCD) <i>Target STP</i> : None <i>Discharge Creeks</i> : Talon Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captain</i> : Filemon A. Aguilar	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer & Open canal on some areas <i>Dimensions</i> : Varies <i>Material(s)</i> : RCP (concrete) <i>State:</i> : Open canal at Bohol St., BAT CAA Receivers Area has visible garbage.	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø600 - Ø1500 RCP <i>Material</i> : Reinforced Concrete <i>State:</i> : Broken outfall at the end of Viceroy St. Caseria Mariposa I, BF International	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 7 meters <i>No. of Lanes</i> : Two(2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer & Open canal on some areas <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
8	PARAÑAQUE Brgy. Don Bosco Brgy. Sun Valley	<i>Survey Date</i> : July 12, 2010 <i>Weather</i> : Sunny Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez Robert Baricaua (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : Baliwag Creek <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Teodoro Virata Jr. Daniel S. Santos	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø600 RCPs and Ø450 RCPs to Baliwag Creek <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Not accessible (High Fence)	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
8	LAS PIÑAS Brgy. Pamplona Tres Brgy. Talon Uno (North of Zapote Road)	<i>Survey Date</i> : July 12, 2010 <i>Weather</i> : Partly Cloudy <i>Recorder(s)</i> : Yasuhisa Sakurai (OEC) Clayton Bergado; Rizza Raymundo; Robert Ajaban (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : Talon Creek, <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Emmanuel C. Ochoa Nena I. Ramos	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer & Open canal on some areas <i>Dimensions</i> : Varies <i>Material(s)</i> : RCP (concrete) <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø375 - Ø1200 RCP <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : No visible abnormality	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 7 meters <i>No. of Lanes</i> : Two (2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer & Open canal on some areas <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)

SUMMARY OF TREATMENT DISTRICT BOUNDARY SURVEYS, OUTFALL SURVEYS, & DRAINAGE PIPE SURVEYS

DAY	SURVEY AREAS	SURVEY PREAMBLE	TREATMENT DISTRICT BOUNDARY SURVEY	OUTFALL SURVEY	DRAINAGE PIPE SURVEY
9	PARAÑAQUE Brgy. San Martin de Porres	<i>Survey Date</i> : July 13, 2010 <i>Weather</i> : Sunny Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : Creek along South Super Highway <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captain</i> : Thelma C. Singson	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Approx. Ø1800 RCP tapping to drainage system along East Service Road of South Super Highway <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Not visible	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Concrete Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Circular, varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
9	LAS PIÑAS Brgy. BF International Brgy. Almanza Uno Brgy. Talon Tres Brgy. Talon Uno	<i>Survey Date</i> : July 13, 2010 <i>Weather</i> : Cloudy w/ Shower rain <i>Recorder(s)</i> : Yasuhisa Sakurai (OEC) Clayton Bergado; Rizza Raymundo (DCCD) <i>Target STP</i> : None <i>Discharge Creeks</i> : Tungtong Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Filemon A. Aguilar Rogelio M. Alejandro Consuelo L. Cuevas Nena I. Ramos	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø600 - Ø1500 RCP <i>Material</i> : Reinforced Concrete <i>State:</i> : No visible abnormality	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 8 meters <i>No. of Lanes</i> : Two(2) to Four(4) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
10	PARAÑAQUE Brgy. San Martin de Porres Brgy. Sun Valley Brgy. Moonwalk	<i>Survey Date</i> : July 15, 2010 <i>Weather</i> : Sunny Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : Creek along South Super Highway <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Thelma C. Singson Daniel S. Santos Winnie D. Esplana	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Not visible <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Not visible	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Concrete Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
10	LAS PIÑAS Brgy. Talon Cuatro Brgy. Almanza Uno Brgy. Talon Uno	<i>Survey Date</i> : July 15, 2010 <i>Weather</i> : Sunny <i>Recorder(s)</i> : Yasuhisa Sakurai (OEC) Clayton Bergado; Rizza Raymundo (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : Tungtong Creek, Talon Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Ignacio B. Sangga Rogelio M. Alejandro Nena I. Ramos	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : Some bridge culverts are submerged	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø375 - Ø1200 RCP <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Some outfalls are partially submerged	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 7 meters <i>No. of Lanes</i> : Two(2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
11	PARAÑAQUE Brgy. Don Bosco Brgy. Marcelo Green	<i>Survey Date</i> : July 16, 2010 <i>Weather</i> : Cloudy Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Robert Baricaua (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Teodoro Virata Jr. Michael L. San Miguel	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Not visible <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Some outfalls are partially submerged	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 8.0m <i>No. of Lanes</i> : Four (4) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
11	LAS PIÑAS Brgy. Pilar Village Brgy. Almanza Uno Brgy. Almanza Dos	<i>Survey Date</i> : July 16, 2010 <i>Weather</i> : Sunny <i>Recorder(s)</i> : Yasuhisa Sakurai (OEC) Clayton Bergado; Rizza Raymundo; Robert Ajaban (DCCD) <i>Target STP</i> : Proposed Las Piñas STP <i>Discharge Creeks</i> : Almanza Creek, Talon Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Elizabeth C. Martinez Rogelio M. Alejandro Vicente A. Alovera	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : Ponding in along roads in some low points	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø450s, Ø1200 and Ø1500 RCP <i>Material</i> : Reinforced Concrete <i>State:</i> : No visible abnormality	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 7 meters <i>No. of Lanes</i> : Two(2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
12	PARAÑAQUE Brgy. San Dionisio Brgy. La Huerta Brgy. Don Galo	<i>Survey Date</i> : July 19, 2010 <i>Weather</i> : Sunny Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez Robert Baricaua (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : Kay Boboy Creek <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Arsenio S. Rodriguez Ernesto J. San Agustin Marilyn F. Burgos	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø450s, Ø1200 and Ø1050 RCP to San Dionisio River <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes/garbage and informal settlers at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 8.0m <i>No. of Lanes</i> : Four (4) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)

SUMMARY OF TREATMENT DISTRICT BOUNDARY SURVEYS, OUTFALL SURVEYS, & DRAINAGE PIPE SURVEYS

DAY	SURVEY AREAS	SURVEY PREAMBLE	TREATMENT DISTRICT BOUNDARY SURVEY	OUTFALL SURVEY	DRAINAGE PIPE SURVEY
12	LAS PIÑAS Brgy. Talon Dos	<i>Survey Date</i> : July 19, 2010 <i>Weather</i> : Partly Cloudy <i>Recorder(s)</i> : Clayton Bergado; Robert Ajaban (DCCD) <hr/> <i>Target STP</i> : None <i>Discharge Creek</i> : Talon Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captain</i> : Ruben Y. Sanchez	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø450 - Ø1200 RCP <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : No visible abnormality	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 6 to 14 meters <i>No. of Lanes</i> : Two(2) to Four(4) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <hr/> <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : Some manholes has no cover <hr/> <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
13	PARAÑAQUE Brgy. BF Homes Brgy. San Isidro Brgy. San Dionisio	<i>Survey Date</i> : July 20, 2010 <i>Weather</i> : Cloudy Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez (DCCD) <hr/> <i>Target STP</i> : None <i>Discharge Creek</i> : Kay Boboy Creek & San Dionisio River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captain</i> : Jeremy S. Marquez : Eusebio Japlos : Arsenio S. Rodriguez	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø450s, Ø1200 and Ø1050 RCP to San Dionisio River and 600H X 600W Box Culvert to Kay Boboy Creek <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes/garbage at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : High Voltage <hr/> <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <hr/> <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
13	LAS PIÑAS Brgy. Pamplona Dos Brgy. Talon Dos	<i>Survey Date</i> : July 20, 2010 <i>Weather</i> : Sunny(AM) & Cloudy(PM) <i>Recorder(s)</i> : Clayton Bergado; Rizza Raymundo (DCCD) <hr/> <i>Target STP</i> : None <i>Discharge Creeks</i> : Zapote River, Sin Nombre Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Roberto Villalón : Ruben Y. Sanchez	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : Some manhole cover are damaged	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø1050 - Ø1200 RCP <i>Material</i> : Reinforced Concrete <i>State:</i> : No visible abnormality	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 14 meters <i>No. of Lanes</i> : Two(2) to Four(4) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <hr/> <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer & Open canal on some areas <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <hr/> <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
14	PARAÑAQUE Brgy. San Isidro	<i>Survey Date</i> : July 21, 2010 <i>Weather</i> : Cloudy Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Clayton Bergado; Jenelyn Ilagan; Glenn Paul Ubaña (DCCD) <hr/> <i>Target STP</i> : None <i>Discharge Creek</i> : Kay Boboy Creek & San Dionisio River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captain</i> : Eusebio Japlos	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø450s, Ø1200 and Ø1050 RCP to San Dionisio River and 600H X 600W Box Culvert to Kay Boboy Creek <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes/garbage at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <hr/> <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <hr/> <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
15	PARAÑAQUE Brgy. San Isidro Brgy. Don Bosco	<i>Survey Date</i> : July 22, 2010 <i>Weather</i> : Cloudy Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez (DCCD) <hr/> <i>Target STP</i> : None <i>Discharge Creek</i> : San Dionisio River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Eusebio Japlos : Teodoro Virata Jr.	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : <hr/> <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes/garbage at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <hr/> <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <hr/> <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
15	LAS PIÑAS Brgy. Talon Cuatro Brgy. Talon Dos	<i>Survey Date</i> : July 22, 2010 <i>Weather</i> : Cloudy <i>Recorder(s)</i> : Clayton Bergado; Rizza Raymundo (DCCD) <hr/> <i>Target STP</i> : None <i>Discharge Creeks</i> : Zapote Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Ignacio B. Sangga : Ruben Y. Sanchez	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø375 - Ø1800 RCP <i>Material</i> : Reinforced Concrete <i>State:</i> : No visible abnormality	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 7 meters <i>No. of Lanes</i> : Two(2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <hr/> <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <hr/> <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
16	PARAÑAQUE Brgy. San Isidro Brgy. Don Bosco	<i>Survey Date</i> : July 23, 2010 <i>Weather</i> : Cloudy Day <i>Recorder(s)</i> : Hanji Yasuyama (OEC); Fzoe-Rauld Yambao; Haidee Hernandez Robert Baricaua (DCCD) <hr/> <i>Target STP</i> : None <i>Discharge Creek</i> : San Dionisio River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Eusebio Japlos : Teodoro Virata Jr.	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø900 RCP from Valentino Village to San Dionisio River <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes/garbage at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <hr/> <i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <hr/> <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
16	LAS PIÑAS Brgy. Talon Singko Brgy. Talon Uno	<i>Survey Date</i> : July 23, 2010 <i>Weather</i> : Partly Cloudy <i>Recorder(s)</i> : Clayton Bergado; Rizza Raymundo Robert Ajaban (DCCD) <hr/> <i>Target STP</i> : None <i>Discharge Creek</i> : Pasong Baka Creek, Kay Almirante Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : John-John A. Orcine : Nena I. Ramos	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø450 - Ø1050 RCP <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : No visible abnormality	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 7 meters <i>No. of Lanes</i> : Two(2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage <hr/> <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer & Open canal on some areas <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <hr/> <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)

SUMMARY OF TREATMENT DISTRICT BOUNDARY SURVEYS, OUTFALL SURVEYS, & DRAINAGE PIPE SURVEYS

DAY	SURVEY AREAS	SURVEY PREAMBLE	TREATMENT DISTRICT BOUNDARY SURVEY	OUTFALL SURVEY	DRAINAGE PIPE SURVEY	
17	PARAÑAQUE Brgy. San Antonio	<i>Survey Date</i> : July 26, 2010 <i>Weather</i> : Cloudy Day <i>Recorder(s)</i> : Haidee Hernandez; Fzoe-Rauld Yambao; Robert Baricaua (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : San Dionisio River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captain</i> : Leopoldo Casale	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø450s and Ø900s RCP from Matatdo Homes and no visible outfalls from Camella Homes and Levitown Subd. <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes and fallen trees at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Concrete Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : Drainage pipe are clogged in some areas causing ponding in street roads <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
17	LAS PIÑAS Brgy. Pilar Village	<i>Survey Date</i> : July 26, 2010 <i>Weather</i> : Sunny <i>Recorder(s)</i> : Clayton Bergado; Robert Ajaban (DCCD) <i>Target STP</i> : None <i>Discharge Creeks</i> : Talon Creek, Pasong Baka Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captain</i> : Leopoldo Casale	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø600 - Ø1350 RCP <i>Material</i> : Reinforced Concrete <i>State:</i> : Some outfalls are partially submerged	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 7 meters <i>No. of Lanes</i> : Two(2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : Some manholes are partially damaged <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
18	PARAÑAQUE Brgy. San Antonio Brgy. San Isidro Brgy. Marcelo Green	<i>Survey Date</i> : July 27, 2010 <i>Weather</i> : Cloudy Day <i>Recorder(s)</i> : Fzoe-Rauld Yambao; Haidee Hernandez (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : San Dionisio River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Leopoldo Casale Eusebio Japlos Michael L. San Miguel	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø1050 RCP from San Antonio Valley-1 <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes and fallen trees at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Concrete Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
19	LAS PIÑAS Brgy. Talon Uno Brgy. Almanza Uno Brgy. Almanza Dos	<i>Survey Date</i> : July 28, 2010 <i>Weather</i> : Partly Cloudy <i>Recorder(s)</i> : Clayton Bergado; Robert Ajaban (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : Pasong Baka Creek <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : Nena I. Ramos Rogelio M. Alejandro Vicente A. Alovera	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RCP (concrete) <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø375 - Ø1200 RCP <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Some outfalls are partially submerged	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 5 to 7 meters <i>No. of Lanes</i> : Two(2) lanes <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer & Open canal on some areas <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
19	PARAÑAQUE Brgy. BF Homes Manila Memorial Park	<i>Survey Date</i> : July 28, 2010 <i>Weather</i> : Sunny Day <i>Recorder(s)</i> : Fzoe-Rauld Yambao; Haidee Hernandez Robert Baricaua (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : San Dionisio River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captain</i> : Jeremy S. Marquez	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø450 and Ø300 RCPs from Universal Solid Homes and West Borough Homes <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes and fallen trees at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Concrete Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
20	PARAÑAQUE Brgy. San Antonio Brgy. BF Homes	<i>Survey Date</i> : July 29, 2010 <i>Weather</i> : Sunny Day <i>Recorder(s)</i> : Fzoe-Rauld Yambao; Haidee Hernandez (DCCD) <i>Target STP</i> : None <i>Discharge Creek</i> : San Dionisio River <i>Facility-List Basin</i> : Parañaque Catchment <i>Brgy. Captains</i> : Leopoldo Casale Jeremy S. Marquez	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed (RC Pipe) <i>Dimensions</i> : Ø600 and Ø375 RCPs from BF Homes and Menlo Park <i>Material(s)</i> : Reinforced Concrete <i>State:</i> : Visible wastes at outfalls	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : 6.0m <i>No. of Lanes</i> : Two (2) Lanes <i>Pavement</i> : Asphalt Pavement <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed combined drainage and sewer <i>Dimensions</i> : Varies <i>Material(s)</i> : RC Pipe <i>State</i> : No visible abnormalities <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)
21	LAS PIÑAS Del Pilar Subdivision Executive Subdivision	<i>Survey Date</i> : August 11, 2010 <i>Weather</i> : Fine (Cloudy) <i>Recorder(s)</i> : Clayton Bergado; Fzoe-Rauld Yambao (DCCD) <i>Target STP</i> : None <i>Discharge Creeks</i> : Talon Creek, etc. <i>Facility-List Basin</i> : Las Piñas Catchment <i>Brgy. Captains</i> : n/a	<i>Road Survey</i> : (Refer to Catchment Area Map) <i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Varies (not accessible) <i>Material(s)</i> : RC Pipe <i>State:</i> : No visible abnormalities	<i>Outfall Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer <i>Dimensions</i> : Ø1500 RCP <i>Material</i> : Reinforced Concrete <i>State:</i> : No visible abnormality	<i>Road Survey (roads linked to outfalls)</i> <i>Road Width</i> : Approx. 8 to 10 meters <i>No. of Lanes</i> : Two(2) <i>Pavement</i> : Concrete paved <i>Traffic Controls</i> : Possible <i>Owner</i> : n/a <i>Elec. Power Supply</i> : Low Voltage	<i>Drainage Channel Survey</i> <i>Shape</i> : Closed Sewer & Open canal on some areas <i>Dimensions</i> : (for survey) <i>Material(s)</i> : RCP (Concrete) <i>State</i> : No visible abnormality <i>Drainage Pipe Completion Drawing Collection</i> : (No available drawings)

Facilities for Sewage Collection System (Case.1)

Item	Specification	Unit	Quantity	Note	
Gravity Flow Pipe	ABS \varnothing 150	m	35,670.00		
	ABS \varnothing 200	m	23,470.00		
	ABS \varnothing 250	m	19,700.00		
	ABS \varnothing 300	m	17,450.00		
	ABS \varnothing 350	m	6,120.00		
	ABS \varnothing 400	m	7,660.00		
	ABS \varnothing 450	m	7,820.00		
	ABS \varnothing 500	m	9,600.00		
	ABS \varnothing 600	m	9,750.00		
	ABS \varnothing 700	m	19,210.00		
	ABS \varnothing 800	m	5,610.00		
	ABS \varnothing 900	m	4,250.00		
	ABS \varnothing 1000	m	1,130.00		
	ABS \varnothing 1100	m	5,990.00		
	ABS \varnothing 1200	m	950.00		
	ABS \varnothing 1350	m	1,500.00		
	ABS \varnothing 1500	m	1,730.00		
		Total	m	177,610.00	
Conversion Manhole	\varnothing 700	pcs	371		
	\varnothing 1000	pcs	174		
	Total	pcs	545		
Pump Station	Pump Station	\varnothing 400x14.7m ³ /minx10.0mx37kw 6units	pcs	1	
		\varnothing 200x4.8m ³ /minx10.0mx15kw 5units	pcs	1	
		\varnothing 250x8.6m ³ /minx10.0mx22kw 5units	pcs	1	
		\varnothing 400x18.5m ³ /minx10.0mx45kw 8units	pcs	1	
		\varnothing 200x5.5m ³ /minx10.0mx15kw 4pcs	pcs	1	
		\varnothing 250x7.8m ³ /minx10.0mx22kw 5pcs	pcs	1	
		\varnothing 400x18.3m ³ /minx10.0mx45kw 7pcs	pcs	1	
	Total	pcs	7		
	Force Main	ABS \varnothing 600	m	800	
		ABS \varnothing 800	m	1250	
Total		m	2050		
Manhole Pump Station	Pump Station	1.5kw x 2units	pcs	4	
		2.2kw x 2units	pcs	3	
		3.7kw x 2units	pcs	20	
		5.5kw x 2units	pcs	22	
		7.5kw x 2units	pcs	13	
		11.0kw x 2units	pcs	7	
		15.0kw x 2units	pcs	3	
		22.0kw x 2units	pcs	1	
	Total	pcs	73		
	Force Main	ABS \varnothing 75	m	3,040	
		ABS \varnothing 100	m	1,430	
		ABS \varnothing 150	m	5,450	
		ABS \varnothing 200	m	3,350	
		ABS \varnothing 250	m	2,260	
		ABS \varnothing 300	m	1,950	
		ABS \varnothing 350	m	1,580	
		ABS \varnothing 400	m	800	
		ABS \varnothing 450	m	130	
		ABS \varnothing 500	m	800	
Total		m	20,790		
Discharge Pipe	ABS \varnothing 1350	m	100		
	Total	m	100		

Facilities for Sewage Collection System (Case.2)

Item		Specification		Unit	Quantity	Note	
Gravity Flow Pipe		ABS	φ 150	m	35,670.00		
		ABS	φ 200	m	23,470.00		
		ABS	φ 250	m	19,700.00		
		ABS	φ 300	m	17,450.00		
		ABS	φ 350	m	6,120.00		
		ABS	φ 400	m	7,660.00		
		ABS	φ 450	m	7,820.00		
		ABS	φ 500	m	9,600.00		
		ABS	φ 600	m	9,750.00		
		ABS	φ 700	m	19,210.00		
		ABS	φ 800	m	5,610.00		
		ABS	φ 900	m	1,350.00		
		ABS	φ 1000	m	2,380.00		
		ABS	φ 1100	m	7,820.00		
		ABS	φ 1200	m	2,920.00		
		ABS	φ 1350	m	-		
	ABS	φ 1500	m	-			
		Total		m	176,530.00		
Conversion Manhole			φ 700	pcs	371		
			φ 1000	pcs	174		
			Total	pcs	545		
Pump Station	Pump Station	φ400x14.7m ³ /minx10.0mx37kw 6units		pcs	1		
		φ200x4.8m ³ /minx10.0mx15kw 5units		pcs	1		
		φ250x8.6m ³ /minx10.0mx22kw 5units		pcs	1		
		φ400x16.8m ³ /minx10.0mx45kw 7units		pcs	1		
		φ200x5.5m ³ /minx10.0mx15kw 4pcs		pcs	1		
		φ250x7.8m ³ /minx10.0mx22kw 5pcs		pcs	1		
		φ400x14.4m ³ /minx10.0mx37kw 7pcs		pcs	1		
		Total	pcs	7			
	Force Main		ABS	φ 600	m	800	
			ABS	φ 800	m	-	
		Total		m	800		
Manhole Pump Station	Pump Station	1.5kw x 2units		pcs	4		
		2.2kw x 2units		pcs	3		
		3.7kw x 2units		pcs	20		
		5.5kw x 2units		pcs	22		
		7.5kw x 2units		pcs	13		
		11.0kw x 2units		pcs	7		
		15.0kw x 2units		pcs	3		
		22.0kw x 2units		pcs	1		
			Total	pcs	73		
	Force Main		ABS	φ 75	m	3,040	
			ABS	φ 100	m	1,430	
			ABS	φ 150	m	5,450	
			ABS	φ 200	m	3,350	
			ABS	φ 250	m	2,260	
			ABS	φ 300	m	1,950	
			ABS	φ 350	m	1,580	
			ABS	φ 400	m	800	
			ABS	φ 450	m	130	
			ABS	φ 500	m	800	
	Total			20,790			
Discharge Pipe			φ 1100	m	100		
			φ 900	m	100		
			Total	m	200		

Facilities for Sewage Collection System (Case.4)

Item		Specification	Unit	Quantity	Note
Gravity Flow Pipe		ABS \varnothing 150	m	35,670.00	
		ABS \varnothing 200	m	23,470.00	
		ABS \varnothing 250	m	19,700.00	
		ABS \varnothing 300	m	17,450.00	
		ABS \varnothing 350	m	6,120.00	
		ABS \varnothing 400	m	7,660.00	
		ABS \varnothing 450	m	7,820.00	
		ABS \varnothing 500	m	9,600.00	
		ABS \varnothing 600	m	9,750.00	
		ABS \varnothing 700	m	15,180.00	
		ABS \varnothing 800	m	5,860.00	
		ABS \varnothing 900	m	1,620.00	
		ABS \varnothing 1000	m	1,070.00	
		ABS \varnothing 1100	m	4,460.00	
		ABS \varnothing 1200	m	620.00	
		ABS \varnothing 1350	m	-	
		ABS \varnothing 1500	m	-	
	Total		m	166,050.00	
Conversion Manhole		\varnothing 700	pcs	371	
		\varnothing 1000	pcs	174	
		Total	pcs	545	
Pump Station	Pump Station	\varnothing 300x8.2m3/minx10.0mx22kw 6units	pcs	1	
		\varnothing 200x4.8m3/minx10.0mx15kw 5units	pcs	1	
		\varnothing 200x5.5m3/minx10.0mx15kw 4units	pcs	1	
		\varnothing 250x8.6m3/minx10.0mx22kw 5units	pcs	1	
		Total	pcs	4	
	Force Main	ABS \varnothing 600	m	800	
ABS \varnothing 800		m	-		
Total		m	800		
Manhole Pump Station	Pump Station	1.5kw x 2units	pcs	4	
		2.2kw x 2units	pcs	3	
		3.7kw x 2units	pcs	20	
		5.5kw x 2units	pcs	22	
		7.5kw x 2units	pcs	13	
		11.0kw x 2units	pcs	7	
		15.0kw x 2units	pcs	3	
		22.0kw x 2units	pcs	1	
		Total	pcs	73	
	Force Main	ABS \varnothing 75	m	3,040	
		ABS \varnothing 100	m	1,430	
		ABS \varnothing 150	m	5,450	
		ABS \varnothing 200	m	3,350	
		ABS \varnothing 250	m	2,260	
		ABS \varnothing 300	m	1,950	
		ABS \varnothing 350	m	1,580	
		ABS \varnothing 400	m	800	
		ABS \varnothing 450	m	130	
		ABS \varnothing 500	m	800	
Total	m	20,790			
Discharge Pipe		ABS \varnothing 800	m	100	
		ABS \varnothing 700	m	100	
		ABS \varnothing 400	m	100	
		ABS \varnothing 500	m	100	
		ABS \varnothing 800	m	100	
		Total	m	500	

Facilities for Sewage Collection System (Case.5)

Item	Specification	Unit	Quantity	Note	
Gravity Flow Pipe	ABS \varnothing 150	m	35,370.00		
	ABS \varnothing 200	m	22,660.00		
	ABS \varnothing 250	m	19,700.00		
	ABS \varnothing 300	m	16,790.00		
	ABS \varnothing 350	m	6,100.00		
	ABS \varnothing 400	m	8,310.00		
	ABS \varnothing 450	m	7,880.00		
	ABS \varnothing 500	m	10,650.00		
	ABS \varnothing 600	m	11,480.00		
	ABS \varnothing 700	m	17,660.00		
	ABS \varnothing 800	m	4,480.00		
	ABS \varnothing 900	m	2,100.00		
	ABS \varnothing 1000	m	2,590.00		
	ABS \varnothing 1100	m	1,170.00		
	ABS \varnothing 1200	m	-		
	ABS \varnothing 1350	m	-		
	ABS \varnothing 1500	m	-		
	Total	m	166,940.00		
Conversion Manhole	\varnothing 700	pcs	371		
	\varnothing 1000	pcs	174		
	Total	pcs	545		
Pump Station	Pump Station	\varnothing 200x5.5m ³ /minx10.0mx15kw 4units	pcs	1	
		\varnothing 200x4.8m ³ /minx10.0mx15kw 5units	pcs	1	
		\varnothing 200x5.6m ³ /minx10.0mx15kw 4units	pcs	1	
		Total	pcs	3	
	Force Main	ABS \varnothing 600	m	800	
		ABS \varnothing 800	m	-	
		Total	m	800	
Manhole Pump Station	Pump Station	1.5kw x 2units	pcs	4	
		2.2kw x 2units	pcs	3	
		3.7kw x 2units	pcs	20	
		5.5kw x 2units	pcs	22	
		7.5kw x 2units	pcs	12	
		11.0kw x 2units	pcs	7	
		15.0kw x 2units	pcs	4	
		22.0kw x 2units	pcs	1	
		Total	pcs	73	
	Force Main	ABS \varnothing 75	m	3,040	
		ABS \varnothing 100	m	1,430	
		ABS \varnothing 150	m	5,450	
		ABS \varnothing 200	m	3,350	
		ABS \varnothing 250	m	1,940	
		ABS \varnothing 300	m	1,950	
		ABS \varnothing 350	m	1,580	
		ABS \varnothing 400	m	800	
		ABS \varnothing 450	m	130	
		ABS \varnothing 500	m	800	
Total	m	20,470			
Discharge Pipe	ABS \varnothing 600	m	100		
	ABS \varnothing 800	m	100		
	ABS \varnothing 500	m	100		
	ABS \varnothing 500	m	100		
	ABS \varnothing 400	m	100		
	ABS \varnothing 500	m	100		
	ABS \varnothing 700	m	100		
Total	m	700			

Facilities for Sewage Collection System (Case.6)

Item		Specification		Unit	Quantity	Note	
Gravity Flow Pipe		ABS	φ 150	m	35,670.00		
		ABS	φ 200	m	23,470.00		
		ABS	φ 250	m	19,700.00		
		ABS	φ 300	m	17,450.00		
		ABS	φ 350	m	6,340.00		
		ABS	φ 400	m	7,660.00		
		ABS	φ 450	m	7,820.00		
		ABS	φ 500	m	9,600.00		
		ABS	φ 600	m	9,750.00		
		ABS	φ 700	m	15,740.00		
		ABS	φ 800	m	4,970.00		
		ABS	φ 900	m	1,350.00		
		ABS	φ 1000	m	780.00		
		ABS	φ 1100	m	4,460.00		
		ABS	φ 1200	m	620.00		
		ABS	φ 1350	m	-		
		ABS	φ 1500	m	-		
		Total		m	165,380.00		
Conversion Manhole				pcs	371		
				pcs	174		
				pcs	545		
Pump Station	Pump Station	φ200x4.8m3/minx10.0mx15kw 5units		pcs	1		
		φ200x5.5m3/minx10.0mx15kw 4units		pcs	1		
		φ250x8.6m3/minx10.0mx22kw 5units		pcs	1		
			Total		pcs	3	
Force Main	Force Main	ABS	φ 600	m	800		
		ABS	φ 800	m	-		
		Total		m	800		
Manhole Pump Station	Pump Station	1.5kw x 2units		pcs	4		
		2.2kw x 2units		pcs	3		
		3.7kw x 2units		pcs	20		
		5.5kw x 2units		pcs	22		
		7.5kw x 2units		pcs	13		
		11.0kw x 2units		pcs	7		
		15.0kw x 2units		pcs	4		
		22.0kw x 2units		pcs	1		
		Total		pcs	74		
	Force Main	Force Main	ABS	φ 75	m	3,040	
			ABS	φ 100	m	1,430	
			ABS	φ 150	m	5,450	
			ABS	φ 200	m	3,350	
			ABS	φ 250	m	2,260	
			ABS	φ 300	m	2,950	
			ABS	φ 350	m	1,580	
			ABS	φ 400	m	800	
			ABS	φ 450	m	130	
			ABS	φ 500	m	800	
	Total		m	21,790			
Discharge Pipe		ABS	φ 800	m	100		
		ABS	φ 600	m	100		
		ABS	φ 500	m	100		
		ABS	φ 400	m	100		
		ABS	φ 500	m	100		
		ABS	φ 800	m	100		
		Total		m	600		

Facilities for Sewage Collection System (Case.7)

Item		Specification			Unit	Quantity	Note	
Gravity Flow Pipe		ABS	φ	150	m	35,670.00		
		ABS	φ	200	m	23,470.00		
		ABS	φ	250	m	19,700.00		
		ABS	φ	300	m	17,450.00		
		ABS	φ	350	m	6,120.00		
		ABS	φ	400	m	7,660.00		
		ABS	φ	450	m	7,820.00		
		ABS	φ	500	m	9,600.00		
		ABS	φ	600	m	9,750.00		
		ABS	φ	700	m	15,180.00		
		ABS	φ	800	m	5,860.00		
		ABS	φ	900	m	1,620.00		
		ABS	φ	1000	m	1,070.00		
		ABS	φ	1100	m	4,460.00		
		ABS	φ	1200	m	620.00		
		ABS	φ	1350	m	-		
		ABS	φ	1500	m	-		
		Total			m	166,050.00		
Conversion Manhole								
		φ 700			pcs	371		
		φ 1000			pcs	174		
		Total			pcs	545		
Pump Station	Pump Station	φ300x8.2m3/minx10.0mx22kw 6units			pcs	1		
		φ200x4.8m3/minx10.0mx15kw 5units			pcs	1		
		φ200x5.5m3/minx10.0mx15kw 4units			pcs	1		
		φ250x8.6m3/minx10.0mx22kw 5units			pcs	1		
			Total			pcs	4	
	Force Main	ABS	φ	600	m	800		
		ABS	φ	800	m	-		
		Total			m	800		
Manhole Pump Station	Pump Station	1.5kw x 2units			pcs	4		
		2.2kw x 2units			pcs	3		
		3.7kw x 2units			pcs	20		
		5.5kw x 2units			pcs	22		
		7.5kw x 2units			pcs	13		
		11.0kw x 2units			pcs	7		
		15.0kw x 2units			pcs	3		
		22.0kw x 2units			pcs	1		
			Total			pcs	73	
		Force Main	ABS	φ	75	m	3,040	
			ABS	φ	100	m	1,430	
			ABS	φ	150	m	5,450	
			ABS	φ	200	m	3,350	
			ABS	φ	250	m	2,260	
			ABS	φ	300	m	1,950	
			ABS	φ	350	m	1,580	
			ABS	φ	400	m	800	
	ABS		φ	450	m	130		
	ABS	φ	500	m	800			
		Total			m	20,790		
Discharge Pipe								
				Total			m	500

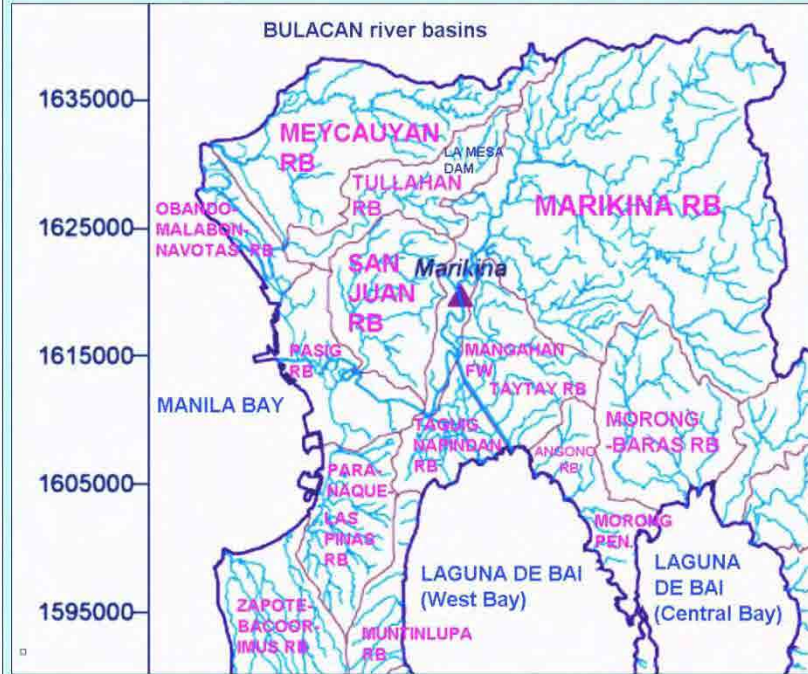
Facilities for Sewage Collection System (Case.8)

Item	Specification	Unit	Quantity	Note	
Gravity Flow Pipe	ABS ϕ 150	m	35,370.00		
	ABS ϕ 200	m	22,660.00		
	ABS ϕ 250	m	19,700.00		
	ABS ϕ 300	m	16,790.00		
	ABS ϕ 350	m	6,100.00		
	ABS ϕ 400	m	8,310.00		
	ABS ϕ 450	m	7,880.00		
	ABS ϕ 500	m	10,650.00		
	ABS ϕ 600	m	11,480.00		
	ABS ϕ 700	m	17,660.00		
	ABS ϕ 800	m	4,480.00		
	ABS ϕ 900	m	2,100.00		
	ABS ϕ 1000	m	2,590.00		
	ABS ϕ 1100	m	1,170.00		
	ABS ϕ 1200	m	-		
	ABS ϕ 1350	m	-		
	ABS ϕ 1500	m	-		
	Total	m	166,940.00		
Conversion Manhole	ϕ 700	pcs	371		
	ϕ 1000	pcs	174		
	Total	pcs	545		
Pump Station	Pump Station	ϕ 250x5.2m3/minx10.0mx15kw 5units	pcs	1	PS6
		ϕ 250x6.5m3/minx10.0mx22kw 5units	pcs	1	PS2
		ϕ 250x5.0m3/minx10.0mx15kw 5units	pcs	1	PS3
		Total	pcs	3	
Force Main	ABS ϕ 600	m	800		
	ABS ϕ 800	m	-		
	Total	m	800		
Manhole Pump Station	Pump Station	1.5kw x 2units	pcs	11	
		2.2kw x 2units	pcs	10	
		3.7kw x 2units	pcs	10	
		5.5kw x 2units	pcs	10	
		7.5kw x 2units	pcs	9	
		11.0kw x 2units	pcs	4	
		15.0kw x 2units	pcs	2	
		22.0kw x 2units	pcs	4	
		Total	pcs	60	
	Force Main	ABS ϕ 75	m	3,140	
		ABS ϕ 100	m	1,090	
		ABS ϕ 150	m	5,330	
		ABS ϕ 200	m	3,560	
		ABS ϕ 250	m	3,170	
		ABS ϕ 300	m	680	
		ABS ϕ 350	m	1,050	
		ABS ϕ 400	m	940	
ABS ϕ 450		m	710		
ABS ϕ 500		m	0		
	Total	m	19,670		
Discharge Pipe	ABS ϕ 600	m	100	L22	
	ABS ϕ 800	m	100	P11	
	ABS ϕ 500	m	100	P4	
	ABS ϕ 500	m	100	P2	
	ABS ϕ 400	m	100	P6	
	ABS ϕ 500	m	100	LA	
	ABS ϕ 700	m	100	LC	
	Total	m	700		

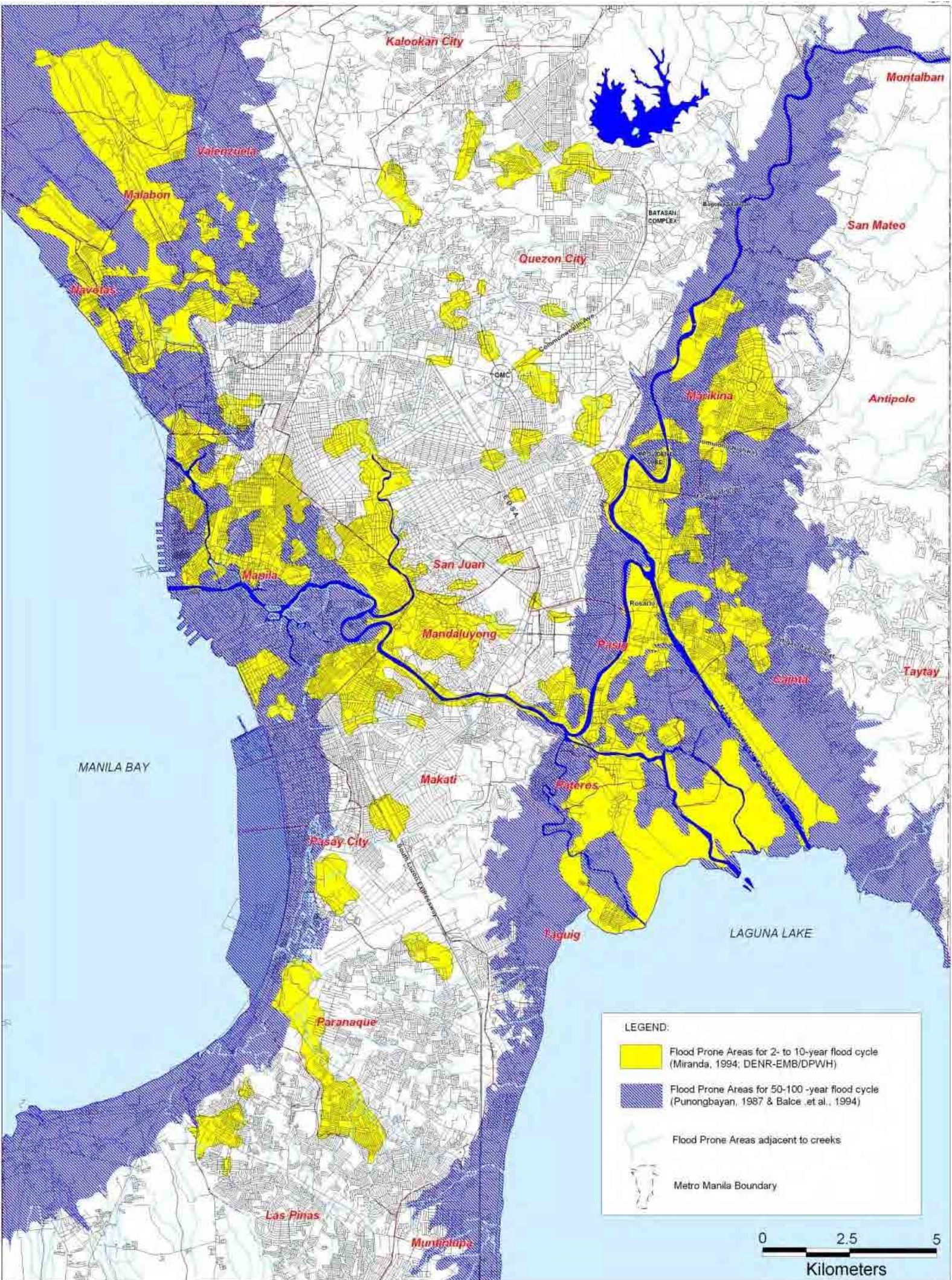
Metro-Manila Rivers:

River Basins	Drainage Area (sq.km.)
Marikina RB	535
Mangahan Floodway-Taytay RB	63
Taguig-Napindan RB	45
Meycauayan RB	169
Obando-Malabon-Navotas Estuary	35
La Mesa Dam/Reservoir-Tullahan RB	72
San Juan RB	94
Pasig RB (north and south)	91
Parañaque-Las-Piñas RBs	73
Zapote-Bacoor-Imus RBs	168


Source: NHRC, NAMRIA maps.





Locating the Metro Manila Basins.




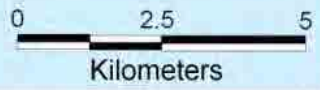
LEGEND:

 Flood Prone Areas for 2- to 10-year flood cycle (Miranda, 1994; DENR-EMB/DPWH)

 Flood Prone Areas for 50-100 -year flood cycle (Punongbayan, 1987 & Balce, et al., 1994)

 Flood Prone Areas adjacent to creeks

 Metro Manila Boundary





JICA Feasibility Project
Site Photographs of Garbage in Waterways

A. PARAÑAQUE CITY

P1. Sun Valley Creek, Brgy. Sun Valley



Site Day 8

Photo File: IMG_7521.jpg

P2. Almanza Creek crossing Nicanor Abelardo St., Brgy. BF Homes



Site Day 20

Photo File: P-0729-012.JPG

JICA Feasibility Project
Site Photographs of Garbage in Waterways

P3. Kay Boboy Creek between Tramo & C5 Road Extension, Brgy. San Dionisio



Site Day 12

Photo File: P-0719-009.jpg

JICA Feasibility Project
Site Photographs of Garbage in Waterways

B. LAS PIÑAS CITY

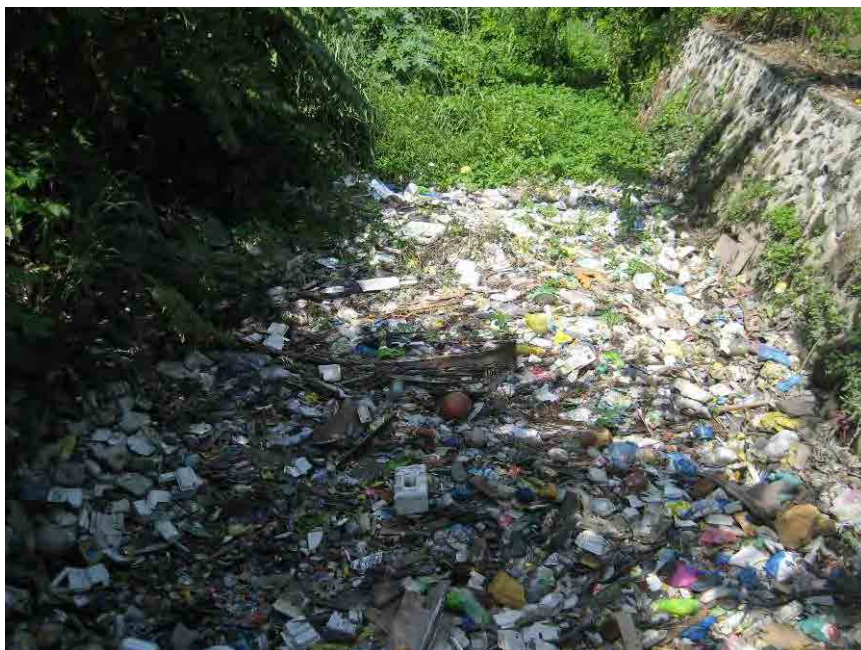
L1. Inside BF Executive Village at bridge along Executive Ave., Brgy. Almanza Uno



Site Day 21

Photo File: DSC01250.JPG

L2. Bridge along Colt Street at Canaynay Court, Brgy. Manuyo Dos



Site Day 5

Photo File: LP-0707-004.jpg

3.2 STP LAYOUT

Title	Page No. (AP-)
Figure 3.2-1 STP No (Pa+Pb2), SBR	305
Figure 3.2-2 STP No (Pa1+Lb1), OD	306
Figure 3.2-3 STP No (La1), SBR	307
Figure 3.2-4 STP No (Pc), OD	308
Figure 3.2-5 STP No (La2+Lb2), OD	309
Figure 3.2-6 STP No (Pb1), OD	310
Figure 3.2-7 STP No (Pd), OD	311

Figure 3.2-1 P2+Pb2 (P-11) SBR (Q= 77,028m³/d)



Figure 3.2-2 Pa2+Lb1 (L-22) OD (Q= 38,910m³/d)

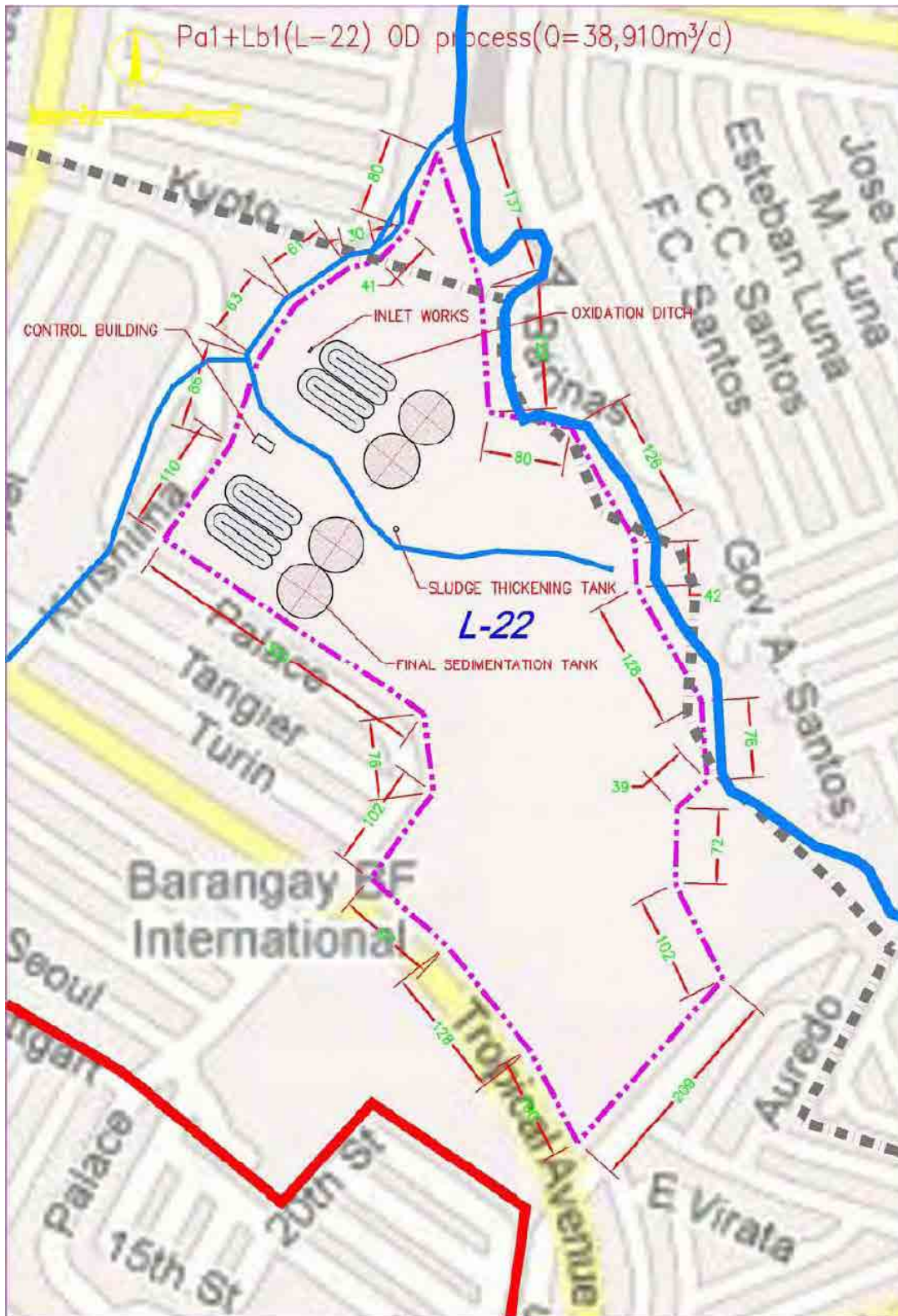


Figure 3.2-3 La1 (L-A) SBR (Q= 30,851m³/d)

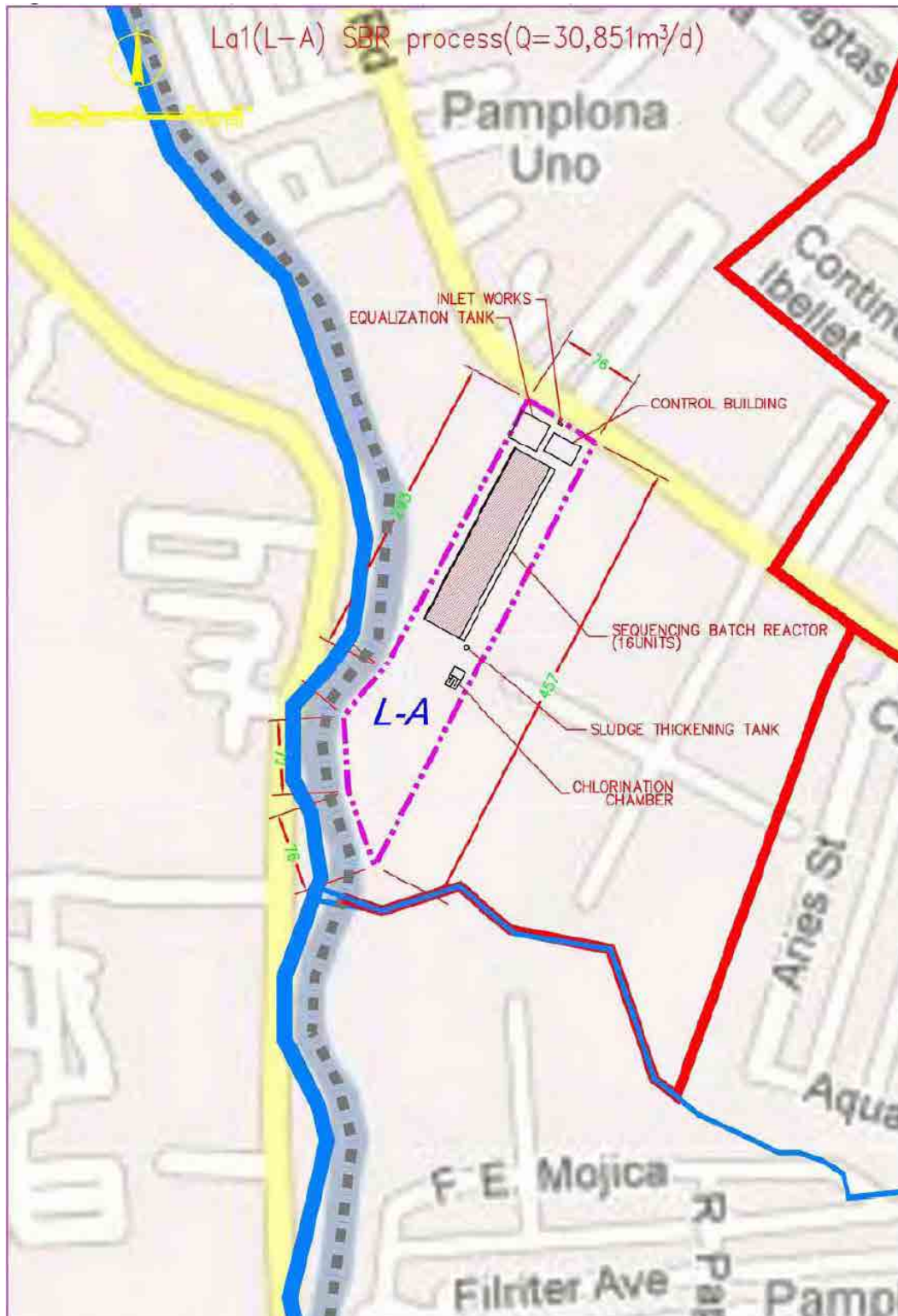


Figure 3.2-4 Pc (P-2) OD (Q= 24,799m³/d)



Figure 3.2-5 La2+Lb2 (L-C) OD (Q= 51,934m³/d)

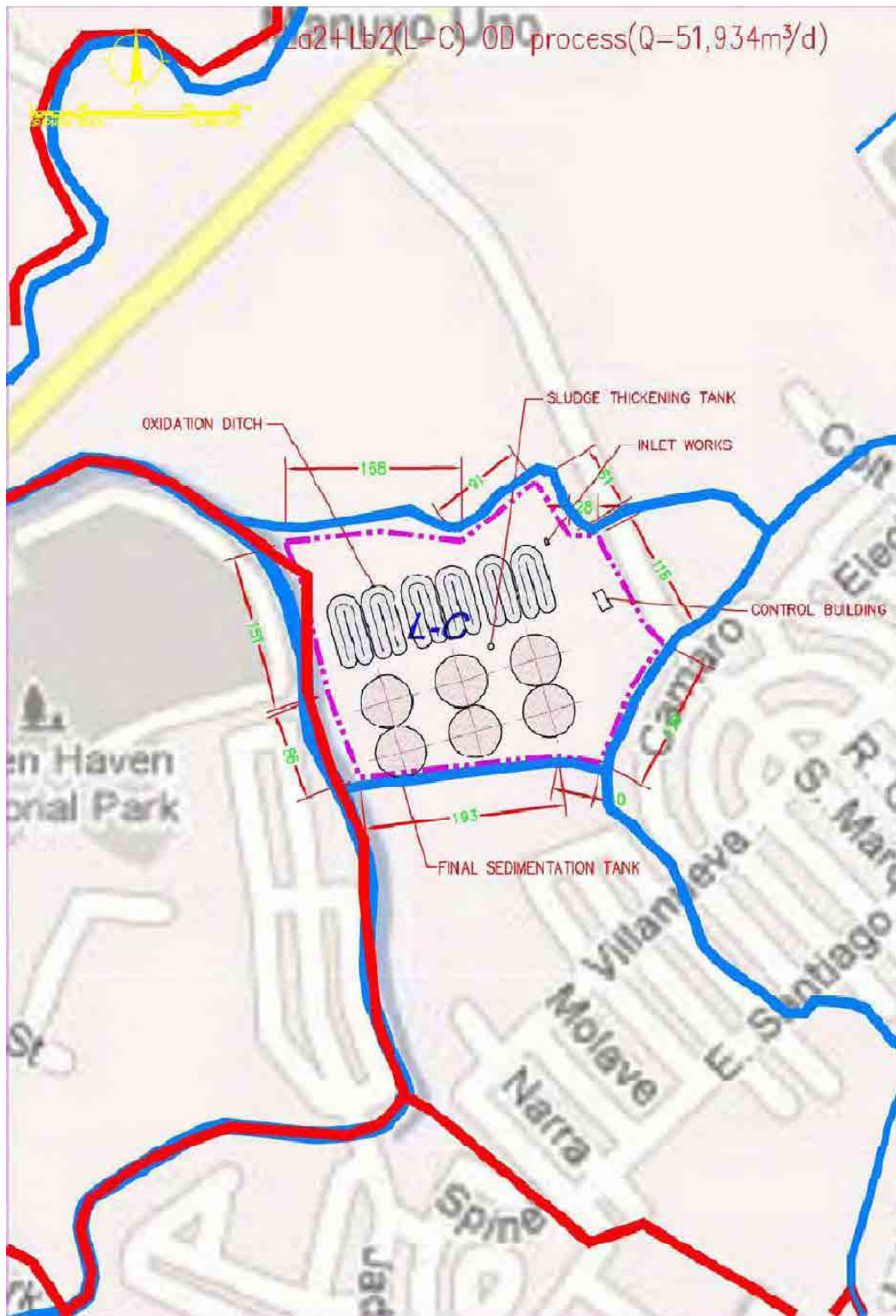


Figure 3.2-6 Pb1+Pb2 (P-4) OD (Q= 28,845m³/d)



Figure 3.2-7 Pa+Pe (P-6) OD (Q= 13,968m³/d)



3.3 OUTLINES OF FACILITIES

Section	Title	Page No. (AP-)
3.3.1	Conversion Manholes, Manhole Pumps and Pumping Station	313
3.3.2	Electrical Equipment	318

3.3.1 Conversion Manholes, Manhole Pumps and Pumping Station

Section	Title	Page No. (AP-)
Figure 3-3-1(1)	Conversion Manhole	314
Figure 3-3-1(2)	Conversion Manhole	315
Figure3-3-2	Manhole Pump	316
Figure3-3-3	Pump Station(Q=5.0, 6.5, 5.2m ³ /min×5unit)	317

Figure 3-3-1(1) Conversion Manhole(Type1)

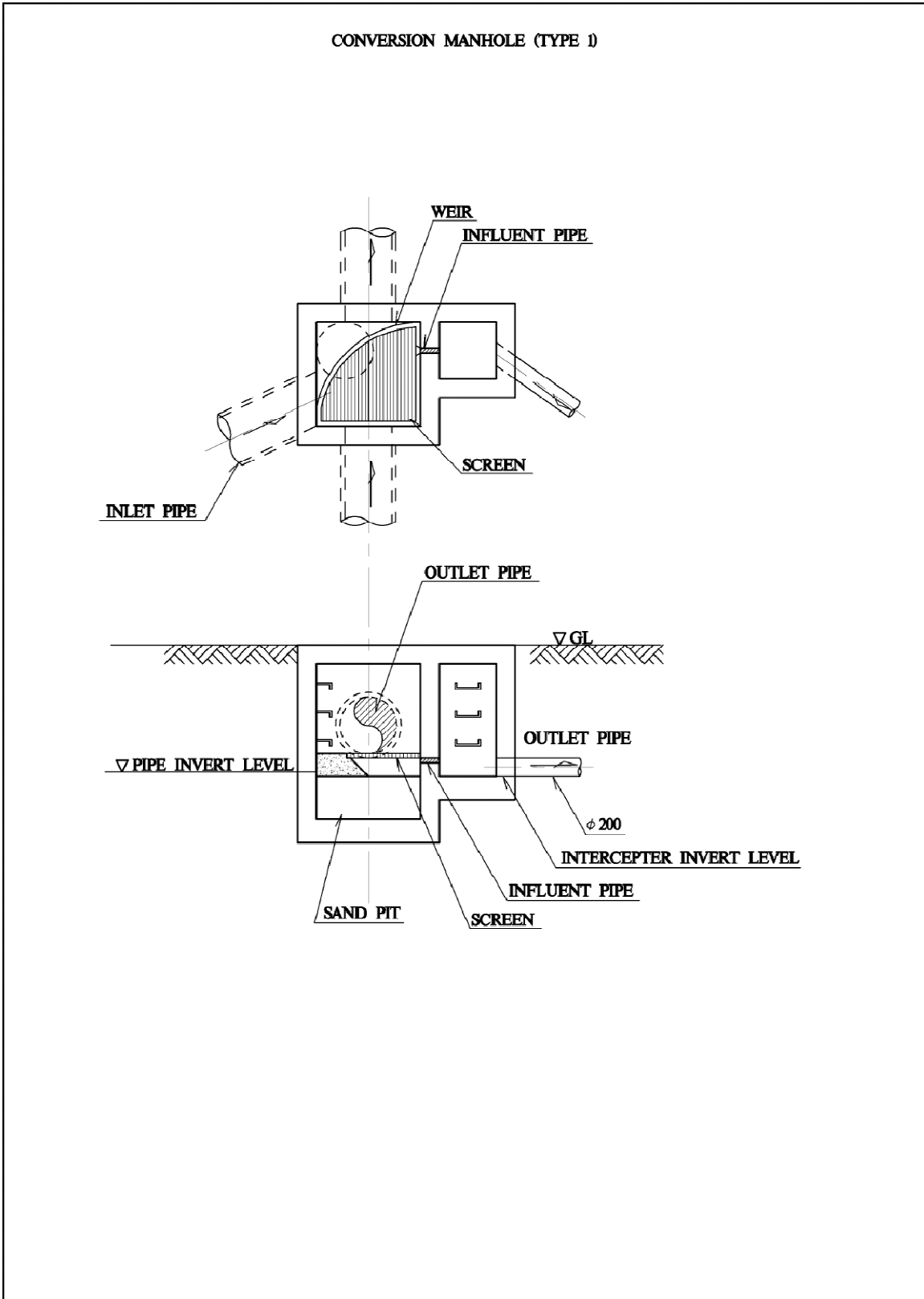


Figure 3-3-1(2) Conversion Manhole(Type2)

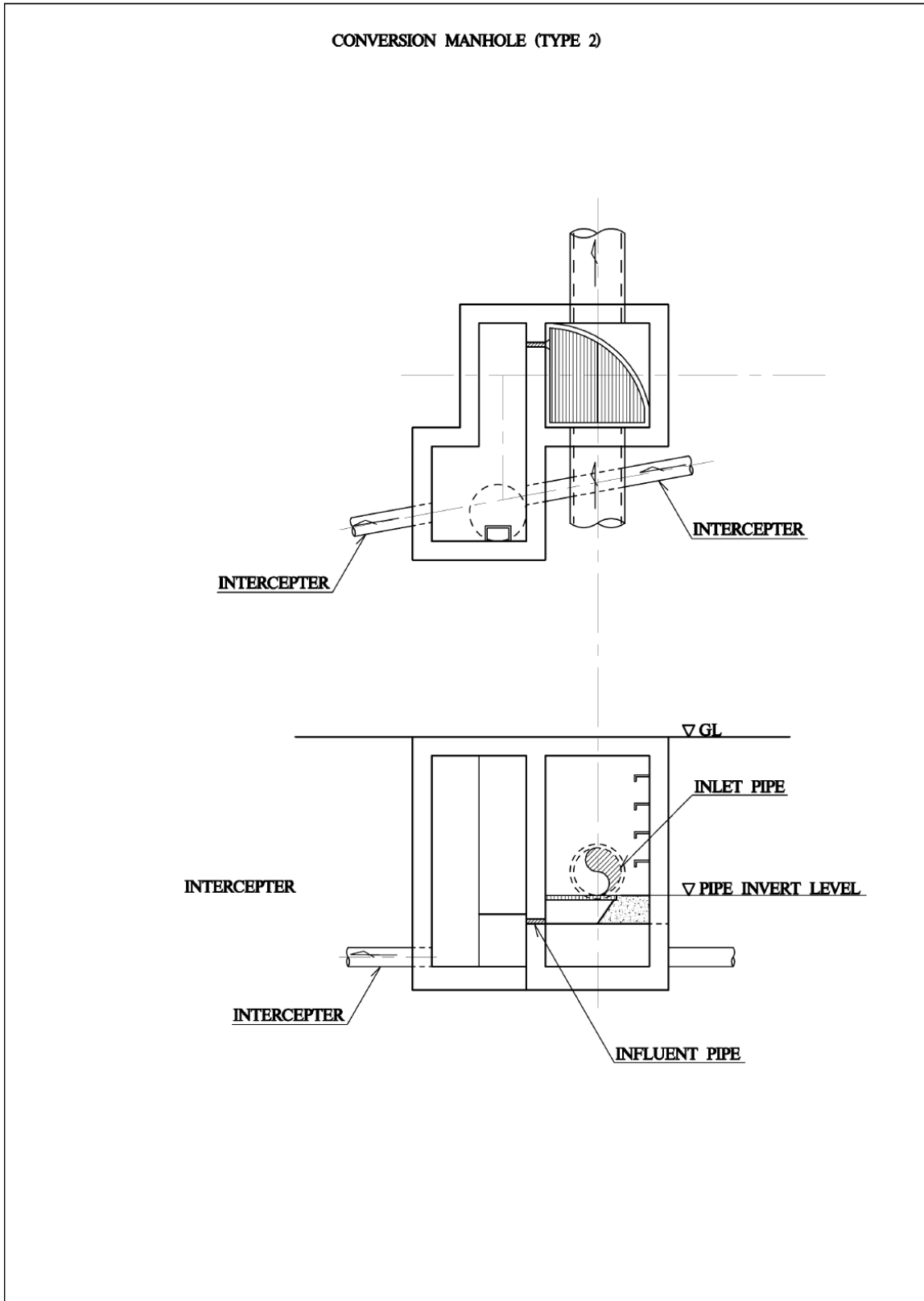


Figure 3-3-2 Manhole Pump

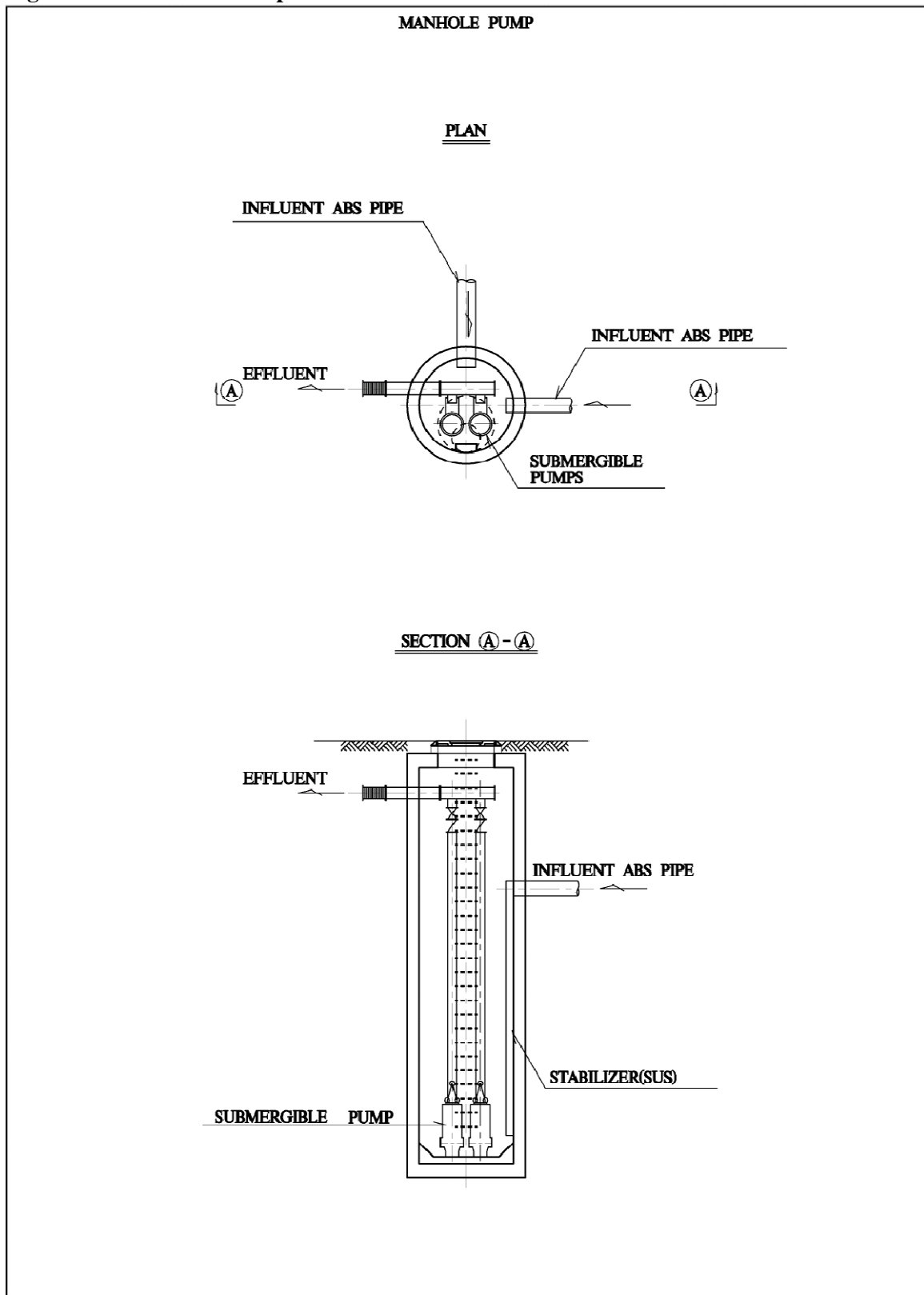
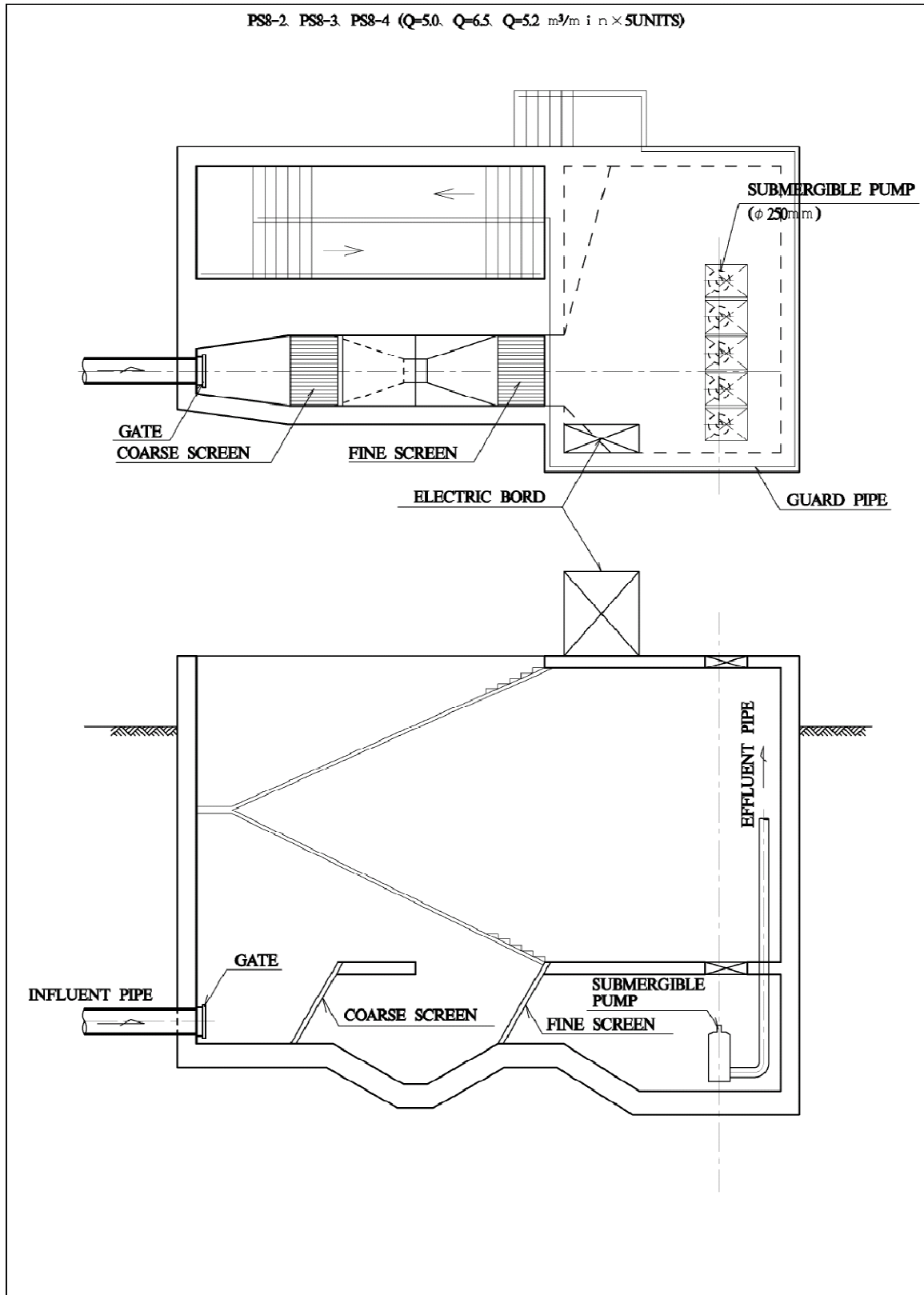


Figure 3-3-3 Pump Stations, PS8-2, PS8-3, PS8-4 (Q=5.0, Q=6.5, Q=5.2 m³/min × 5 UNITS)



3.3.2 Electrical Equipment

Section	Title	Page No. (AP-)
(A)	Pump Station(Q=5.0, 6.5, 5.2m ³ /min×5unit)	319
(B)	Manhole Pumps	327

(A) Sewerage Treatment Plant, Pumping Stations

1. Electric Power Demand

Plants	Plant Name	Site Location	Electric Power (KW)		
			Single Line	Receiving Voltage	Power Demand
Sewage Treatment Plants (STP)	Pa1 + Lb1	L-22	R-Fig. 3	3φ3W 34.5KV 60HZ	700
	Pa2 + Pb2	P-11	R-Fig. 4	3φ3W 34.5KV 60HZ	2,000
	Pb1	P-4	R-Fig. 2	3φ3W 34.5KV 60HZ	520
	Pc	P-4	R-Fig. 1	3φ3W 230V 60HZ	450
	Pd + Pe	P-2	R-Fig. 1	3φ3W 230V 60HZ	260
	La1	P-6	R-Fig. 3	3φ3W 34.5KV 60HZ	810
	La2 + Lb2	Lc	R-Fig. 5	3φ3W 34.5KV 60HZ	1,750
Pump Stations (PS)	PS8-3	PS-3	P-Fig. 1	3φ3W 230V 60HZ	45
	PS8-1	PS-2	P-Fig. 1	3φ3W 230V 60HZ	60
	PS8-2	PS-6	P-Fig. 1	3φ3W 230V 60HZ	45

Receiving Voltage

Receiving voltage of 230V might be allowed upto the demand power of 1,000kW as MERARCO service standards, however, 34kV should be selected as the receiving voltage for more than power demand over 500kw in order to avoid huge size of cables or facilities with 230v incoming voltage.

2. Out Line and Single Line Diagram

Sewage Treatment Plants

STP		Electric Power (KW)	Single Line Diagram	Dimension (mm)				Connection of Incoming and Indoor Board	
Plant Name	Location			Switchboard in Electric Room					
				H	W	D	Outline		
Pal + Lb1	L-22	700	Fig.3	1800	3600	400	Fig.7	Fig.11	Fig.9
Pa2 + Pb2	P-11	2000	Fig.4	1800	6000	400	Fig.8	Fig.12	Fig.9
Pb1	P-4	520	Fig.2	1800	2400	400	Fig.6	Fig.10	Fig.9
Pc	P-4	450	Fig.1	1800	2400	400	Fig.6	----	Fig.9
Pd + Pe	P-2	260	Fig.1	1800	2400	400	Fig.6	----	Fig.9
La1	P-6	810	Fig.3	1800	3600	400	Fig.7	Fig.11	Fig.9
La2 + Lb2	Lc	1750	Fig.5	1800	6000	400	Fig.8	Fig.12	Fig.9

Pumping Stations

STP		Electric Power (KW)	Single Line Diagram	Dimension (mm)			
Plant Name	Location			Electric Box Outdoor Type)			
				H	W	D	Outline
PS8-3	PS-3	700	Fig.13	1800	1300	400	Fig.13
PS8-1	PS-2	2000	Fig.13	1800	1300	400	Fig.13
PS8-2	PS-6	520	Fig.13	1800	1300	400	Fig.13

Organization Chart of Power Control System

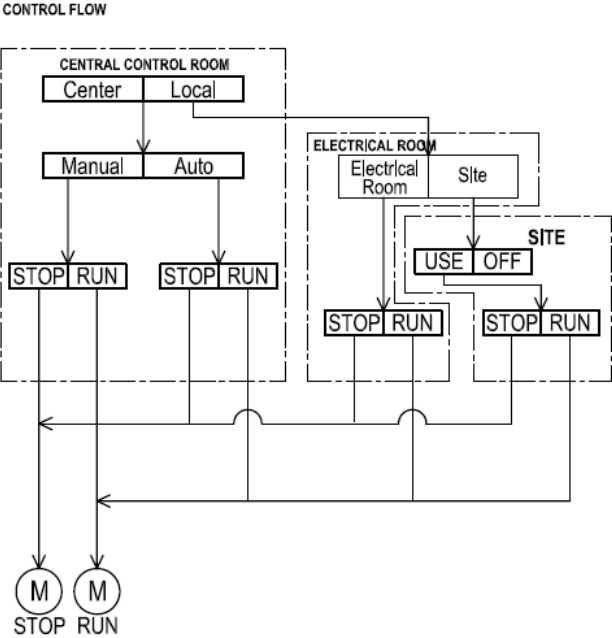
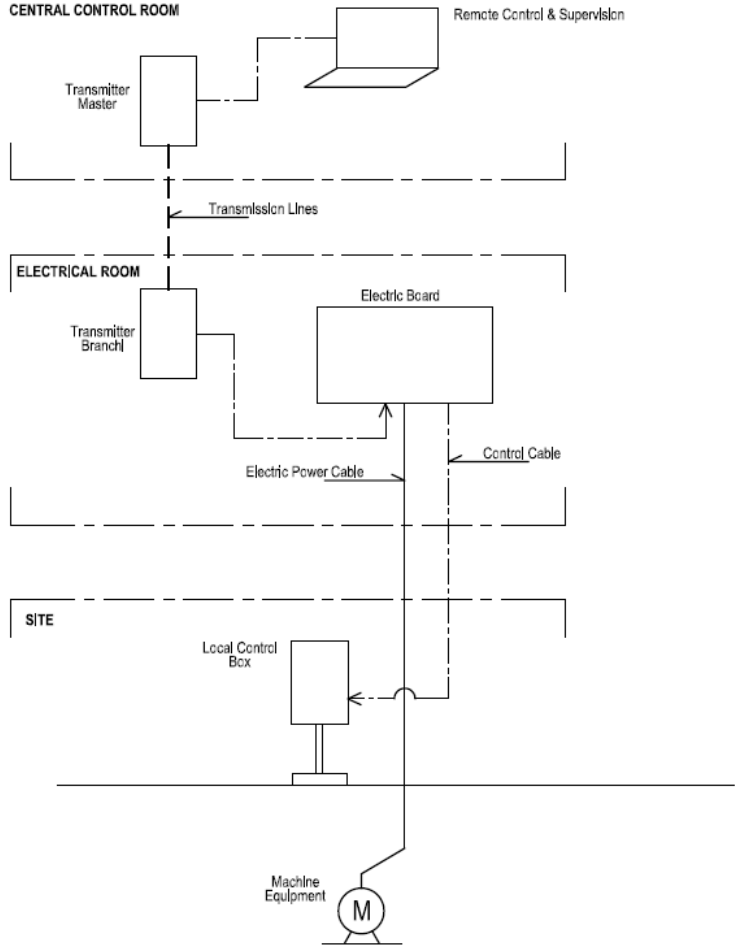


Figure 1 to 3 Single Line Diagram

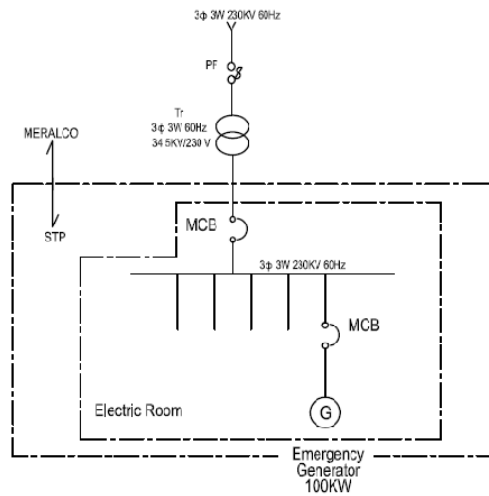


FIGURE 1

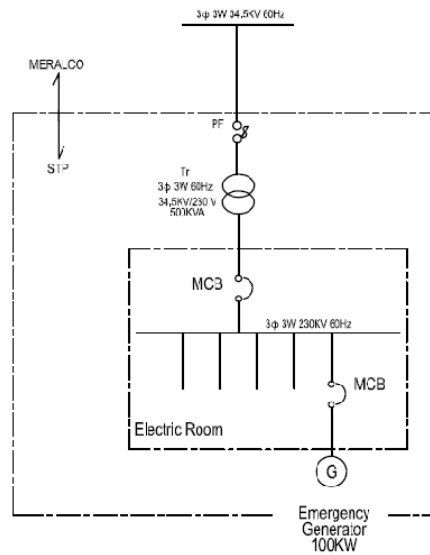


FIGURE 2

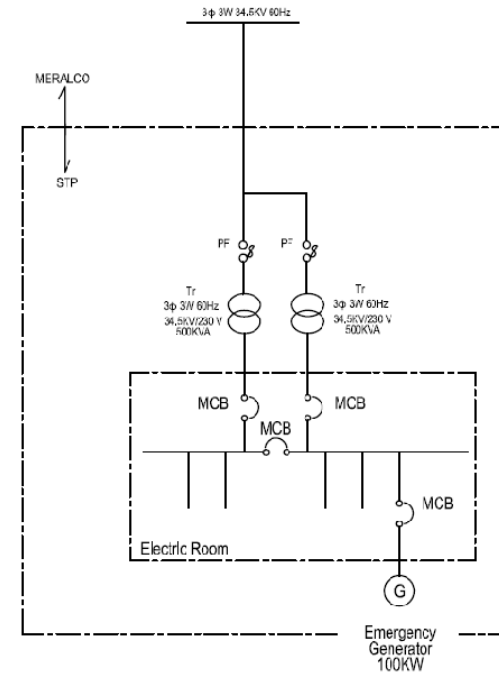


FIGURE 3

Figure 4 and 5

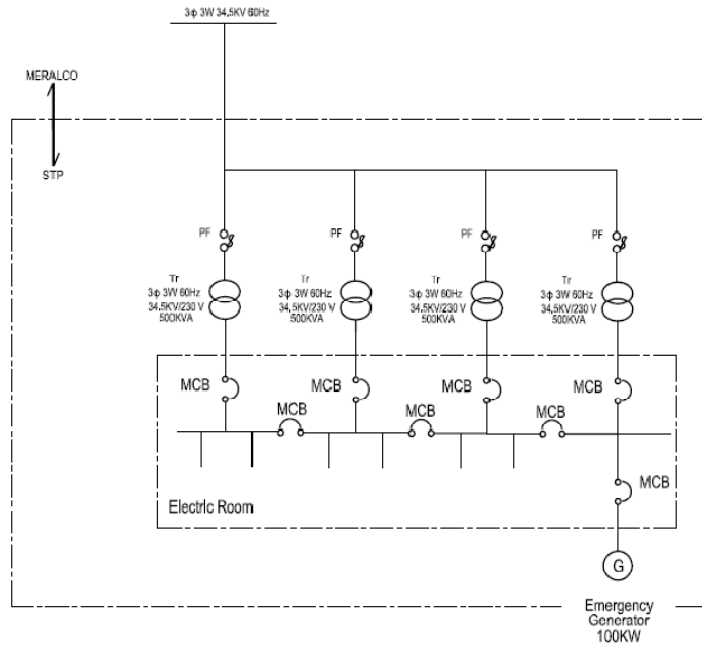


FIGURE 4

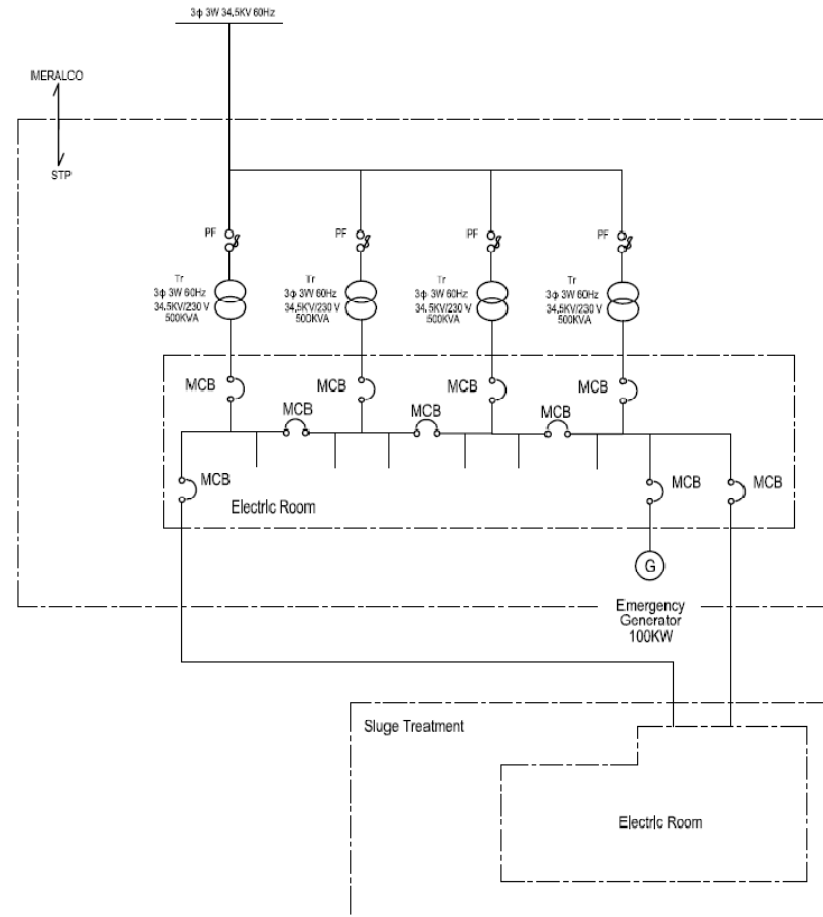


FIGURE 5

Figure 6 to 8

SWITCHBOARD IN STP

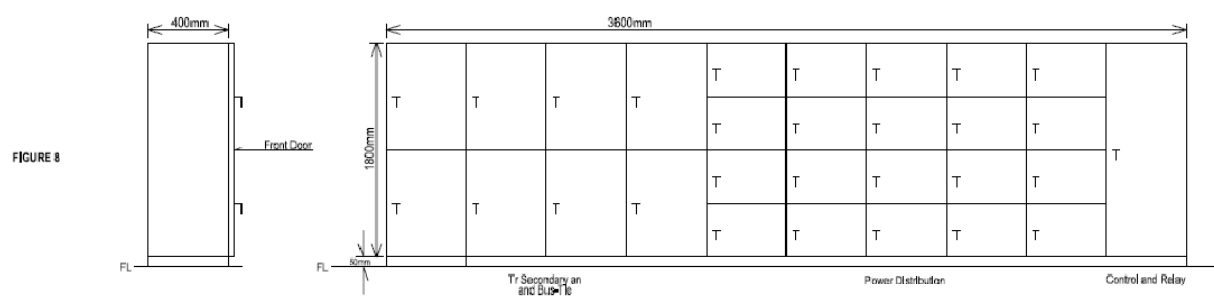
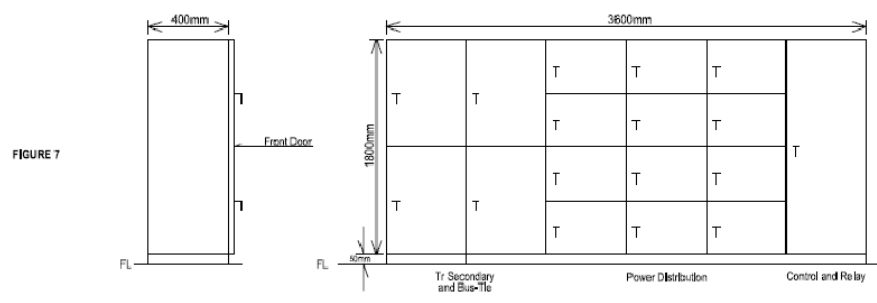
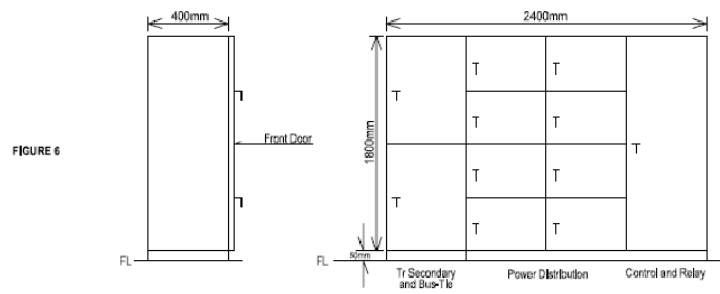


Figure 9 Connection of Incoming and Indoor Electric Board (Low tension)

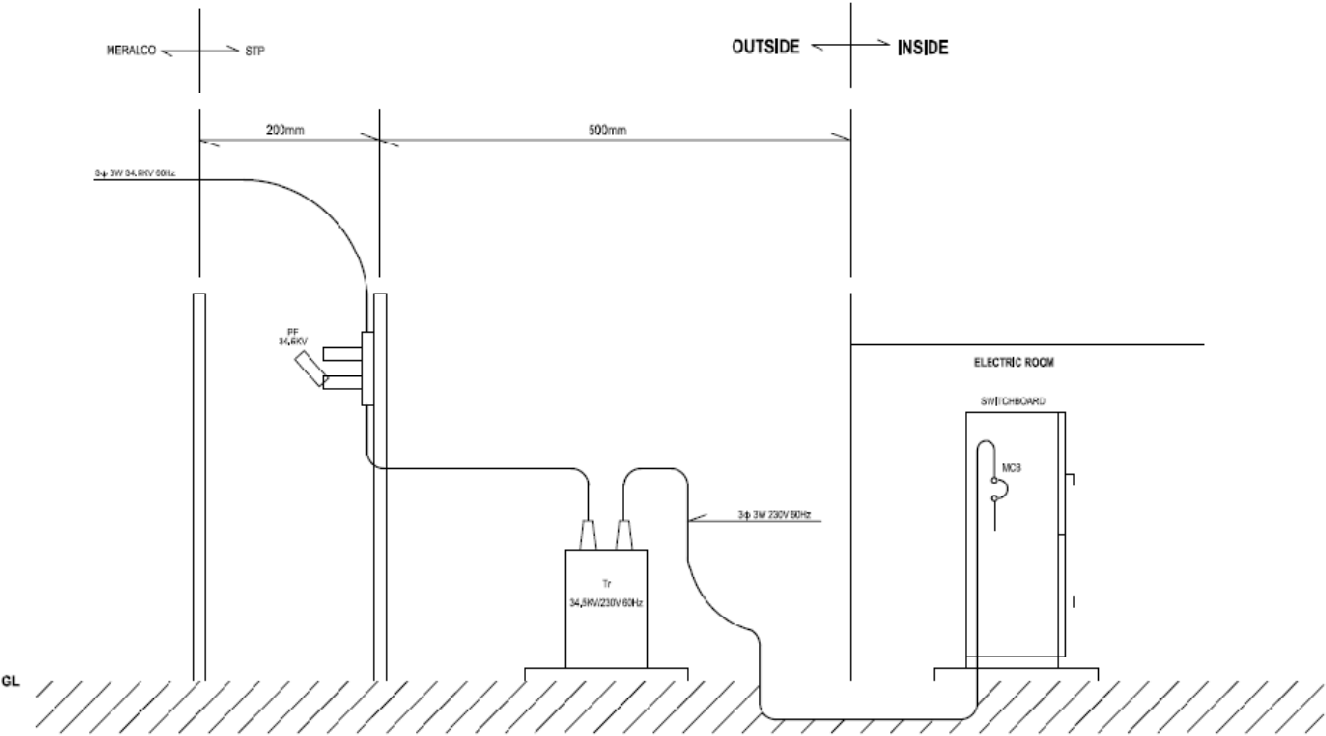


FIGURE 9

SIDE VIEW FOR STP

Figure 10 to 12

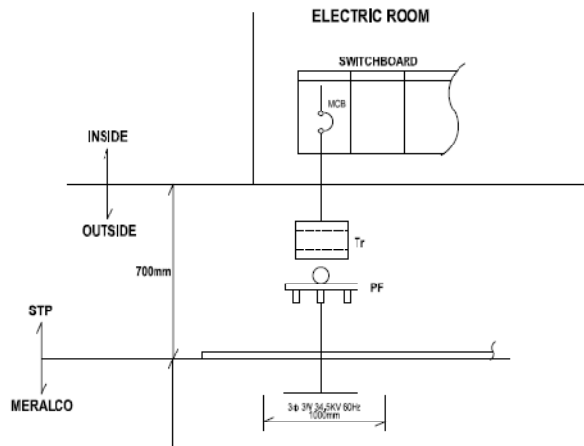


FIGURE 10

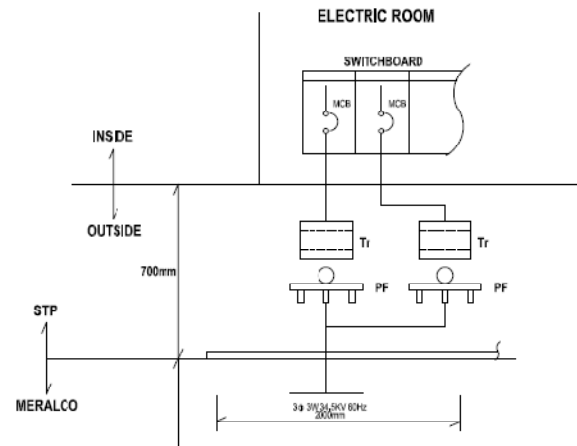


FIGURE 11

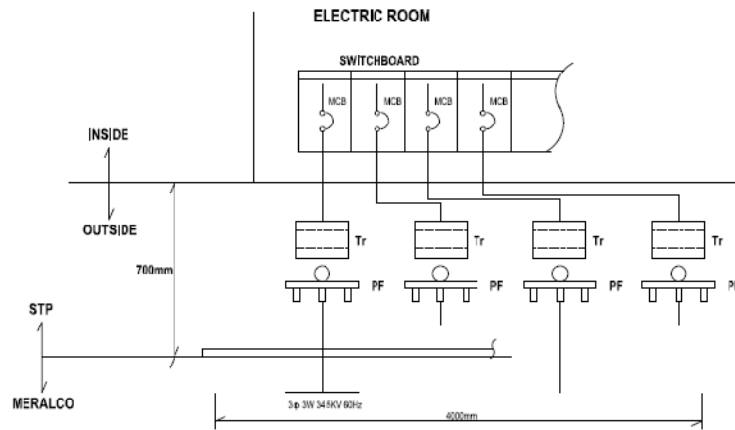


FIGURE 12

PLANE VIEW FOR STP

Figure 13 Pumping Station

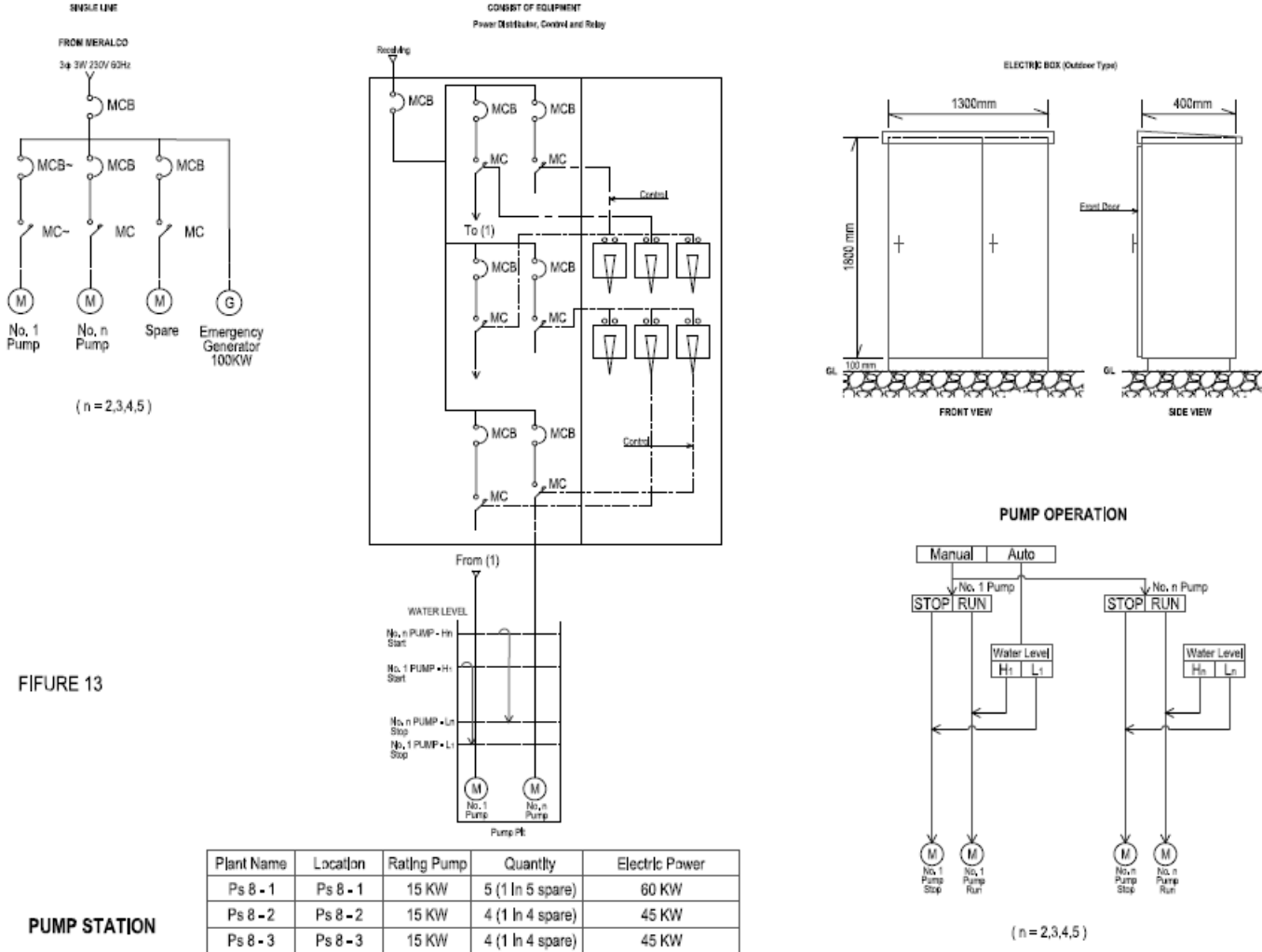


FIGURE 13

PUMP STATION

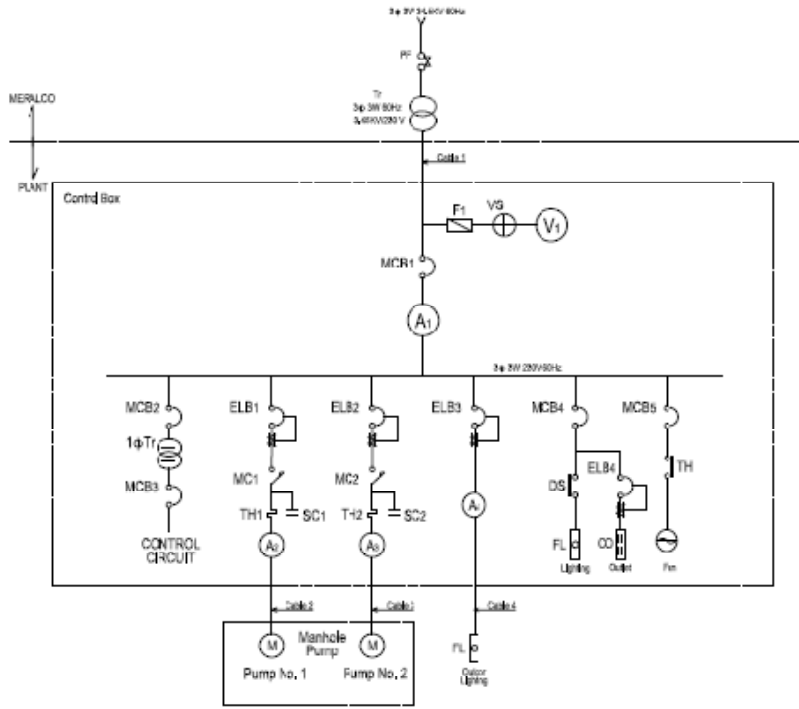
(B) Manhole Pumps

Electrical Components	1.5	2.2	3.7	5.5	7.5	11	15	22
Pump Rating (KW)	1.5	2.2	3.7	5.5	7.5	11	15	22
Single Line	Fig.1	Fig.1	Fig.1	Fig.1	Fig.1	Fig.2	Fig.2	Fig.3
Control Box	Fig.4 Type 1	Fig.4 Type 1	Fig.4 Type 1	Fig.4 Type 1	Fig.4 Type 1		Fig.4 Type 1	Fig.4 Type 2
Site	4 Places	3 Places	20 Places	22 Places	12 Places	7 Places	4 Places	1 Places
Components								
1.MCB 1	3P 230V 50AF	3P 230V 50AF	3P 230V 50AF	3P 230V 50AF	3P 230V 50AF	3P 230V 75AF	3P 230V 75AF	3P 230V 100AF
2.MCB 2	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF
3.MCB 3	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF
4.MCB 4	2P 230V 30AF	2P 230V 30AF	2P 230V 30AF	2P 230V 30AF	2P 230V 30AF	2P 230V 30AF	2P 230V 30AF	2P 230V 30AF
5.MCB 5	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF	2P 230V 10AF
6.ELB 1	3P 230V 30AF	3P 230V 30AF	3P 230V 30AF	3P 230V 50AF	3P 230V 50AF	3P 230V 50AF	3P 230V 100AF	3P 230V 100AF
7.ELB 2	3P 230V 30AF	3P 230V 30AF	3P 230V 30AF	3P 230V 50AF	3P 230V 50AF	3P 230V 50AF	3P 230V 100AF	3P 230V 100AF
8.ELB 3	2P230V 10AF	2P230V 10AF	2P230V 10AF	2P230V 10AF	2P230V 10AF	2P230V 10AF	2P230V 10AF	2P230V 10AF
9.ELB 4	2P230V 30AF	2P230V 30AF	2P230V 30AF	2P230V 30AF	2P230V 30AF	2P230V 30AF	2P230V 30AF	2P230V 30AF
10.MC 1	3P230V 10A	3P230V 30A	3P230V 30A	3P230V 50A	3P230V 50A	3P230V 50A	3P230V 100A	3P230V 100A
11.MC 2	3P230V 10A	3P230V 30A	3P230V 30A	3P230V 50A	3P230V 50A	3P230V 50A	3P230V 100A	3P230V 100A
12.MC 3	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	3P230V 50A
13.MC 4	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	3P230V 50A
14.MC 5	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	3P230V 30A
15.MC 6	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	3P230V 50A
16.MC 7	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	3P230V 50A
17.MC 8	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	3P230V 30A
18.CT 1	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	1P 600V 100/5A x 2	1P 600V 150/5A x 2
19.CT 2	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	1P 600V 50/5A	1P 600V 75/5A
20.CT 3	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	1P 600V 50/5A	1P 600V 75/5A
21.SC 1	3P230V 30μF	3P230V 40μF	3P230V 50μF	3P230V 75μF	3P230V 100μF	3P230V 150μF	3P230V 200μF	3P230V 300μF
22.SC 2	3P230V 30μF	3P230V 40μF	3P230V 50μF	3P230V 75μF	3P230V 100μF	3P230V 150μF	3P230V 200μF	3P230V 300μF
23.TH 1	3P230V 5-8A	3P230V 7-11A	3P230V 12-18A	3P230V 18-26A	3P230V 18-26A	3P230V 30-50A	3P230V 45-65A	3P230V 65-95A
24.TH 2	3P230V 5-8A	3P230V 7-11A	3P230V 12-18A	3P230V 18-26A	3P230V 18-26A	3P230V 30-50A	3P230V 45-65A	3P230V 65-95A
25.A 1	0-15A	0-30A	0-50A	0-50A	0-50A	0-100A	0-100A	0-150A
26.A 2	0-10-30A	0-15-45A	0-15-45A	0-30-90A	0-30-90A	0-50-150A	0-75-225A	0-150-450A
27.A 3	0-10-30A	0-15-45A	0-15-45A	0-30-90A	0-30-90A	0-50-150A	0-75-225A	0-150-450A
28.A 4	0-3A	0-3A	0-3A	0-3A	0-3A	0-3A	0-3A	0-3A
29.V 1	0-300V	0-300V	0-300V	0-300V	0-300V	0-300V	0-300V	0-300V
30.VS1	3Phase	3Phase	3Phase	3Phase	3Phase	3Phase	3Phase	3Phase
31.AS1	Nothing	Nothing	Nothing	Nothing	Nothing	3Phase	3Phase	3Phase
32.Tr	1P 230V/110V 1KVA	1P 230V/110V 1KVA	1P 230V/110V 1KVA	1P 230V/110V 1KVA	1P 230V/110V 1KVA	1P 230V/110V 1KVA	1P 230V/110V 1KVA	1P 230V/110V 1KVA
33.F 1	1P 600V 3A	1P 600V 3A	1P 600V 3A	1P 600V 3A	1P 600V 3A	1P 600V 3A	1P 600V 3A	1P 600V 3A
34.Th	40-65°C	40-65°C	40-65°C	40-65°C	40-65°C	40-65°C	40-65°C	40-65°C
35.Dr	600V 1A	600V 1A	600V 1A	600V 1A	600V 1A	600V 1A	600V 1A	600V 1A
36.FL	230V 20W	230V 20W	230V 20W	230V 20W	230V 20W	230V 20W	230V 20W	230V 20W
37.Outlet	2P 600V 15A	2P 600V 15A	2P 600V 15A	2P 600V 15A	2P 600V 15A	2P 600V 15A	2P 600V 15A	2P 600V 15A
38.Fan	1Phase 600V 100W	1Phase 600V 100W	1Phase 600V 100W	1Phase 600V 100W	1Phase 600V 100W	1Phase 600V 100W	1Phase 600V 100W	1Phase 600V 100W
39.Cable 1	3C-14Sq 30m	3C-14Sq 30m	3C-14Sq 30m	3C-14Sq 30m	3C-14Sq 30m	3C-22Sq 30m	3C-22Sq 30m	3C-22Sq 30m
40.Cable 2	3C-5.5Sq 20m	3C-5.5Sq 20m	3C-14Sq 20m	3C-14Sq 20m	3C-14Sq 20m	3C-22Sq 20m	3C-22Sq 20m	3C-22Sq 20m x 2
41.Cable 3	3C-5.5Sq 20m	3C-5.5Sq 20m	3C-14Sq 20m	3C-14Sq 20m	3C-14Sq 20m	3C-22Sq 20m	3C-22Sq 20m	3C-22Sq 20m x 2
42.Cable 4	2C-5.5Sq 10m	2C-5.5Sq 10m	2C-5.5Sq 10m	2C-5.5Sq 10m	2C-5.5Sq 10m	2C-5.5Sq 10m	2C-5.5Sq 10m	2C-5.5Sq 10m

Figure 1 Single Line Diagram (Manhole Pump)

LEGEND

	Molded Circuit Breaker
	Earth Leakage Breaker
	Magnet Contactor
	Thermal Relay
	Static Capacitor
	Transformer
	Ammeter
	Voltmeter
	Volt Change Switch
	Ampere Change Switch
	Fuse
	Fluorescent Lamp
	Condensate Outlet
	Fan
	Door Switch
	Thermal Detect



**SINGLE LINE DIAGRAM
FIGURE 1**

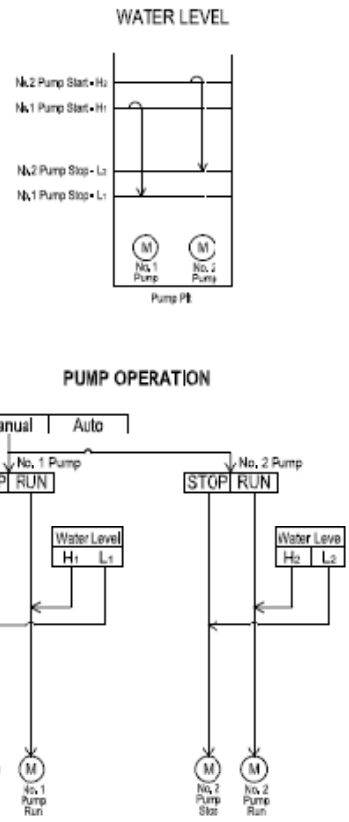
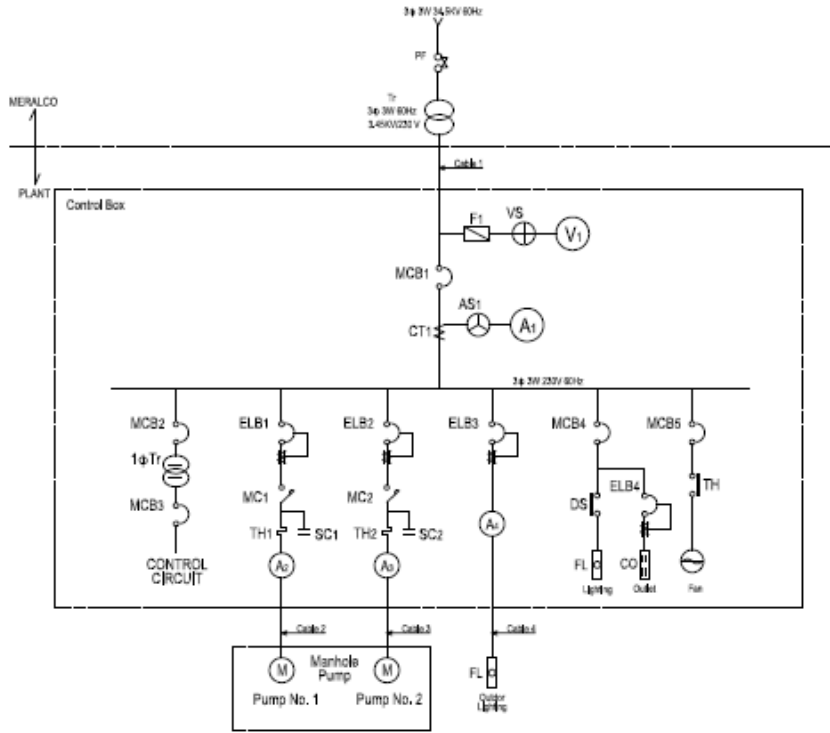


Figure 2 Single Line Diagram (Manhole Pump)

LEGEND:

	Molded Circuit Breaker
	Earth Leakage Breaker
	Magnet Contactor
	Thermal Relay
	Static Capacitor
	Transformer
	Ammeter
	Voltmeter
	Volt Change Switch
	Ampere Change Switch
	Fuse
	Fluorescent Lamp
	Convenience Outlet
	Fan
	Door Switch
	Thermal Detect



SINGLE LINE DIAGRAM
FIGURE 2

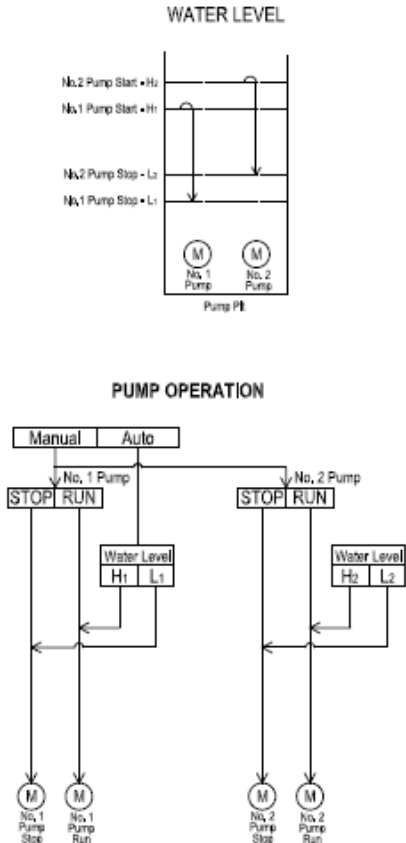
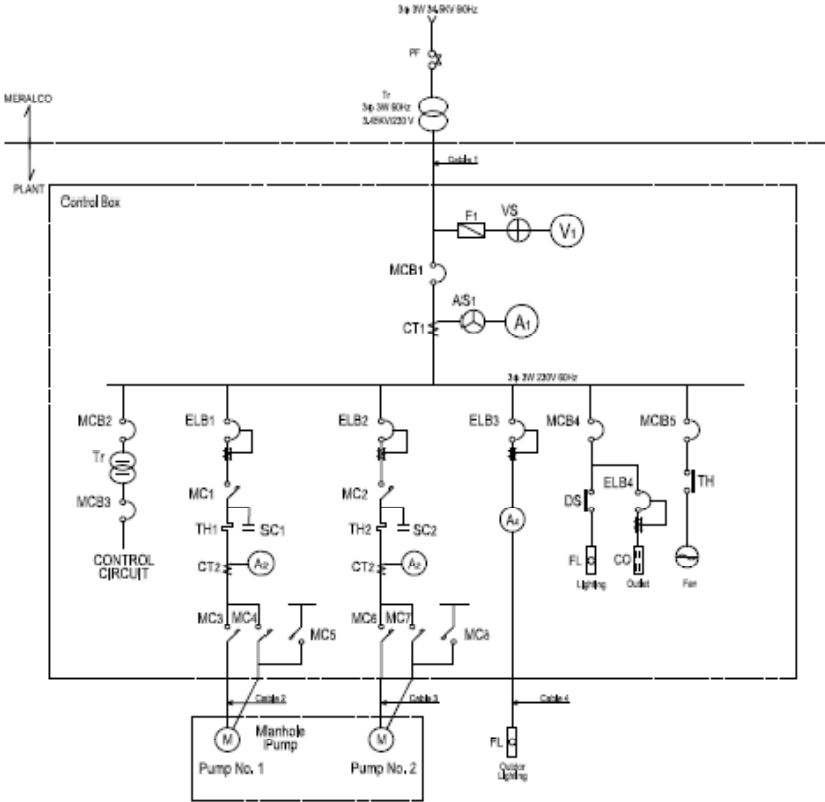


Figure 3 Single Line Diagram (Manhole Pump)

LEGEND:

MCB	Molded Circuit Breaker
ELB	Earth Leakage Breaker
MC	Magnet Contactor
TR	Thermal Relay
SC	Static Capacitor
Tr	Transformer
A	Ammeter
V	Voltmeter
VS	Volt Change Switch
AS	Ampere Change Switch
F	Fuse
FL	Fluorescent Lamp
CO	Convenience Outlet
F	Fan
DS	Door Switch
TH	Thermal Detect



SINGLE LINE DIAGRAM
FIGURE 3

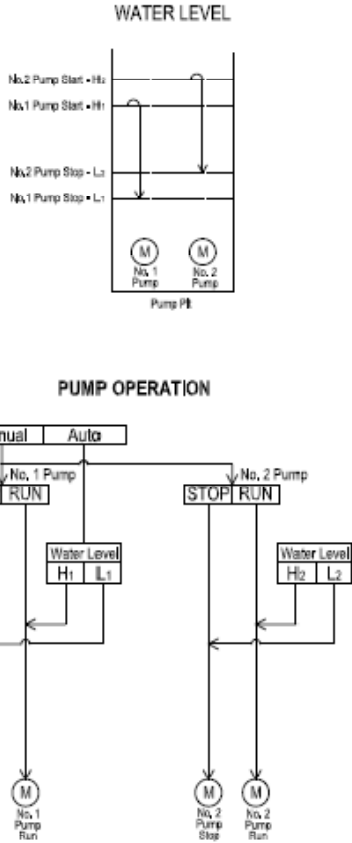
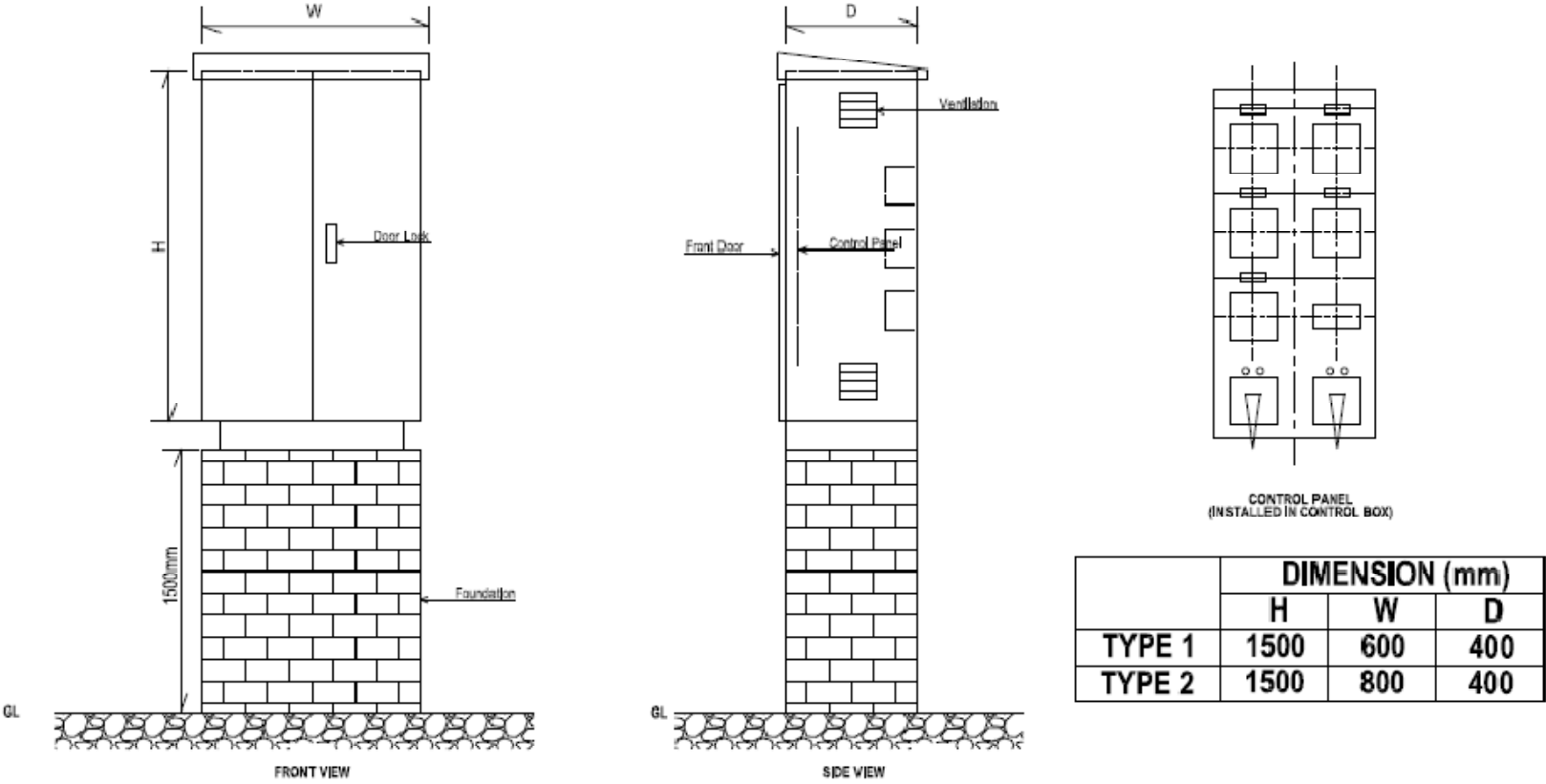


Figure 4 Control Box (Manhole Pump)



CONTROL BOX
FIGURE 4

4. CALCULATION SHEETS

Title	Page No. (AP-)
Case 1 Sewer Length	333
Case 1 Interceptor Pipe Specification	334
Case 2 Sewer Length	354
Case 2 Interceptor Pipe Specification	355
Case 4 & 7 Sewer Length	374
Case 4 & 7 Interceptor Pipe Specification	375
Case 5 & 8 Sewer Length	392
Case 5 & 8 Interceptor Pipe Specification	393
Case 6 Sewer Length	413
Case 6 Interceptor Pipe Specification	414
Manhole Pump Station	432
Flow Rate	434
Design Parameters Pa1 +Lb1	440
Design Parameters Pa2 +Lb2	447
Design Parameters Pb1 +Pb2	461
Design Parameters Pc +PP1	468
Design Parameters Pd +Pe	474
Design Parameters La1	477
Design Parameters La2 + Lb2	483
Facilities List for Each Catchment Area	495

Total length table for Case 1

Gravity Flow

Diameter	ALL (m)	Pa (m)	Pb (m)	Pc (m)	Pd (m)	La1 (m)	La2 (m)	Lb (m)	Total
150	0.00	11,190.00	6,410.00	2,120.00	1,010.00	6,590.00	400.00	7,950.00	35,670.00
200	0.00	12,410.00	3,070.00	1,790.00	250.00	1,210.00	100.00	4,640.00	23,470.00
250	0.00	5,830.00	3,870.00	1,470.00	380.00	3,010.00	450.00	4,690.00	19,700.00
300	0.00	6,760.00	3,530.00	930.00	0.00	1,070.00	1,000.00	4,160.00	17,450.00
350	0.00	2,880.00	1,130.00	300.00	0.00	0.00	200.00	1,610.00	6,120.00
400	0.00	1,990.00	310.00	1,300.00	0.00	1,500.00	0.00	2,560.00	7,660.00
450	0.00	3,230.00	0.00	1,200.00	0.00	1,390.00	100.00	1,900.00	7,820.00
500	0.00	3,090.00	3,950.00	870.00	100.00	100.00	100.00	1,390.00	9,600.00
600	0.00	2,630.00	1,400.00	1,540.00	0.00	3,030.00	700.00	450.00	9,750.00
700	3,470.00	2,850.00	1,520.00	1,420.00	3,430.00	3,700.00	0.00	2,820.00	19,210.00
800	0.00	1,540.00	2,360.00	0.00	0.00	0.00	0.00	1,710.00	5,610.00
900	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	1,350.00	4,250.00
1000	0.00	100.00	0.00	0.00	0.00	0.00	0.00	1,030.00	1,130.00
1100	1,680.00	2,660.00						1,650.00	5,990.00
1200	530.00	420.00						0.00	950.00
1350	1,500.00								1,500.00
1500	1,730.00								1,730.00
1650									0.00
1800									0.00
Total	11,810.00	57,580.00	27,550.00	12,940.00	5,170.00	21,600.00	3,050.00	37,910.00	177,610.00

Force main Flow

Diameter	ALL (m)	Pa (m)	Pb (m)	Pc (m)	Pd (m)	La1 (m)	La2 (m)	Lb (m)	Total
75	0.00	560.00	0.00	0.00	0.00	810.00	0.00	1,670.00	3,040.00
100	0.00	440.00	0.00	0.00	0.00	840.00	0.00	150.00	1,430.00
150	0.00	3,140.00	0.00	0.00	0.00	300.00	0.00	2,010.00	5,450.00
200	0.00	1,850.00	0.00	0.00	0.00	250.00	0.00	1,250.00	3,350.00
250	0.00	1,380.00	330.00	0.00	0.00	450.00	0.00	100.00	2,260.00
300	0.00	210.00	0.00	50.00	0.00	190.00	0.00	1,500.00	1,950.00
350	0.00	1,580.00	0.00	0.00	0.00	0.00	0.00	0.00	1,580.00
400	0.00	220.00	0.00	0.00	0.00	430.00	0.00	150.00	800.00
450	0.00	0.00	70.00	60.00	0.00	0.00	0.00	0.00	130.00
500	0.00	0.00	0.00	0.00	0.00	650.00	0.00	150.00	800.00
600	0.00	0.00	0.00	0.00	0.00	800.00	0.00	0.00	800.00
700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800	1,250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,250.00
900	0.00	0.00						0.00	0.00
1000	0.00	0.00						0.00	0.00
1100	0.00								0.00
1200	0.00								0.00
Total	1,250.00	9,380.00	400.00	110.00	0.00	4,720.00	0.00	6,980.00	22,840.00

Gravity + Force main = 200,450.00

Interceptor Pipes Calculator

Case No. 1
ALL

Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
		For each (P)	umulative to (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
Pd		92,435	92,435	0.1926	0.3466	1		700	1,990.00				
Pc		137,627	137,627	0.2867	0.5161	1		700	1,480.00				PS1-7
Pb		188,755	188,755	0.3932	0.7078				0.00				
Pb+Pc		0	326,382	0.6800	1.2239	2		800	1,250.00				PS1-1
Pd+Pb+Pc		0	418,817	0.8725	1.5706	1		1100	1,680.00				
Pa		486,870	486,870	1.0143	1.8258	1		1200	530.00				PS1-8
Pd+Pb+Pc+Pa		0	905,687	1.8868	3.3963	1		1500	1,730.00				
La-1		127,029	127,029	0.2646	0.4764	1		900	2,900.00				
La-2+Lb		446,914	446,914	0.9311	1.6759				0.00				
La-1+La-2+Lb		0	573,943	1.1957	2.1523	1		1350	1,500.00				PS1-5
STP Capacity		0	1,479,630	3.0826	5.5486								
Total			1,479,630						13,060.00		0		

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	0.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	0.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	0.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	0.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	0.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	0.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	3,470.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	2,900.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	1,250.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1100	1,680.00	2	900	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1200	530.00	2	1000	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1350	1,500.00	2	1100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1500	1,730.00	2	1200	0.00
Total	Gravity Flow	11,810.00	Total	Force main	1,250.00
			All Total		13,060.00

Manhole Pump Station
 0 (Places)

Interceptor Pipes Calculation

Case No. 1
 District ID Pa

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-1	P2121112.19U		3,273	3,273	0.0068	0.0123	1	ABS	200	560.00				
IP1-2	P2121112.17U		1,870	5,143	0.0107	0.0193	1	ABS	250	380.00				
IP1-3	P2121112.16U	IP1-8	2,265	7,408	0.0154	0.0278	1	ABS	250	480.00				
IP1-4	P2121112.24A		2,578	2,578	0.0054	0.0097	1	ABS	200	230.00				
IP1-5	P2121112.18U		458	3,036	0.0063	0.0114	1	ABS	200	1,150.00				
IP1-6	P2121112.15U		5,765	8,801	0.0183	0.0330	2	ABS	200	150.00	1			MP40
IP1-7	P2121112.14U		2,350	11,151	0.0232	0.0418	1	ABS	300	160.00				
IP1-8			0	18,559	0.0387	0.0696	1		350	340.00				
IP1-9	P2121112.13U	IP1-11	7,275	25,834	0.0538	0.0969	1	ABS	400	70.00				
IP1-10	P2121112.11U		611	611	0.0013	0.0023	1	ABS	150	420.00				
IP1-11	P2121112.12U		2,973	29,418	0.0613	0.1103	2	ABS	350	590.00	1			MP41
IP1-12		IP1-15	0	29,418	0.0613	0.1103	1		450	900.00				
IP1-13	P2121112.10U		1,161	1,161	0.0024	0.0044	2	ABS	75	150.00	1			MP42
IP1-14			0	1,161	0.0024	0.0044	1		150	620.00				
IP1-15		IP1-20	0	30,579	0.0637	0.1147	1		450	330.00				
IP1-16	P2121112.9U		140	140	0.0003	0.0005	1	ABS	150	180.00				
IP1-17	P2121112.8U	IP1-19	528	668	0.0014	0.0025	1	ABS	150	140.00				
IP1-18	P2121112.7U		1,207	1,207	0.0025	0.0045	1	ABS	150	70.00				
IP1-19			0	1,875	0.0039	0.0070	2		75	410.00	1			MP43
IP1-20			0	32,454	0.0676	0.1217	1		450	730.00				
IP1-21	P2121112.22A	IP1-49	10,680	43,134	0.0899	0.1618	1	ABS	500	550.00				
IP1-22	P21212111.3	IP1-26	3,876	3,876	0.0081	0.0145	2	ABS	150	250.00	1			MP44
IP1-23	P21212111.5A	IP1-25	2,676	2,676	0.0056	0.0100	1	ABS	200	310.00				
IP1-24	P21212111.4A		1,844	1,844	0.0038	0.0069	1	ABS	150	70.00				
IP1-25			0	4,520	0.0094	0.0170	1		200	160.00				
IP1-26		IP1-49	0	8,396	0.0175	0.0315	1		300	630.00				
IP1-27	P212121212.11A		3,207	3,207	0.0067	0.0120	1	ABS	200	540.00				
IP1-28	P212121212.10A		786	3,993	0.0083	0.0150	1	ABS	200	150.00				
IP1-29	P212121212.8A	IP1-31	411	4,404	0.0092	0.0165	1	ABS	200	250.00				
IP1-30	P212121212.5		89	89	0.0002	0.0003	1	ABS	150	60.00				
IP1-31	P212121212.4		106	4,599	0.0096	0.0172	1	ABS	250	60.00				
IP1-32	P212121212.3	IP1-36	3,485	8,084	0.0168	0.0303	1	ABS	300	60.00				
IP1-33	P212121212.7A	IP1-35	4,608	4,608	0.0096	0.0173	1	ABS	250	320.00				
IP1-34	P212121212.1		1,007	1,007	0.0021	0.0038	1	ABS	150	70.00				
IP1-35	P212121212.2		741	6,356	0.0132	0.0238	1	ABS	250	110.00				
IP1-36		IP1-45	0	14,440	0.0301	0.0542	1		350	60.00				
IP1-37	M.1A	IP1-39	9,341	9,341	0.0195	0.0350	1	ABS	300	1,340.00				
IP1-38	M.2A		5,128	5,128	0.0107	0.0192	1	ABS	250	350.00				
IP1-39		IP1-41	0	14,469	0.0301	0.0543	1		350	70.00				
IP1-40	M.3A		3,560	3,560	0.0074	0.0134	1	ABS	200	680.00				
IP1-41		IP1-43	0	18,029	0.0376	0.0676	1		350	380.00				
IP1-42	P212121212.9A		1,314	1,314	0.0027	0.0049	1	ABS	150	200.00				
IP1-43		IP1-45	0	19,343	0.0403	0.0725	1		400	640.00				
IP1-44	P212121212.6A		816	816	0.0017	0.0031	1	ABS	150	80.00				
IP1-45			0	34,599	0.0721	0.1297	2		350	270.00	1			MP45
IP1-46			0	34,599	0.0721	0.1297	1		450	270.00				
IP1-47	P212121211.1		953	35,552	0.0741	0.1333	1	ABS	500	90.00				
IP1-48	P212121211.2		1,673	37,225	0.0776	0.1396	2	ABS	350	720.00	1			MP46
IP1-49		IP1-52	0	88,755	0.1849	0.3328	1		700	980.00				
IP1-50	P2121112.5A		1,411	1,411	0.0029	0.0053	1	ABS	150	70.00				
IP1-51	P2121112.4A		9,075	10,486	0.0218	0.0393	1	ABS	300	230.00				
IP1-52		IP1-55	0	99,241	0.2068	0.3722	1		700	490.00				
IP1-53	P2121112.21A		2,606	2,606	0.0054	0.0098	1	ABS	200	440.00				
IP1-54	P2121112.20A		1,759	4,365	0.0091	0.0164	1	ABS	200	400.00				
IP1-55	P2121111.8A		1,869	105,475	0.2197	0.3955	1	ABS	700	100.00				
IP1-56	P2121111.7A	IP1-86	3,869	109,344	0.2278	0.4100	1	ABS	700	310.00				
IP1-57	P2121112.23A		4,812	4,812	0.0100	0.0180	1	ABS	250	80.00				
IP1-58	P2121112.6U		1,815	6,627	0.0138	0.0249	1	ABS	250	240.00				
IP1-59	P2121112.5U		1,521	8,148	0.0170	0.0306	1	ABS	300	290.00				
IP1-60	P2121112.4U	IP1-62	3,426	11,574	0.0241	0.0434	1	ABS	300	430.00				
IP1-61	Add SB4-25-2		12,400	12,400	0.0258	0.0465	1	ABS	300	320.00				
IP1-62		IP1-67	0	23,974	0.0499	0.0899	1		400	260.00				
IP1-63	P2121112.3U		467	467	0.0010	0.0018	1	ABS	150	70.00				
IP1-64	P2121112.2U		232	699	0.0015	0.0026	1	ABS	150	220.00				
IP1-65	P2121112.1U		4,479	5,178	0.0108	0.0194	1	ABS	250	80.00				
IP1-66			0	5,178	0.0108	0.0194	2		150	320.00	1			MP47
IP1-67		IP1-73	0	29,152	0.0607	0.1093	1		450	370.00				
IP1-68	P21211111.4	IP1-72	1,654	1,654	0.0034	0.0062	1	ABS	150	120.00				

Interceptor Pipes Calculation

Case No. 1
 District ID Pa

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-69	Add SB4-25-1	IP1-71	3,838	3,838	0.0080	0.0144	1	ABS	200	330.00				
IP1-70	P21211111.6		4,262	4,262	0.0089	0.0160	1	ABS	200	60.00				
IP1-71	P21211111.5		3,566	11,666	0.0243	0.0437	1	ABS	300	230.00				
IP1-72			0	13,320	0.0278	0.0500	1		350	390.00				
IP1-73			0	42,472	0.0885	0.1593	1		500	350.00				
IP1-74			0	42,472	0.0885	0.1593	1		500	220.00				
IP1-75		IP1-78	0	42,472	0.0885	0.1593	1		500	390.00				
IP1-76	P21211111.2		1,589	1,589	0.0033	0.0060	1	ABS	150	120.00				
IP1-77	P21211111.3		15,104	16,693	0.0348	0.0626	2	ABS	250	320.00	1			MP49
IP1-78		IP1-80	0	59,165	0.1233	0.2219	1		600	50.00				
IP1-79	P21211111.1		163	163	0.0003	0.0006	1	ABS	150	300.00				
IP1-80		IP1-86	0	59,328	0.1236	0.2225	1		600	230.00				
IP1-81	P2121111.2	IP1-84	1,073	1,073	0.0022	0.0040	1		150	80.00				
IP1-82	P2121111.3A		835	835	0.0017	0.0031	1	ABS	150	320.00				
IP1-83	P2121111.5A		654	1,489	0.0031	0.0056	1	ABS	150	380.00				
IP1-84	P2121111.1		1,369	3,931	0.0082	0.0147	1	ABS	200	50.00				
IP1-85			0	3,931	0.0082	0.0147	2		150	420.00	1			MP50
IP1-86		IP1-90	0	172,603	0.3596	0.6473	1		800	350.00				
IP1-87	P2121111.6A	IP1-89	439	439	0.0009	0.0016	1	ABS	150	310.00				
IP1-88	P2121111.4A		2,373	2,373	0.0049	0.0089	1	ABS	150	530.00				
IP1-89			0	2,812	0.0059	0.0105	1		200	50.00				
IP1-90		IP1-96	0	175,415	0.3654	0.6578	1		800	460.00				
IP1-91	P2121111.1A	IP1-96	2,165	2,165	0.0045	0.0081	1	ABS	150	260.00				
IP1-92	P2121112.2A		3,116	3,116	0.0065	0.0117	1	ABS	200	80.00				
IP1-93	P2121112.3A		977	4,093	0.0085	0.0153	1	ABS	200	350.00				
IP1-94	P2121112.1		679	4,772	0.0099	0.0179	1	ABS	250	30.00				
IP1-95			0	4,772	0.0099	0.0179	2		150	410.00	1			MP51
IP1-96			0	182,352	0.3799	0.6838	1		800	410.00				
IP1-97	P2121112U	IP1-99	1,692	184,044	0.3834	0.6902	1	ABS	800	90.00				
IP1-98	P212111.10U		1,643	1,643	0.0034	0.0062	1	ABS	150	220.00				
IP1-99		IP1-93	0	185,687	0.3868	0.6963	1		800	230.00				
IP1-100	P2121222.10A		3,168	3,168	0.0066	0.0119	1	ABS	200	720.00				
IP1-101	P2121222.9A	IP1-104	3,018	6,186	0.0129	0.0232	1	ABS	250	320.00				
IP1-102	P2121222.2U		1,200	1,200	0.0025	0.0045	1	ABS	150	120.00				
IP1-103	P2121222.3U		1,967	3,167	0.0066	0.0119	1	ABS	200	50.00				
IP1-104			0	9,353	0.0195	0.0351	2		200	510.00	1			MP52
IP1-105		IP1-108	0	9,353	0.0195	0.0351	1		300	820.00				
IP1-106	P2121221.8U		5,032	5,032	0.0105	0.0189	1	ABS	250	50.00				
IP1-107	P2121221.11A		1,904	1,904	0.0040	0.0071	1	ABS	150					
IP1-108	P2121221.7U		103	16,392	0.0342	0.0615	1	ABS	350	60.00				
IP1-109			0	16,392	0.0342	0.0615	2		250	230.00	1			MP53
IP1-110			0	16,392	0.0342	0.0615	1		350	70.00				
IP1-111	P2121221.5U		2,503	18,895	0.0394	0.0709	1	ABS	350	50.00				
IP1-112	P2121221.6U	IP1-114	3,957	22,852	0.0476	0.0857	1	ABS	400	110.00				
IP1-113	P2121221.10A		12,524	12,524	0.0261	0.0470	1	ABS	300	300.00				
IP1-114		IP1-116	0	35,376	0.0737	0.1327	1		500	360.00				
IP1-115	P2121221.9A		2,092	2,092	0.0044	0.0078	1	ABS	150	200.00				
IP1-116		IP1-122	0	37,468	0.0781	0.1405	1		500	260.00				
IP1-117	P2121221.4U	IP1-121	3,727	3,727	0.0078	0.0140	1	ABS	200	70.00				
IP1-118	P2121221.1U		477	477	0.0010	0.0018	1	ABS	150	90.00				
IP1-119	P2121221.3U		613	1,090	0.0023	0.0041	1	ABS	150	70.00				
IP1-120	P2121221.2U		2,820	3,910	0.0081	0.0147	1	ABS	200	60.00				
IP1-121			0	7,637	0.0159	0.0286	2		200	480.00	1			MP54
IP1-122		IP1-147	0	45,105	0.0940	0.1691	1		500	420.00				
IP1-123	P21211212.7A	IP1-125	2,114	2,114	0.0044	0.0079	1	ABS	150	120.00				
IP1-124	P21211212.6A		481	481	0.0010	0.0018	1	ABS	150	90.00				
IP1-125	P21211212.5A		571	3,166	0.0066	0.0119	1	ABS	200	200.00				
IP1-126	P21211212.4A		670	3,836	0.0080	0.0144	1	ABS	200	320.00				
IP1-127	P21211212.3A	IP1-130	842	4,678	0.0097	0.0175	1	ABS	250	80.00				
IP1-128	P21211211.1A		1,096	1,096	0.0023	0.0041	1	ABS	150	80.00				
IP1-129	P21211211.2A		640	1,736	0.0036	0.0065	1	ABS	150	350.00				
IP1-130		IP1-132	0	6,414	0.0134	0.0241	1		250	100.00				
IP1-131	P21211212.1		202	202	0.0004	0.0008	1	ABS	150	60.00				
IP1-132	P21211212.2	IP1-145	1,757	8,373	0.0174	0.0314	1	ABS	300	380.00				
IP1-133	P212112.5	IP1-135	1,478	1,478	0.0031	0.0055	1	ABS	150	90.00				
IP1-134	P212112.3U		287	287	0.0006	0.0011	1	ABS	150	70.00				

Interceptor Pipes Calculation

Case No. 1
 District ID Pa

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-135	P212112.4	IP1-137	729	2,494	0.0052	0.0094	1	ABS	200	100.00				
IP1-136	P212115.12A		777	777	0.0016	0.0029	1	ABS	150	70.00				
IP1-137		IP1-140	0	3,271	0.0068	0.0123	1		200	90.00				
IP1-138	P2121121.2		1,976	1,976	0.0041	0.0074	1	ABS	150	50.00				
IP1-139	P2121121.1		367	2,343	0.0049	0.0088	1	ABS	150	190.00				
IP1-140		IP1-144	0	5,614	0.0117	0.0211	2		150	530.00	1			MP55
IP1-141	P2121122.1A	IP1-143	715	715	0.0015	0.0027	1	ABS	150	260.00				
IP1-142	P2121121.3A		1,512	1,512	0.0032	0.0057	1	ABS	150	220.00				
IP1-143			0	2,227	0.0046	0.0084	1		150	100.00				
IP1-144			0	7,841	0.0163	0.0294	1		250	90.00				
IP1-145			0	16,214	0.0338	0.0608	1		350	250.00				
IP1-146	P2121122.2A		4,377	20,591	0.0429	0.0772	1	ABS	400	160.00				
IP1-147		IP1-75	0	65,696	0.1369	0.2464	1		600	670.00				
IP1-148	P2121222.1	IP1-152	1,144	1,144	0.0024	0.0043	1	ABS	150	50.00				
IP1-149	P2121222.8A		1,586	1,586	0.0033	0.0059	1	ABS	150	170.00				
IP1-150	P2121222.7A		1,516	3,102	0.0065	0.0116	1	ABS	200	180.00				
IP1-151	P2121222.6A		7,407	10,509	0.0219	0.0394	1	ABS	300	380.00				
IP1-152			0	11,653	0.0243	0.0437	1		300	190.00				
IP1-153			0	11,653	0.0243	0.0437	2		200	160.00	1			MP56
IP1-154	P2121222.5A	IP1-156	4,249	4,249	0.0089	0.0159	1	ABS	200	50.00				
IP1-155	P2121222.4A		1,853	1,853	0.0039	0.0069	1	ABS	150	170.00				
IP1-156		IP1-160	0	17,755	0.0370	0.0666	1		350	270.00				
IP1-157	P212122.10A		4,984	4,984	0.0104	0.0187	1	ABS	250	100.00				
IP1-158	P212122.11A		739	5,723	0.0119	0.0215	1	ABS	250	150.00				
IP1-159	P212122.9A		854	6,577	0.0137	0.0247	1	ABS	250	270.00				
IP1-160	P212122.8		3,196	27,528	0.0574	0.1032	1	ABS	450	290.00				
IP1-161	P212122.6		2,122	29,650	0.0618	0.1112	1	ABS	450	40.00				
IP1-162	P212122.7	IP1-65	4,287	33,937	0.0707	0.1273	1	ABS	450	160.00				
IP1-63	P212122.4		4,233	4,233	0.0088	0.0159	2	ABS	150	160.00	1			MP57
IP1-64	P212122.5		1,860	6,093	0.0127	0.0228	1	ABS	250	180.00				
IP1-65		IP1-74	0	40,030	0.0834	0.1501	2		400	220.00	1			MP58
IP1-66	P212122.1		121	121	0.0003	0.0005	1	ABS	150	280.00				
IP1-67	P212122.2	IP1-69	2,450	2,571	0.0054	0.0096	1	ABS	200	50.00				
IP1-68	P212121.1U		4,622	4,622	0.0096	0.0173	1	ABS	250	60.00				
IP1-69		IP1-71	0	7,193	0.0150	0.0270	1		250	120.00				
IP1-70	P212121.2U		10,050	10,050	0.0209	0.0377	1	ABS	300	180.00				
IP1-71		IP1-73	0	17,243	0.0359	0.0647	1		350	150.00				
IP1-72	P212122.3		1,514	1,514	0.0032	0.0057	1	ABS	150	50.00				
IP1-73			0	18,757	0.0391	0.0703	2		250	330.00	1			MP59
IP1-74			0	58,787	0.1225	0.2205	1		600	680.00				
IP1-75		IP1-85	0	124,483	0.2593	0.4668	1		700	270.00				
IP1-76	P212115.6A		517	517	0.0011	0.0019	1	ABS	150	420.00				
IP1-77	P212115.10A	IP1-79	706	1,223	0.0025	0.0046	1	ABS	150	100.00				
IP1-78	P212115.11A		440	440	0.0009	0.0017	1	ABS	150	360.00				
IP1-79	P212115.9A	IP1-83	3,039	4,702	0.0098	0.0176	1	ABS	250	80.00				
IP1-80	P212115.7A		537	537	0.0011	0.0020	1	ABS	150	90.00				
IP1-81	P212115.8A		496	1,033	0.0022	0.0039	1	ABS	150	200.00				
IP1-82	P212112.2U		496	1,529	0.0032	0.0057	1	ABS	150	60.00				
IP1-83			0	6,231	0.0130	0.0234	2		150	440.00	1			MP60
IP1-84			0	6,231	0.0130	0.0234	1		250	290.00				
IP1-85		IP1-88	0	130,714	0.2723	0.4902	1		700	290.00				
IP1-86	P212112.1		5,082	5,082	0.0106	0.0191	1	ABS	250	50.00				
IP1-87			0	5,082	0.0106	0.0191	2		150	360.00	1			MP61
IP1-88		IP1-93	0	135,796	0.2829	0.5092	1		700	410.00				
IP1-89	P21212.8		3,401	3,401	0.0071	0.0128	1	ABS	200	50.00				
IP1-90	P21212.9		1,689	5,090	0.0106	0.0191	1	ABS	250	50.00				
IP1-91			0	5,090	0.0106	0.0191	2		150	250.00	1			MP62
IP1-92			0	5,090	0.0106	0.0191	1		250	270.00				
IP1-93		IP1-95	0	326,573	0.6804	1.2246	1		1000	100.00				
IP1-94	P21211.11U		3,685	3,685	0.0077	0.0138	1	ABS	200	130.00				
IP1-95		IP1-105	0	330,258	0.6880	1.2385	1		1100	410.00				
IP1-96	P21212.7	IP1-98	1,039	1,039	0.0022	0.0039	1	ABS	150	260.00				
IP1-97	P21212.6		2,602	2,602	0.0054	0.0098	1	ABS	200	120.00				
IP1-98		IP1-101	0	3,641	0.0076	0.0137	1		200	510.00				
IP1-99	P21212.4		3,541	3,541	0.0074	0.0133	1	ABS	200	150.00				
IP1-100	P21212.5		6,206	9,747	0.0203	0.0366	1	ABS	300	50.00				
IP1-101		IP1-105	0	13,388	0.0279	0.0502	2		250	310.00	1			MP63

Interceptor Pipes Calculation

Case No.	1
District ID	Pa

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-102	P21211.7U		2,283	2,283	0.0048	0.0086	1	ABS	150	170.00				
IP1-103	P21211.9U		1,193	3,476	0.0072	0.0130	1	ABS	200	60.00				
IP1-104	P21211.8U		1,583	5,059	0.0105	0.0190	1	ABS	250	150.00				
IP1-105		IP1-108	0	348,705	0.7265	1.3076	1		1100	350.00				
IP1-106	P21212.3		2,481	2,481	0.0052	0.0093	1	ABS	200	50.00				
IP1-107			0	2,481	0.0052	0.0093	2		100	440.00	1			MP64
IP1-108		IP1-111	0	351,186	0.7316	1.3169	1		1100	280.00				
IP1-109	P21211.6U		773	773	0.0016	0.0029	1	ABS	150	110.00				
IP1-110	P21211.5U		916	1,689	0.0035	0.0063	1	ABS	150	80.00				
IP1-111	P21211.4U	IP1-128	602	353,477	0.7364	1.3255	1	ABS	1100	280.00				
IP1-112	P2122.2		502	502	0.0010	0.0019	1	ABS	150	70.00				
IP1-113	P2122.3	IP1-119	25	527	0.0011	0.0020	1	ABS	150	50.00				
IP1-114	P2122.6U	IP1-118	15,610	15,610	0.0325	0.0585	2	ABS	250	190.00	1			MP65
IP1-115	P2122.9A		1,054	1,054	0.0022	0.0040	1	ABS	150	630.00				
IP1-116	P2122.8A		2,306	3,360	0.0070	0.0126	1	ABS	200	500.00				
IP1-117	P2122.7A		1,567	4,927	0.0103	0.0185	1	ABS	250	500.00				
IP1-118	P2122.5		1,027	21,564	0.0449	0.0809	1	ABS	400	70.00				
IP1-119	P2122.4	IP1-122	2,630	24,721	0.0515	0.0927	1	ABS	400	570.00				
IP1-120	P2121.3A		1,994	1,994	0.0042	0.0075	1	ABS	150	500.00				
IP1-121	P2121.10A		5,450	7,444	0.0155	0.0279	1	ABS	250	280.00				
IP1-122		IP1-124	0	32,165	0.0670	0.1206	1		450	90.00				
IP1-123	P21212.2		2,792	2,792	0.0058	0.0105	1	ABS	200	460.00				
IP1-124			0	34,957	0.0728	0.1311	1		500	130.00				
IP1-125	P21212.1	IP1-127	2,541	37,498	0.0781	0.1406	1	ABS	500	210.00				
IP1-126	P21211.2U		2,639	2,639	0.0055	0.0099	1	ABS	200	100.00				
IP1-127			0	40,137	0.0836	0.1505	1		500	110.00				
IP1-128	P21211.3U		2,343	395,957	0.8249	1.4848	1	ABS	1100	450.00				
IP1-129	P21211.1U	IP1-132	3,463	399,420	0.8321	1.4978	1	ABS	1100	180.00				
IP1-130	P2121.1		2,672	2,672	0.0056	0.0100	1	ABS	200	50.00				
IP1-131	P2121.2		403	3,075	0.0064	0.0115	1	ABS	200	350.00				
IP1-132		IP1-158	0	402,495	0.8385	1.5094	1		1100	710.00				
IP1-133	P211.10	IP1-135	7,021	7,021	0.0146	0.0263	1	ABS	250	190.00				
IP1-134	P211.9		1,877	1,877	0.0039	0.0070	1	ABS	150	50.00				
IP1-135			0	8,898	0.0185	0.0334	2		200	280.00	1			MP66
IP1-136		IP1-158	0	8,898	0.0185	0.0334	1		300	520.00				
IP1-137	P2.2U	IP1-141	4,027	4,027	0.0084	0.0151	1	ABS	200	480.00				
IP1-138	P212.2A		4,067	4,067	0.0085	0.0153	1	ABS	200	280.00				
IP1-139	P212.1A		1,751	5,818	0.0121	0.0218	1	ABS	250	320.00				
IP1-140	P21.1		4,196	10,014	0.0209	0.0376	2	ABS	200	270.00	1			MP67
IP1-141			0	14,041	0.0293	0.0527	1		350	170.00				
IP1-142	P211.1		8,990	23,031	0.0480	0.0864	1	ABS	400	110.00				
IP1-143	P211.2	IP1-149	4,728	27,759	0.0578	0.1041	1	ABS	450	50.00				
IP1-144	P211.8		16,913	16,913	0.0352	0.0634	1	ABS	350	190.00				
IP1-145	P211.5U		490	17,403	0.0363	0.0653	1	ABS	350	50.00				
IP1-146	P211.4U	IP1-148	822	18,225	0.0380	0.0683	1	ABS	350	380.00				
IP1-147	P211.3		2,562	2,562	0.0053	0.0096	1	ABS	200	120.00				
IP1-148			0	20,787	0.0433	0.0780	2		300	210.00	1			MP68
IP1-149		IP1-156	0	48,546	0.1011	0.1820	1		600	450.00				
IP1-150	P211.10		761	761	0.0016	0.0029	1	ABS	150	30.00				
IP1-151	P211.8U		841	1,602	0.0033	0.0060	1	ABS	150	80.00				
IP1-152	P211.7U		367	1,969	0.0041	0.0074	1	ABS	150	30.00				
IP1-153	P211.9	IP1-156	2,220	4,189	0.0087	0.0157	1	ABS	200	990.00				
IP1-154	P211.7		1,018	1,018	0.0021	0.0038	1	ABS	150	40.00				
IP1-155	P211.6		9,690	10,708	0.0223	0.0402	1	ABS	300	70.00				
IP1-156			0	63,443	0.1322	0.2379	1		600	200.00				
IP1-157			0	63,443	0.1322	0.2379	1		600	350.00				
IP1-158		IP1-161	0	474,836	0.9892	1.7806	1		1200	370.00				
IP1-159	P2122.1U	IP1-161	4,009	4,009	0.0084	0.0150	1	ABS	200	330.00				
IP1-160	P212.3A		8,025	8,025	0.0167	0.0301	1	ABS	300	180.00				
IP1-161		STP	0	486,870	1.0143	1.8258	1		1200	50.00				

Interceptor Pipes Calculator

Case No. 1
 District ID Pb

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP2-1	P2211212.2A		1,228	1,228	0.0026	0.0046	1	ABS	150	200.00				
IP2-2	P221121.2	IP2-13	3,640	4,868	0.0101	0.0183	1	ABS	250	420.00				
IP2-3	P22112.3A		2,207	2,207	0.0046	0.0083	1	ABS	150	350.00				
IP2-4	P221122.2	IP2-8	1,471	3,678	0.0077	0.0138	1	ABS	200	60.00				
IP2-5	P22112.5A		2,668	2,668	0.0056	0.0100	1	ABS	200	90.00				
IP2-6	P22112.6A		552	3,220	0.0067	0.0121	1	ABS	200	150.00				
IP2-7	P22112.4A		9,981	13,201	0.0275	0.0495	1	ABS	350	480.00				
IP2-8			0	16,879	0.0352	0.0633	1		350	100.00				
IP2-9	P221122.1		1,553	18,432	0.0384	0.0691	1	ABS	350	50.00				
IP2-10	P221121.1A		3,558	21,990	0.0458	0.0825	1	ABS	400	200.00				
IP2-11	P221121.2A	IP2-13	1,638	23,628	0.0492	0.0886	1	ABS	400	110.00				
IP2-12	P2211211.1A		7,930	7,930	0.0165	0.0297	1	ABS	250	460.00				
IP2-13		IP2-16	0	36,426	0.0759	0.1366	1		500	170.00				
IP2-14	P221112.4A		883	883	0.0018	0.0033	1	ABS	150	80.00				
IP2-15	P221112.3		1,626	2,509	0.0052	0.0094	1	ABS	200	210.00				
IP2-16			0	38,935	0.0811	0.1460	1		500	340.00				
IP2-17	P221112.1	IP2-26	451	39,386	0.0821	0.1477	1	ABS	500	180.00				
IP2-18	P221112.7A		6,999	6,999	0.0146	0.0262	1	ABS	250	350.00				
IP2-19	P221112.6A		1,342	8,341	0.0174	0.0313	1	ABS	300	320.00				
IP2-20	P221112.5A	IP2-22	3,451	11,792	0.0246	0.0442	1	ABS	300	530.00				
IP2-21	P221112.2		629	629	0.0013	0.0024	1	ABS	150	180.00				
IP2-22		IP2-26	0	12,421	0.0259	0.0466	1		300	100.00				
IP2-23	P221111.4A	IP2-25	1,896	1,896	0.0040	0.0071	1	ABS	150	150.00				
IP2-24	P221111.2A		672	672	0.0014	0.0025	1	ABS	150	70.00				
IP2-25			0	2,568	0.0054	0.0096	1		200	80.00				
IP2-26		IP2-30	0	54,375	0.1133	0.2039	1		600	190.00				
IP2-27	P221111.3A	IP2-29	224	224	0.0005	0.0008	1	ABS	150	260.00				
IP2-28	P221111.5A		960	960	0.0020	0.0036	1	ABS	150	50.00				
IP2-29			0	1,184	0.0025	0.0044	1		150	570.00				
IP2-30	P221111.1A	IP2-36	1,414	56,973	0.1187	0.2136	1	ABS	600	320.00				
IP2-31	P221121.1	IP2-33	831	831	0.0017	0.0031	1	ABS	150	130.00				
IP2-32	P22112.1A		639	639	0.0013	0.0024	1	ABS	150	60.00				
IP2-33			0	1,470	0.0031	0.0055	1		150	260.00				
IP2-34	P22111.1		1,209	2,679	0.0056	0.0100	1	ABS	200	150.00				
IP2-35	P22111.2		4,696	7,375	0.0154	0.0277	1	ABS	250	50.00				
IP2-36		IP2-47	0	64,348	0.1341	0.2413	1		600	700.00				
IP2-37	P2211.5U	IP2-43	3,393	3,393	0.0071	0.0127	1	ABS	200	50.00				
IP2-38	P2212.12A		4,266	4,266	0.0089	0.0160	1	ABS	200	580.00				
IP2-39	P2212.10A	IP2-42	2,069	6,335	0.0132	0.0238	1	ABS	250	360.00				
IP2-40	P2212.11A		1,619	1,619	0.0034	0.0061	1	ABS	150	410.00				
IP2-41	P2212.8A		769	2,388	0.0050	0.0090	1	ABS	150	140.00				
IP2-42	P2212.9A		1,491	10,214	0.0213	0.0383	1	ABS	300	500.00				
IP2-43	P2211.4	IP2-45	1,141	14,748	0.0307	0.0553	1	ABS	350	50.00				
IP2-44	P2212.7A		872	872	0.0018	0.0033	1	ABS	150	410.00				
IP2-45	P2211.3		610	16,230	0.0338	0.0609	1	ABS	350	230.00				
IP2-46	P2211.2		1,104	17,334	0.0361	0.0650	2	ABS	250	210.00	1			MP70
IP2-47		IP2-49	0	81,682	0.1702	0.3063	1		700	320.00				
IP2-48	P2211.1		1,171	1,171	0.0024	0.0044	1	ABS	150	380.00				
IP2-49			0	82,853	0.1726	0.3107	1		700	1,200.00				
IP2-50	P222.12	IP2-53	3,238	3,238	0.0067	0.0121	1	ABS	200	330.00				
IP2-51	P222.17A		5,012	5,012	0.0104	0.0188	1	ABS	250	550.00				
IP2-52	P222.16A		2,452	7,464	0.0156	0.0280	1	ABS	250	100.00				
IP2-53			27,115	37,817	0.0788	0.1418	1		500	170.00				From PASAY
IP2-54		IP2-57	0	37,817	0.0788	0.1418	1		500	1,700.00				PASAY
IP2-55	P222.9U		5,298	5,298	0.0110	0.0199	1	ABS	250	530.00				
IP2-56	P222.7U		720	6,018	0.0125	0.0226	1	ABS	250	100.00				
IP2-57		IP2-59	0	43,835	0.0913	0.1644	1		500	700.00				PASAY
IP2-58	P222.5		368	368	0.0008	0.0014	1	ABS	150	50.00				
IP2-59		IP2-61	0	44,203	0.0921	0.1658	1		500	30.00				
IP2-60	P222.3		278	278	0.0006	0.0010	1	ABS	150	50.00				
IP2-61			0	44,481	0.0927	0.1668	1		500	60.00				PASAY
IP2-62			0	44,481	0.0927	0.1668	1		500	110.00				PASAY

Interceptor Pipes Calculator

Case No. 1
 District ID Pb

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP2-63	P222.14A	IP2-65	260	44,741	0.0932	0.1678	1	ABS	500	350.00				
IP2-64	P222.13A		1,364	1,364	0.0028	0.0051	1	ABS	150	230.00				
IP2-65		IP2-85	0	46,105	0.0961	0.1729	1		500	140.00				
IP2-66	P222.15A		1,504	1,504	0.0031	0.0056	1	ABS	150	260.00				
IP2-67	P222.6	IP2-82	3,124	4,628	0.0096	0.0174	1	ABS	250	800.00				
IP2-68	P2212.5		1,029	1,029	0.0021	0.0039	1	ABS	150	60.00				
IP2-69	P2212.3	IP2-76	148	1,177	0.0025	0.0044	1	ABS	150	20.00				
IP2-70	P2212.2	IP2-75	83	83	0.0002	0.0003	1	ABS	150	50.00				
IP2-71	P2212.6A	IP2-73	275	275	0.0006	0.0010	1	ABS	150	80.00				
IP2-72	P2211.6A		691	691	0.0014	0.0026	1	ABS	150	250.00				
IP2-73			0	966	0.0020	0.0036	1		150	120.00				
IP2-74	P2212.4		71	1,037	0.0022	0.0039	1	ABS	150	50.00				
IP2-75			0	1,120	0.0023	0.0042	1		150	50.00				
IP2-76			0	2,297	0.0048	0.0086	1		150	50.00				
IP2-77	P2212.1	IP2-80	552	2,849	0.0059	0.0107	1	ABS	200	450.00				
IP2-78	P221.6A	IP2-80	575	575	0.0012	0.0022	1	ABS	150	320.00				
IP2-79	P221.7A		337	337	0.0007	0.0013	1	ABS	150	200.00				
IP2-80		IP2-82	0	3,761	0.0078	0.0141	1		200	410.00				
IP2-81	P221.5A		1,881	1,881	0.0039	0.0071	1	ABS	150	210.00				
IP2-82		IP2-84	0	10,270	0.0214	0.0385	1		300	210.00				
IP2-83	P221.4A		1,321	1,321	0.0028	0.0050	1	ABS	150	70.00				
IP2-84			0	11,591	0.0241	0.0435	1		300	190.00				
IP2-85			0	57,696	0.1202	0.2164	1		600	130.00				
IP2-86	P221.3A	IP2-88	682	58,378	0.1216	0.2189	2	ABS	450	70.00	1			MP71
IP2-87	P221.1		282	282	0.0006	0.0011	1	ABS	150	40.00				
IP2-88	P221.2		11,155	69,815	0.1454	0.2618	1	ABS	600	60.00				
IP2-89		IP2-91	0	152,668	0.3181	0.5725	1		800	300.00				
IP2-90	P22.6A		3,010	3,010	0.0063	0.0113	1	ABS	200	100.00				
IP2-91			0	155,678	0.3243	0.5838	1		800	200.00				
IP2-92		IP2-95	0	155,678	0.3243	0.5838	1		800	120.00				
IP2-93	P222.1		2,552	2,552	0.0053	0.0096	1	ABS	200	410.00				
IP2-94	P22.3U		4,711	7,263	0.0151	0.0272	1	ABS	250	150.00				
IP2-95		IP2-101	0	162,941	0.3395	0.6110	1		800	1,100.00				
IP2-96	P22.5A	IP2-98	12,350	12,350	0.0257	0.0463	1	ABS	300	1,580.00				
IP2-97	P22.2U		638	638	0.0013	0.0024	1	ABS	150	550.00				
IP2-98			0	12,988	0.0271	0.0487	1		300	100.00				
IP2-99	P22.1		5,496	18,484	0.0385	0.0693	2	ABS	250	120.00	1			MP72
IP2-100			0	18,484	0.0385	0.0693	1		350	220.00				
IP2-101			0	181,425	0.3780	0.6803	1		800	220.00				PS1-1
IP2-102	P22.4	to Pc district	7,330	188,755	0.3932	0.7078	1	ABS	800	420.00				

Interceptor Pipes Calculator

Case No. 1
 District IC Pc

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP3-1	P11.10U		1,720	1,720	0.0036	0.0065	1	ABS	150	300.00				
IP3-2	P11.9		1,851	3,571	0.0074	0.0134	1	ABS	200	130.00				
IP3-3	P11.8		762	4,333	0.0090	0.0162	1	ABS	200	100.00				
IP3-4	P11.7U		0	0	0.0000	0.0000	1	ABS						Pasay
IP3-5	P11.6		885	5,218	0.0109	0.0196	1	ABS	250	540.00				
IP3-6	2-1-1	ICP300	5,862	11,080	0.0231	0.0416	1	ABS	300	800.00				
IP3-7	P11.4U		13,264	13,264	0.0276	0.0497	1	ABS	350	150.00				
IP3-8	ICP300	ICP301	0	24,344	0.0507	0.0913	1	ABS	400	150.00				
IP3-9	P11.1U		604	604	0.0013	0.0023	1	ABS	150	150.00				
IP3-10	ICP301	ICP302	0	24,948	0.0520	0.0936	1	ABS	400	150.00				
IP3-11	P 11.11U		2,465	2,465	0.0051	0.0092	1	ABS	200	150.00				
IP3-12	ICP302	ICP303	0	27,413	0.0571	0.1028	1	ABS	450	700.00				
IP3-13	2-1-2		15,988	15,988	0.0333	0.0600	1	ABS	350	50.00				
IP3-14	ICP303	P1.3U	0	43,401	0.0904	0.1628	1	ABS	500	200.00				
IP3-15	B.7		669	669	0.0014	0.0025	1	ABS	150	290.00				
IP3-16	P1.3U	IP3-21	314	44,384	0.0925	0.1664	1	ABS	500	220.00				
IP3-17	B.8	IP3-21	2,124	2,124	0.0044	0.0080	1	ABS	150	340.00				
IP3-18	P.1		755	755	0.0016	0.0028	1	ABS	150	120.00				
IP3-19	P.2U		223	978	0.0020	0.0037	1	ABS	150	40.00				
IP3-20	P.3U		118	1,096	0.0023	0.0041	1	ABS	150	280.00				
IP3-21	2-1-3	IP3-23	700	48,304	0.1006	0.1811	1	ABS	600	140.00				
IP3-22	P2.1U		3,789	3,789	0.0079	0.0142	1	ABS	200	220.00				
IP3-23	P1.1	ICP307	1,615	53,708	0.1119	0.2014	1	ABS	600	190.00				
IP3-24	P121.21		500	500	0.0010	0.0019	1	ABS	150	20.00				Pasay
IP3-25	P121.20		500	1,000	0.0021	0.0038	1	ABS	150	50.00				Pasay
IP3-26	P121.18		500	1,500	0.0031	0.0056	1	ABS	150	20.00				Pasay
IP3-27	P121.14		500	2,000	0.0042	0.0075	1	ABS	150	60.00				Pasay
IP3-28	P121.13		1,000	3,000	0.0063	0.0113	1	ABS	200	20.00				Pasay
IP3-29	P121.11		1,000	4,000	0.0083	0.0150	1	ABS	200	30.00				Pasay
IP3-30	P121.9		1,000	5,000	0.0104	0.0188	1	ABS	250	50.00				Pasay
IP3-31	P121.7		2,000	7,000	0.0146	0.0263	1	ABS	250	330.00				Pasay
IP3-32	P121.3		4,000	11,000	0.0229	0.0413	1	ABS	300	130.00				Pasay
IP3-33	P121.19		246	246	0.0005	0.0009	1	ABS	150	80.00				
IP3-34	P121.17		193	439	0.0009	0.0016	1	ABS	150	30.00				
IP3-35	P121.16		270	709	0.0015	0.0027	1	ABS	150	50.00				
IP3-36	P121.15		137	846	0.0018	0.0032	1	ABS	150	110.00				
IP3-37	P121.12		291	1,137	0.0024	0.0043	1	ABS	150	80.00				
IP3-38	P121.10U		230	1,367	0.0028	0.0051	1	ABS	150	60.00				
IP3-39	P121.8U		946	2,313	0.0048	0.0087	1	ABS	150	40.00				
IP3-40	P121.6U		1,732	4,045	0.0084	0.0152	1	ABS	200	190.00				
IP3-41	P121.5		319	4,364	0.0091	0.0164	1	ABS	200	70.00				
IP3-42	P121.4	ICP305	0	4,364	0.0091	0.0164	1	ABS	200	190.00				
IP3-43	P11.7U1		16,500	16,500	0.0344	0.0619	1	ABS	350	100.00				Pasay
IP3-44	P11.7U		8,500	25,000	0.0521	0.0938	1	ABS	400	1,000.00				Pasay
IP3-45	MP		0	25,000	0.0521	0.0938	2	ABS	300	50.00	1			MP74
IP3-46	P11.5.1		2,400	27,400	0.0571	0.1028	1	ABS	450	300.00				Pasay
IP3-47	P 11.5		3,450	30,850	0.0643	0.1157	1	ABS	450	100.00				Paranaque:1250p Pasay:2200p
IP3-48	P 11.3U		2,907	33,757	0.0703	0.1266	1	ABS	450	100.00				Paranaque:407p Pasay:2500p
IP3-49	P11.2U		2,428	36,185	0.0754	0.1357	1	ABS	500	250.00				Paranaque:328p Pasay:2100p
IP3-50	P12.1		3,836	40,021	0.0834	0.1501	1	ABS	500	50.00				Paranaque:1536p Pasay:2300p
IP3-51	P12.2		2,948	42,969	0.0895	0.1611	1	ABS	500	150.00				Paranaque:998p Pasay:1950p
IP3-52	P12.3	IP3-53	5,089	48,058	0.1001	0.1802	1	ABS	600	300.00				Paranaque:1132p Pasay:3957p
IP3-53	P121.1		4,000	63,058	0.1314	0.2365	2	ABS	450	60.00	1			MP75
IP3-54	P121.2	ICP305	1,500	64,558	0.1345	0.2421	1	ABS	600	910.00				Pasay
IP3-55	2-2-1		6,264	6,264	0.0131	0.0235	1	ABS	250	230.00				
IP3-56	ICP305		0	75,186	0.1566	0.2819	1	ABS	700	860.00				
IP3-57	ICP306		0	75,186	0.1566	0.2819	1	ABS	700	270.00				
IP3-58	ICP307	ICP308	0	128,894	0.2685	0.4834	1	ABS	700	240.00				

Interceptor Pipes Calculator

Case No. 1
 District IC Pc

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP3-59	P 1.5U		2,625	2,625	0.0055	0.0098	1	ABS	200	560.00				
IP3-60	P1.4U	ICP308	3,089	5,714	0.0119	0.0214	1	ABS	250	320.00				
IP3-61	P1.2		3,019	3,019	0.0063	0.0113	1	ABS	200	130.00				
IP3-62	ICP308	STP	0	137,627	0.2867	0.5161	1	ABS	700	50.00				
Total			137,627							13,050.00	2			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	2,120.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	1,790.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	1,470.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	930.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	300.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	1,300.00	2	300	50.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	1,200.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	870.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	1,540.00	2	450	60.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	1,420.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	12,940.00	Total	Force main	110.00
All Total					13,050.00

Manhole Pump Station
 2 (Places)

Interceptor Pipes Calculator

Case No. 1
 District IC Pd

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP4-1	B5	IP4-6	726	726	0.0015	0.0027	1	ABS	150	680.00				
IP4-2	B.9A		1,108	1,108	0.0023	0.0042	1	ABS	150	180.00				
IP4-3	B4U		1,015	2,123	0.0044	0.0080	1	ABS	150	150.00				
IP4-4	B1		1,053	3,176	0.0066	0.0119	1	ABS	200	110.00				
IP4-5	B2		508	3,684	0.0077	0.0138	1	ABS	200	140.00				
IP4-6	B3	IP4-9	2,446	6,856	0.0143	0.0257	1	ABS	250	380.00				
IP4-7	B.7A		43,924	43,924	0.0915	0.1647	1	ABS	500	100.00				
IP4-8	B.8A		41,655	85,579	0.1783	0.3209	1	ABS	700	570.00				
IP4-9		STP	0	92,435	0.1926	0.3466	1		700	2,860.00				
合計			92,435							5,170.00	0			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	1,010.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	250.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	380.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	0.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	0.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	3,430.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	5,170.00	Total	Force main	0.00
All Total				5,170.00	

Manhole Pump Station
 0 (Places)

Interceptor Pipes Calculator

Case No. 1
 District ID La1

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP5-1	L21112.21U		2,182	2,182	0.0045	0.0082	1	ABS	150	20.00				
IP5-2	L21112.22U		4,178	6,360	0.0133	0.0239	2	ABS	150	300.00	1			MP1
IP5-3		IP5-5	0	6,360	0.0133	0.0239	1		250	1,590.00				
IP5-4	L21112.23A		9,550	9,550	0.0199	0.0358	1	ABS	300	20.00				
IP5-5	L21112.20U		15,334	31,244	0.0651	0.1172	1	ABS	450	1,190.00				
IP5-6	L21112.19U		3,437	34,681	0.0723	0.1301	1	ABS	450	200.00				
IP5-7	L21112.18U	IP5-10	747	35,428	0.0738	0.1329	1	ABS	500	100.00				
IP5-8	L21112.16U	IP5-10	1,287	1,287	0.0027	0.0048	1	ABS	150	50.00				
IP5-9	L21112.15U		590	590	0.0012	0.0022	1	ABS	150	1,500.00				
IP5-10	L21112.17U	IP5-13	1,615	38,920	0.0811	0.1460	2	ABS	400	430.00	1			MP2
IP5-11	L21111.7U		19,283	19,283	0.0402	0.0723	1	ABS	400	1,500.00				
IP5-12	L21111.6U		1,296	20,579	0.0429	0.0772	2	ABS	300	190.00	1			MP3
IP5-13		IP5-15	0	59,499	0.1240	0.2231	1		600	300.00				
IP5-14	L21112.14U		382	382	0.0008	0.0014	2	ABS	75	320.00	1			MP4
IP5-15		IP5-18	0	59,881	0.1248	0.2246	1		600	300.00				
IP5-16	L21111.5U	IP5-18	1,474	1,474	0.0031	0.0055	2	ABS	75	190.00	1			MP5
IP5-17	L21112.12U		709	709	0.0015	0.0027	1	ABS	150	240.00				
IP5-18		IP5-20	0	62,064	0.1293	0.2327	1		600	300.00				
IP5-19	L21112.8U		434	434	0.0009	0.0016	1	ABS	150	570.00				
IP5-20			0	62,498	0.1302	0.2344	1		600	300.00				
IP5-21	L21111.4U	IP5-23	1,237	63,735	0.1328	0.2390	1	ABS	600	630.00				
IP5-22	L2111.3U		313	313	0.0007	0.0012	1	ABS	150	650.00				
IP5-23		IP5-27	0	64,048	0.1334	0.2402	2		500	650.00	1			MP73
IP5-24	L21112.13U		318	318	0.0007	0.0012	1	ABS	150	440.00				
IP5-25	L21112.11U	IP5-28	552	870	0.0018	0.0033	1	ABS	150	400.00				
IP5-26	L21112.10U	IP5-27	843	843	0.0018	0.0032	1	ABS	150	300.00				
IP5-27	L21112.9U		735	65,626	0.1367	0.2461	1	ABS	600	450.00				
IP5-28		IP5-31	0	66,496	0.1385	0.2494	1		600	450.00				
IP5-29	L21112.4U		370	370	0.0008	0.0014	1	ABS	150	100.00				
IP5-30	L21112.6U		878	1,248	0.0026	0.0047	1	ABS	150	100.00				
IP5-31		IP5-43	0	67,744	0.1411	0.2540	1		600	300.00				
IP5-32	L21112.7U		370	370	0.0008	0.0014	1	ABS	150	130.00				
IP5-33	L21112.5U		73	443	0.0009	0.0017	1	ABS	150	130.00				
IP5-34	L21112.3U	IP5-37	513	956	0.0020	0.0036	1	ABS	150	130.00				
IP5-35	L21111.2U		1,366	1,366	0.0028	0.0051	1	ABS	150	100.00				
IP5-36	L21111.1U		777	2,143	0.0045	0.0080	1	ABS	150	100.00				
IP5-37	L21112.2U		567	3,666	0.0076	0.0137	1	ABS	200	160.00				
IP5-38	L21112.1U		2,017	5,683	0.0118	0.0213	1	ABS	250	300.00				
IP5-39	L2111.8U		1,670	7,353	0.0153	0.0276	1	ABS	250	380.00				
IP5-40	L2111.7U	IP5-42	2,040	9,393	0.0196	0.0352	1	ABS	300	500.00				
IP5-41	L2111.6U		6,509	6,509	0.0136	0.0244	1	ABS	250	150.00				
IP5-42			0	15,902	0.0331	0.0596	2		250	150.00	1			MP6
IP5-43		IP5-45	0	83,646	0.1743	0.3137	1		700	300.00				
IP5-44	L2111.4U		263	263	0.0005	0.0010	1	ABS	150	230.00				
IP5-45			0	83,909	0.1748	0.3147	1		700	100.00				
IP5-46	L2111.5U	IP5-48	1,208	85,117	0.1773	0.3192	2	ABS	600	800.00				PS1-2
IP5-47	L2112.4U		2,869	2,869	0.0060	0.0108	1	ABS	200	400.00				
IP5-48		IP5-52	0	87,986	0.1833	0.3299	1		700	400.00				
IP5-49	L2111.3		2,105	2,105	0.0044	0.0079	1	ABS	150	300.00				
IP5-50	L2111.2U		489	2,594	0.0054	0.0097	1	ABS	200	300.00				
IP5-51	L2111.1		3,006	5,600	0.0117	0.0210	1	ABS	250	300.00				
IP5-52			0	93,586	0.1950	0.3509	1		700	300.00				
IP5-53	L2112.5A	IP5-57	1,325	94,911	0.1977	0.3559	1	ABS	700	600.00				
IP5-54	L2112.3		181	181	0.0004	0.0007	1	ABS	150	200.00				
IP5-55	L2112.2		250	431	0.0009	0.0016	1	ABS	150	200.00				
IP5-56	L2112.1		140	571	0.0012	0.0021	1	ABS	150	200.00				
IP5-57		IP5-59	0	95,482	0.1989	0.3581	1		700	300.00				
IP5-58	L211.8		7,620	7,620	0.0159	0.0286	1	ABS	250	90.00				
IP5-59		IP5-63	0	103,102	0.2148	0.3866	1		700	500.00				

Interceptor Pipes Calculator

Case No. 1
 District ID La2

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP6-1	L22.3U		5,628	5,628	0.0117	0.0211	1	ABS	250	100.00				
IP6-2	L22.2		126	5,754	0.0120	0.0216	1	ABS	250	150.00				
IP6-3	L22.1	IP6-6	5,012	10,766	0.0224	0.0404	1	ABS	300	200.00				
IP6-4	L21.2U		4,180	4,180	0.0087	0.0157	1	ABS	200	100.00				
IP6-5	L21.1U		27,958	32,138	0.0670	0.1205	1	ABS	450	100.00				
IP6-6		IP6-8	0	42,904	0.0894	0.1609	1		500	100.00				
IP6-7	L121.1A		5,114	5,114	0.0107	0.0192	1	ABS	250	200.00				
IP6-8			0	48,018	0.1000	0.1801	1		600	300.00				
IP6-9	L2.1U	IP6-14	721	721	0.0015	0.0027	1	ABS	150	300.00				
IP6-10	D.1A		8,266	8,266	0.0172	0.0310	1	ABS	300	100.00				
IP6-11	D.2A		2,884	11,150	0.0232	0.0418	1	ABS	300	200.00				
IP6-12	Add SB6-1-1	IP6-14	1,675	12,825	0.0267	0.0481	1	ABS	300	500.00				
IP6-13	L0.2		1,731	1,731	0.0036	0.0065	1	ABS	150	100.00				
IP6-14	L 0.1		1,012	16,289	0.0339	0.0611	1	ABS	350	200.00				
IP6-15		To L b District	0	64,307	0.1340	0.2412	1		600	400.00				
合計			64,307							3,050.00	0			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	400.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	100.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	450.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	1,000.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	200.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	100.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	700.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	0.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	3,050.00	Total	Force main	0.00
			All Total		3,050.00

Manhole Pump Station
0 (Places)

Interceptor Pipes Calculator

Case No. 1
 District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-1	L111222.41U		3,526	3,526	0.0073	0.0132	1	ABS	200	150.00				
IP7-2	L111222.40U		3,769	7,295	0.0152	0.0274	2	ABS	200	150.00	1			MP12
IP7-3	L111222.39U		554	7,849	0.0164	0.0294	2	ABS	200	200.00	1			MP13
IP7-4	L111222.38U		1,581	9,430	0.0196	0.0354	1	ABS	300	200.00				
IP7-5	L111222.37U		533	9,963	0.0208	0.0374	1	ABS	300	200.00				
IP7-6	L111222.36U	IP7-8	2,131	12,094	0.0252	0.0454	1	ABS	300	200.00				
IP7-7	L111222.33U		758	758	0.0016	0.0028	1	ABS	150	200.00				
IP7-8		IP7-14	0	12,852	0.0268	0.0482	1		300	200.00				
IP7-9	L111222.35U		2,978	2,978	0.0062	0.0112	1	ABS	200	120.00				
IP7-10	L111222.34U		272	3,250	0.0068	0.0122	1	ABS	200	120.00				
IP7-11	L111222.32U		585	3,835	0.0080	0.0144	1	ABS	200	120.00				
IP7-12	L111222.31U		111	3,946	0.0082	0.0148	1	ABS	200	120.00				
IP7-13	L111222.30U		1,151	5,097	0.0106	0.0191	2	ABS	150	130.00	1			MP14
IP7-14	L111222.29U		553	18,502	0.0385	0.0694	1	ABS	350	360.00				
IP7-15	L111222.25U	IP7-19	1,287	19,789	0.0412	0.0742	2	ABS	300	150.00	1			MP15
IP7-16	L111222.28U		1,205	1,205	0.0025	0.0045	1	ABS	150	130.00				
IP7-17	L111222.27U		721	1,926	0.0040	0.0072	1	ABS	150	130.00				
IP7-18	L111222.26U		1,754	3,680	0.0077	0.0138	1	ABS	200	140.00				
IP7-19	L111222.24U	IP7-21	136	23,605	0.0492	0.0885	1	ABS	400	310.00				
IP7-20	L111222.23U		6,529	6,529	0.0136	0.0245	2	ABS	150	60.00	1			MP16
IP7-21	L111222.22U	IP7-25	1,239	31,373	0.0654	0.1176	1	ABS	450	200.00				
IP7-22	L111222.19U		3,906	3,906	0.0081	0.0146	1	ABS	200	100.00				
IP7-23	L111222.18U		4,841	8,747	0.0182	0.0328	1	ABS	300	100.00				
IP7-24	L111222.20U		1,017	9,764	0.0203	0.0366	1	ABS	300	150.00				
IP7-25			0	41,137	0.0857	0.1543	2		400	150.00	1			MP17
IP7-26	L111222.21U	IP7-44	4,264	45,401	0.0946	0.1703	1	ABS	500	590.00				
IP7-27	L1112212.19U		3,656	3,656	0.0076	0.0137	2	ABS	150	120.00	1			MP18
IP7-28	L1112212.18U	IP7-31	632	4,288	0.0089	0.0161	1	ABS	200	120.00				
IP7-29	L1112212.17U		1,795	1,795	0.0037	0.0067	2	ABS	75	210.00	1			MP19
IP7-30	L1112212.16U		1,070	2,865	0.0060	0.0107	1	ABS	200	500.00				
IP7-31			0	7,153	0.0149	0.0268	1		250	100.00				
IP7-32	L1112212.15U	IP7-35	1,544	8,697	0.0181	0.0326	1	ABS	300	100.00				
IP7-33	L1112212.12U		1,093	1,093	0.0023	0.0041	1	ABS	150	100.00				
IP7-34	L1112212.14U		185	1,278	0.0027	0.0048	2	ABS	75	50.00	1			MP20
IP7-35	L1112212.13U	IP7-37	2,258	12,233	0.0255	0.0459	1	ABS	300	360.00				
IP7-36	L1112212.11U		223	223	0.0005	0.0008	1	ABS	150	110.00				
IP7-37		IP7-42	0	12,456	0.0260	0.0467	1		300	360.00				
IP7-38	L1112212.7U		246	246	0.0005	0.0009	1	ABS	150	100.00				
IP7-39	L1112212.8U		381	627	0.0013	0.0024	1	ABS	150	100.00				
IP7-40	L1112212.9U		4,634	5,261	0.0110	0.0197	1	ABS	250	100.00				
IP7-41	L1112212.10U		4,224	9,485	0.0198	0.0356	1	ABS	300	540.00				
IP7-42		IP7-44	0	21,941	0.0457	0.0823	1		400	200.00				
IP7-43	L1112212.6U		3,001	3,001	0.0063	0.0113	1	ABS	200	300.00				
IP7-44		IP7-46	0	70,343	0.1465	0.2638	1		600	450.00				
IP7-45	L1112212.5U		1,335	1,335	0.0028	0.0050	2	ABS	75	500.00	1			MP21
IP7-46		IP7-49	0	71,678	0.1493	0.2688	1		700	500.00				
IP7-47	L111222.17U		213	213	0.0004	0.0008	1	ABS	150	100.00				
IP7-48	L111222.16U		132	345	0.0007	0.0013	1	ABS	150	50.00				
IP7-49	L111222.15U		1,532	73,555	0.1532	0.2758	2	ABS	500	150.00				PS1-6
IP7-50		IP7-56	0	73,555	0.1532	0.2758	1		700	150.00				
IP7-51	L111222.14U		2,402	2,402	0.0050	0.0090	1	ABS	150	100.00				
IP7-52	L111222.12U	IP7-55	159	2,561	0.0053	0.0096	1	ABS	200	100.00				
IP7-53	L111222.13U		177	177	0.0004	0.0007	1	ABS	150	100.00				
IP7-54	L111222.11U		1,972	2,149	0.0045	0.0081	1	ABS	150	100.00				
IP7-55	L111222.10U		229	4,939	0.0103	0.0185	1	ABS	250	100.00				
IP7-56		IP7-61	0	78,494	0.1635	0.2944	1		700	100.00				
IP7-57	L111222.9U		3,274	3,274	0.0068	0.0123	1	ABS	200	100.00				
IP7-58	L111222.7U	IP7-60	1,233	4,507	0.0094	0.0169	2	ABS	150	100.00	1			MP22
IP7-59	L111222.8U		990	990	0.0021	0.0037	1	ABS	150	60.00				
IP7-60	L111222.6U		106	5,603	0.0117	0.0210	1	ABS	250	100.00				
IP7-61		IP7-70	0	84,097	0.1752	0.3154	1		700	250.00				
IP7-62	L111222.1U	IP7-64	609	609	0.0013	0.0023	1	ABS	150	250.00				

Interceptor Pipes Calculator

Case No. 1
 District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-63	L111222.5U		1,522	1,522	0.0032	0.0057	1	ABS	150	60.00				
IP7-64	L111222.3U	IP7-66	428	2,559	0.0053	0.0096	2	ABS	100	150.00	1			MP23
IP7-65	L111222.4U		408	408	0.0009	0.0015	1	ABS	150	50.00				
IP7-66	L111222.2U	IP7-70	254	3,221	0.0067	0.0121	1	ABS	200	150.00				
IP7-67	L11122.18U	IP7-69	709	709	0.0015	0.0027	1	ABS	150	520.00				
IP7-68	L11122.19U		3,647	3,647	0.0076	0.0137	1	ABS	200	300.00				
IP7-69			0	4,356	0.0091	0.0163	1		200	200.00				
IP7-70		IP7-73	0	91,674	0.1910	0.3438	1		700	200.00				
IP7-71	L11122.23U	IP7-73	1,383	1,383	0.0029	0.0052	1	ABS	150	50.00				
IP7-72	L11122.20U		288	288	0.0006	0.0011	2	ABS	75	100.00	1			MP24
IP7-73		IP7-79	0	93,345	0.1945	0.3500	1		700	250.00				
IP7-74	L111221.6A		774	774	0.0016	0.0029	1	ABS	150	100.00				
IP7-75	L111221.1U		2,023	2,797	0.0058	0.0105	1	ABS	200	100.00				
IP7-76	L11122.24U		575	3,372	0.0070	0.0126	1	ABS	200	100.00				
IP7-77	L11122.22U	IP7-79	384	3,756	0.0078	0.0141	1	ABS	200	200.00				
IP7-78	L11122.21U		324	324	0.0007	0.0012	1	ABS	150	50.00				
IP7-79		IP7-84	0	97,425	0.2030	0.3653	1		700	200.00				
IP7-80	L11122.17U	IP7-83	1,451	1,451	0.0030	0.0054	1	ABS	150	150.00				
IP7-81	L11122.16U		994	994	0.0021	0.0037	1	ABS	150	20.00				
IP7-82	L11122.15U		320	1,314	0.0027	0.0049	1	ABS	150	40.00				
IP7-83	L11122.14U		928	3,693	0.0077	0.0138	2	ABS	150	300.00	1			MP25
IP7-84		IP7-102	0	101,118	0.2107	0.3792	1		700	360.00				
IP7-85	L1112212.4U	IP7-87	1,629	1,629	0.0034	0.0061	1	ABS	150	300.00				
IP7-86	L1112211.1U		11,272	11,272	0.0235	0.0423	1	ABS	300	300.00				
IP7-87	L1112212.2U	IP7-89	2,076	14,977	0.0312	0.0562	2	ABS	250	100.00	1			MP26
IP7-88	L1112212.3U		3,901	3,901	0.0081	0.0146	1	ABS	200	100.00				
IP7-89	L1112212.1		732	19,610	0.0409	0.0735	1	ABS	400	250.00				
IP7-90	L111221.4U		1,325	20,935	0.0436	0.0785	1	ABS	400	250.00				
IP7-91	L111221.2U		2,604	23,539	0.0490	0.0883	2	ABS	300	50.00	1			MP27
IP7-92	L111221.3U		571	24,110	0.0502	0.0904	1	ABS	400	250.00				
IP7-93	L111221.5U	IP7-97	336	24,446	0.0509	0.0917	1	ABS	400	250.00				
IP7-94	L11121.13U	IP7-96	1,289	1,289	0.0027	0.0048	1	ABS	150	200.00				
IP7-95	L11121.12U		504	504	0.0011	0.0019	1	ABS	150	100.00				
IP7-96	L11121.14U		8,830	10,623	0.0221	0.0398	1	ABS	300	100.00				
IP7-97		IP7-102	0	35,069	0.0731	0.1315	1		500	500.00				
IP7-98	L11121.8U	IP7-101	1,414	1,414	0.0029	0.0053	1	ABS	150	100.00				
IP7-99	L11121.9U	IP7-101	932	932	0.0019	0.0035	2	ABS	150	100.00	1			MP28
IP7-100	L11121.11U		1,680	1,680	0.0035	0.0063	1	ABS	150	100.00				
IP7-101	L11121.10U		803	4,829	0.0101	0.0181	2	ABS	150	550.00	1			MP29
IP7-102		IP7-105	0	141,016	0.2938	0.5288	1		700	150.00				
IP7-103	L11122.13U		896	896	0.0019	0.0034	1	ABS	150	100.00				
IP7-104	L11122.12U		643	1,539	0.0032	0.0058	2	ABS	75	560.00	1			MP30
IP7-105			0	142,555	0.2970	0.5346	1		700	660.00				
IP7-106	L11122.6U	IP7-116	2,244	144,799	0.3017	0.5430	1	ABS	800	100.00				
IP7-107	L11121.6U	IP7-114	1,310	1,310	0.0027	0.0049	1	ABS	150	200.00				
IP7-108	L11121.1U	IP7-112	871	871	0.0018	0.0033	1	ABS	150	300.00				
IP7-109	L11121.7U		1,556	1,556	0.0032	0.0058	1	ABS	150	100.00				
IP7-110	L11121.5U		580	2,136	0.0045	0.0080	1	ABS	150	150.00				
IP7-111	L11121.4U		446	2,582	0.0054	0.0097	1	ABS	200	100.00				
IP7-112	L11121.2U		295	3,748	0.0078	0.0141	1	ABS	200	100.00				
IP7-113	L11121.3U		801	4,549	0.0095	0.0171	2	ABS	150	100.00	1			MP31
IP7-114			0	5,859	0.0122	0.0220	1		250	400.00				
IP7-115	L11122.2U		525	6,384	0.0133	0.0239	1	ABS	250	200.00				
IP7-116	L11122.4U		1,248	152,431	0.3176	0.5716	1	ABS	800	100.00				PS1-4
IP7-117	L11122.3U	IP7-123	465	152,896	0.3185	0.5734	1	ABS	800	200.00				
IP7-118	L11122.11U		1,010	1,010	0.0021	0.0038	1	ABS	150	150.00				
IP7-119	L11122.10U		7,406	8,416	0.0175	0.0316	1	ABS	300	150.00				

Interceptor Pipes Calculator

Case No. 1
 District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-120	L11122.9U		903	9,319	0.0194	0.0349	1	ABS	300	150.00				
IP7-121	L11122.8U		5,756	15,075	0.0314	0.0565	1	ABS	350	100.00				
IP7-122	L11122.7U		504	15,579	0.0325	0.0584	1	ABS	350	150.00				
IP7-123	L11122.5U	IP7-126	551	169,026	0.3521	0.6338	1	ABS	800	230.00				
IP7-124	L11122.1U		397	397	0.0008	0.0015	1	ABS	150	150.00				
IP7-125	L1112.12U		1,590	1,987	0.0041	0.0075	1	ABS	150	150.00				
IP7-126		IP7-131	0	171,013	0.3563	0.6413	1		800	650.00				
IP7-127	L1122.12U	IP7-130	5,717	5,717	0.0119	0.0214	1	ABS	250	1,200.00				
IP7-128	L1122.11U		7,128	7,128	0.0149	0.0267	1	ABS	250	590.00				
IP7-129	L1122.10U		7,880	15,008	0.0313	0.0563	1	ABS	350	600.00				
IP7-130			0	20,725	0.0432	0.0777	2		300	1,300.00	1			MP32
IP7-131		IP7-139	0	191,738	0.3995	0.7190	1		800	430.00				
IP7-131	L1121.16U		30,906	30,906	0.0644	0.1159	1	ABS	450	130.00				
IP7-132	L1121.15U		564	31,470	0.0656	0.1180	1	ABS	450	150.00				
IP7-133	L1121.14U	IP7-138	438	31,908	0.0665	0.1197	1	ABS	450	150.00				
IP7-134	L1121.8U		764	764	0.0016	0.0029	1	ABS	150	130.00				
IP7-135	L1121.9U		1,394	2,158	0.0045	0.0081	1	ABS	150	100.00				
IP7-136	L1121.10		503	2,661	0.0055	0.0100	1	ABS	200	100.00				
IP7-137	L1121.12U		1,410	4,071	0.0085	0.0153	1	ABS	200	100.00				
IP7-138	L1121.13U		2,644	38,623	0.0805	0.1448	1	ABS	500	100.00				
IP7-139		IP7-146	0	230,361	0.4799	0.8639	1		900	430.00				
IP7-140	L11.5	IP7-145	5,885	5,885	0.0123	0.0221	2	ABS	150	350.00	1			MP33
IP7-141	L111.1U		1,677	1,677	0.0035	0.0063	1	ABS	150	100.00				
IP7-142	L111.2		621	2,298	0.0048	0.0086	1	ABS	150	100.00				
IP7-143	L111.3	IP7-145	980	3,278	0.0068	0.0123	1	ABS	200	100.00				
IP7-144	L111.5U		2,256	2,256	0.0047	0.0085	1	ABS	150	300.00				
IP7-145	L111.4U		889	12,308	0.0256	0.0462	2	ABS	200	700.00	1			MP34
IP7-146		IP7-148	0	242,669	0.5056	0.9100	1		900	150.00				
IP7-147	L111.13U		3,888	3,888	0.0081	0.0146	1	ABS	200	300.00				
IP7-148		IP7-150	0	246,557	0.5137	0.9246	1		900	220.00				
IP7-149	L111.10U		612	612	0.0013	0.0023	1	ABS	150	100.00				
IP7-150	L111.12U	IP7-153	583	247,752	0.5162	0.9291	1	ABS	900	100.00				
IP7-151	L111.9U		197	197	0.0004	0.0007	1	ABS	150	50.00				
IP7-152	L111.11U		3,630	3,827	0.0080	0.0144	1	ABS	200	50.00				
IP7-153		IP7-155	0	251,579	0.5241	0.9434	1		900	150.00				
IP7-154	L111.8U		751	751	0.0016	0.0028	1	ABS	150	150.00				
IP7-155		IP7-189	0	252,330	0.5257	0.9462	1		900	300.00				
IP7-156	L111.6U	IP7-158	785	785	0.0016	0.0029	1	ABS	150	200.00				
IP7-157	L111.7U		670	670	0.0014	0.0025	1	ABS	150	100.00				
IP7-158		IP7-189	0	1,455	0.0030	0.0055	1		150	100.00				
IP7-159	L1111.9U		171	171	0.0004	0.0006	1	ABS	150	100.00				
IP7-160	L1111.8U	IP7-166	232	403	0.0008	0.0015	1	ABS	150	100.00				
IP7-161	L1111.11U		5,385	5,385	0.0112	0.0202	1	ABS	250	100.00				
IP7-162	L1111.10U		569	5,954	0.0124	0.0223	1	ABS	250	100.00				
IP7-163	L1111.7U		277	6,231	0.0130	0.0234	1	ABS	250	100.00				
IP7-164	L1111.6U		202	6,433	0.0134	0.0241	1	ABS	250	100.00				
IP7-165	L1111.5U		3,484	9,917	0.0207	0.0372	1	ABS	300	100.00				
IP7-166	L1111.4U	IP7-174	654	10,974	0.0229	0.0412	2	ABS	200	200.00	1			MP35
IP7-167	L1112.11U	IP7-169	267	267	0.0006	0.0010	1	ABS	150	200.00				
IP7-168	L1112.9U		4,716	4,716	0.0098	0.0177	1	ABS	250	100.00				
IP7-169	L1112.10U		1,108	6,091	0.0127	0.0228	1	ABS	250	100.00				
IP7-170	L1112.8U		604	6,695	0.0139	0.0251	1	ABS	250	100.00				
IP7-171	L1112.6U		855	7,550	0.0157	0.0283	1	ABS	250	100.00				
IP7-172	L1112.5U		269	7,819	0.0163	0.0293	1	ABS	250	100.00				
IP7-173	L1112.4U		237	8,056	0.0168	0.0302	1	ABS	300	200.00				
IP7-174		IP7-178	0	19,030	0.0396	0.0714	1		400	150.00				
IP7-175	L1112.7U		512	512	0.0011	0.0019	1	ABS	150	100.00				
IP7-176	L1112.3U		1,857	2,369	0.0049	0.0089	1	ABS	150	100.00				
IP7-177	L1112.2U		318	2,687	0.0056	0.0101	1	ABS	200	200.00				
IP7-178	L1112.1U	IP7-180	446	22,163	0.0462	0.0831	1	ABS	400	100.00				
IP7-179	L1111.3U		970	970	0.0020	0.0036	1	ABS	150	100.00				
IP7-180	L1111.1U	IP7-182	79	23,212	0.0484	0.0870	1	ABS	400	100.00				
IP7-181	L1111.2U		1,002	1,002	0.0021	0.0038	1	ABS	150	100.00				

Interceptor Pipes Calculator

Case No. 1
 District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-182	L111.18U		240	24,454	0.0509	0.0917	1	ABS	400	100.00				
IP7-183	L111.17U		487	24,941	0.0520	0.0935	1	ABS	400	100.00				
IP7-184	L111.16U	IP7-186	220	25,161	0.0524	0.0944	1	ABS	400	100.00				
IP7-185	L111.15U		1,560	1,560	0.0033	0.0059	1	ABS	150	100.00				
IP7-186		IP7-188	0	26,721	0.0557	0.1002	1		400	100.00				
IP7-187	L111.14U		286	286	0.0006	0.0011	1	ABS	150	100.00				
IP7-188			0	27,007	0.0563	0.1013	1		450	470.00				
IP7-189		IP7-193	0	280,792	0.5850	1.0530	1		1000	460.00				
IP7-190	L122.4U		1,549	1,549	0.0032	0.0058	1	ABS	150	150.00				
IP7-191	L122.3U		9,481	11,030	0.0230	0.0414	1	ABS	300	100.00				
IP7-192	L122.2		272	11,302	0.0235	0.0424	1	ABS	300	100.00				
IP7-193			0	292,094	0.6085	1.0954	1		1000	20.00				
IP7-194	L122.1		593	292,687	0.6098	1.0976	1	ABS	1000	100.00				
IP7-195	L12.2U	IP7-196	322	293,009	0.6104	1.0988	1	ABS	1000	100.00				
From La2 distr				0	0.0000	0.0000	1		500	0.00				
IP7-196			0	293,009	0.6104	1.0988	1		1000	150.00				
IP7-197	L12.1		494	293,503	0.6115	1.1006	1	ABS	1000	100.00				
IP7-198	L1.1U	IP7-201	982	294,485	0.6135	1.1043	1	ABS	1000	100.00				
IP7-199	SSB		27,897	27,897	0.0581	0.1046	1	ABS	450	600.00				
IP7-200	L11.2		9,322	37,219	0.0775	0.1396	1	ABS	500	200.00				
IP7-201	L11.1U		3,458	335,162	0.6983	1.2569	1	ABS	1100	200.00				
IP7-202	L11.3	IP7-204	4,834	339,996	0.7083	1.2750	1	ABS	1100	200.00				
IP7-203	L11.3		489	489	0.0010	0.0018	1	ABS	150	100.00				
IP7-204	L11.4	IP7-206	1,315	341,800	0.7121	1.2818	1	ABS	1100	500.00				
IP7-205	P211.11		4,833	4,833	0.0101	0.0181	1	ABS	250	150.00				
IP7-206		STP	0	346,633	0.7222	1.2999	1		1100	550.00				
IP7-207	L1122.8U		4,529	4,529	0.0094	0.0170	2	ABS	150	100.00	1			MP36
IP7-208	L1122.9U		2,990	7,519	0.0157	0.0282	1	ABS	250	200.00				
IP7-209	L1122.7U	IP7-212	1,929	9,448	0.0197	0.0354	1	ABS	300	200.00				
IP7-210	L1122.5		3,504	3,504	0.0073	0.0131	1	ABS	200	100.00				
IP7-211	L1122.6U		2,894	6,398	0.0133	0.0240	2	ABS	150	100.00	1			MP37
IP7-212		IP7-214	0	15,846	0.0330	0.0594	1		350	400.00				
IP7-213	L1122.3U		651	651	0.0014	0.0024	1	ABS	150	150.00				
IP7-214	L1122.4U		2,737	19,234	0.0401	0.0721	1	ABS	400	150.00				
IP7-215	L1122.2	IP7-225	1,234	20,468	0.0426	0.0768	1	ABS	400	150.00				
IP7-216	L1121.11U		2,634	2,634	0.0055	0.0099	1	ABS	200	200.00				
IP7-217	L1121.7U	IP7-221	3,289	5,923	0.0123	0.0222	1	ABS	250	600.00				
IP7-218	L1121.3U		405	405	0.0008	0.0015	1	ABS	150	100.00				
IP7-219	L1121.5		1,011	1,416	0.0030	0.0053	2	ABS	75	150.00	1			MP38
IP7-220	L1121.4		3,219	4,635	0.0097	0.0174	1	ABS	250	50.00				
IP7-221		IP7-224	0	10,558	0.0220	0.0396	1		300	150.00				
IP7-222	L1121.2U		707	707	0.0015	0.0027	2	ABS	75	100.00	1			MP39
IP7-223	L1121.1U		1,110	1,817	0.0038	0.0068	1	ABS	150	250.00				
IP7-224			0	12,375	0.0258	0.0464	1		300	200.00				
IP7-225		STP	0	32,843	0.0684	0.1232	1		450	200.00				
IP7-226	L1122.1U		3,131	3,131	0.0065	0.0117	1	ABS	200	150.00				
IP7-227	STP		0	382,607	0.7971	1.4348	1	ABS	1100	200.00				

Total length table for Case 2

Gravity Flow

Diameter	P	Pa	Pb	Pc	Pd	Paranaque	L	La1	La2	Lb	Las Pinas	Total
	(m)	(m)	(m)	(m)	(m)	Total	(m)	(m)	(m)	(m)	Total	
150	0.00	11,190.00	6,410.00	2,120.00	1,010.00	20,730.00	0.00	6,590.00	400.00	7,950.00	14,940.00	35,670.00
200	0.00	12,410.00	3,070.00	1,790.00	250.00	17,520.00	0.00	1,210.00	100.00	4,640.00	5,950.00	23,470.00
250	0.00	5,830.00	3,870.00	1,470.00	380.00	11,550.00	0.00	3,010.00	450.00	4,690.00	8,150.00	19,700.00
300	0.00	6,760.00	3,530.00	930.00	0.00	11,220.00	0.00	1,070.00	1,000.00	4,160.00	6,230.00	17,450.00
350	0.00	2,880.00	1,130.00	300.00	0.00	4,310.00	0.00	0.00	200.00	1,610.00	1,810.00	6,120.00
400	0.00	1,990.00	310.00	1,300.00	0.00	3,600.00	0.00	1,500.00	0.00	2,560.00	4,060.00	7,660.00
450	0.00	3,230.00	0.00	1,200.00	0.00	4,430.00	0.00	1,390.00	100.00	1,900.00	3,390.00	7,820.00
500	0.00	3,090.00	3,950.00	870.00	100.00	8,010.00	0.00	100.00	100.00	1,390.00	1,590.00	9,600.00
600	0.00	2,630.00	1,400.00	1,540.00	0.00	5,570.00	0.00	3,030.00	700.00	450.00	4,180.00	9,750.00
700	3,470.00	2,850.00	1,520.00	1,420.00	3,430.00	12,690.00	0.00	3,700.00	0.00	2,820.00	6,520.00	19,210.00
800	0.00	1,540.00	2,360.00	0.00	0.00	3,900.00	0.00	0.00	0.00	1,710.00	1,710.00	5,610.00
900	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,350.00	1,350.00	1,350.00
1000	1,250.00	100.00	0.00	0.00	0.00	1,350.00	0.00	0.00	0.00	1,030.00	1,030.00	2,380.00
1100	2,210.00	2,660.00				4,870.00	1,300.00			1,650.00	2,950.00	7,820.00
1200	0.00	420.00				420.00	2,500.00			0.00	2,500.00	2,920.00
1350						0.00					0.00	0.00
1500						0.00					0.00	0.00
1650						0.00					0.00	0.00
1800						0.00					0.00	0.00
Total	6,930.00	57,580.00	27,550.00	12,940.00	5,170.00	110,170.00	3,800.00	21,600.00	3,050.00	37,910.00	66,360.00	176,530.00

Force main Flow

Diameter	P	Pa	Pb	Pc	Pd	Paranaque	L	La1	La2	Lb	Las Pinas	Total
	(m)	(m)	(m)	(m)	(m)	Total	(m)	(m)	(m)	(m)	Total	
75	0.00	560.00	0.00	0.00	0.00	560.00	0.00	810.00	0.00	1,670.00	2,480.00	3,040.00
100	0.00	440.00	0.00	0.00	0.00	440.00	0.00	840.00	0.00	150.00	990.00	1,430.00
150	0.00	3,140.00	0.00	0.00	0.00	3,140.00	0.00	300.00	0.00	2,010.00	2,310.00	5,450.00
200	0.00	1,850.00	0.00	0.00	0.00	1,850.00	0.00	250.00	0.00	1,250.00	1,500.00	3,350.00
250	0.00	1,380.00	330.00	0.00	0.00	1,710.00	0.00	450.00	0.00	100.00	550.00	2,260.00
300	0.00	210.00	0.00	50.00	0.00	260.00	0.00	190.00	0.00	1,500.00	1,690.00	1,950.00
350	0.00	1,580.00	0.00	0.00	0.00	1,580.00	0.00	0.00	0.00	0.00	0.00	1,580.00
400	0.00	220.00	0.00	0.00	0.00	220.00	0.00	430.00	0.00	150.00	580.00	800.00
450	0.00	0.00	70.00	60.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	130.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	650.00	0.00	150.00	800.00	800.00
600	0.00	0.00	0.00	0.00	0.00	0.00	0.00	800.00	0.00	0.00	800.00	800.00
700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900	0.00	0.00				0.00	0.00			0.00	0.00	0.00
1000	0.00	0.00				0.00	0.00			0.00	0.00	0.00
1100						0.00					0.00	0.00
1200						0.00					0.00	0.00
Total	0.00	9,380.00	400.00	110.00	0.00	9,890.00	0.00	4,720.00	0.00	6,980.00	11,700.00	21,590.00

Gravity + Force main = 198,120.00

Interceptor Pipes Calculator

Case No. 2
 District ID Paranaque

Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
		For each (P)	umulative to (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
Pd		92,435	92,435	0.1926	0.3466	1		700	1,990.00				
Pc		137,627	137,627	0.2867	0.5161	1		700	1,480.00				PS2-7
Pb		188,755	188,755	0.3932	0.7078				0.00				
Pb+Pc		0	326,382	0.6800	1.2239	1		1000	1,250.00				PS2-1
Pd+Pb+Pc		0	418,817	0.8725	1.5706	1		1100	2,210.00				
Pa		486,870	486,870	1.0143	1.8258				0.00				
Paranaque STP Capacity		0	905,687	1.8868	3.3963								
Total		905,687							6,930.00	0			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	0.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	0.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	0.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	0.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	0.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	0.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	3,470.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	1,250.00	2	800	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1100	2,210.00	2	900	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1200	0.00	2	1000	0.00
Total	Gravity Flow	6,930.00	Total	Force main	0.00
			All Total		6,930.00

Manhole Pump Station	
0	(Places)

Interceptor Pipes Calculation

Case No. 2
 District ID Pa

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-1	P2121112.19U		3,273	3,273	0.0068	0.0123	1	ABS	200	560.00				
IP1-2	P2121112.17U		1,870	5,143	0.0107	0.0193	1	ABS	250	380.00				
IP1-3	P2121112.16U	IP1-8	2,265	7,408	0.0154	0.0278	1	ABS	250	480.00				
IP1-4	P2121112.24A		2,578	2,578	0.0054	0.0097	1	ABS	200	230.00				
IP1-5	P2121112.18U		458	3,036	0.0063	0.0114	1	ABS	200	1,150.00				
IP1-6	P2121112.15U		5,765	8,801	0.0183	0.0330	2	ABS	200	150.00	1			MP40
IP1-7	P2121112.14U		2,350	11,151	0.0232	0.0418	1	ABS	300	160.00				
IP1-8			0	18,559	0.0387	0.0696	1		350	340.00				
IP1-9	P2121112.13U	IP1-11	7,275	25,834	0.0538	0.0969	1	ABS	400	70.00				
IP1-10	P2121112.11U		611	611	0.0013	0.0023	1	ABS	150	420.00				
IP1-11	P2121112.12U		2,973	29,418	0.0613	0.1103	2	ABS	350	590.00	1			MP41
IP1-12		IP1-15	0	29,418	0.0613	0.1103	1		450	900.00				
IP1-13	P2121112.10U		1,161	1,161	0.0024	0.0044	2	ABS	75	150.00	1			MP42
IP1-14			0	1,161	0.0024	0.0044	1		150	620.00				
IP1-15		IP1-20	0	30,579	0.0637	0.1147	1		450	330.00				
IP1-16	P2121112.9U		140	140	0.0003	0.0005	1	ABS	150	180.00				
IP1-17	P2121112.8U	IP1-19	528	668	0.0014	0.0025	1	ABS	150	140.00				
IP1-18	P2121112.7U		1,207	1,207	0.0025	0.0045	1	ABS	150	70.00				
IP1-19			0	1,875	0.0039	0.0070	2		75	410.00	1			MP43
IP1-20			0	32,454	0.0676	0.1217	1		450	730.00				
IP1-21	P2121112.22A	IP1-49	10,680	43,134	0.0899	0.1618	1	ABS	500	550.00				
IP1-22	P212112111.3	IP1-26	3,876	3,876	0.0081	0.0145	2	ABS	150	250.00	1			MP44
IP1-23	P212112111.5A	IP1-25	2,676	2,676	0.0056	0.0100	1	ABS	200	310.00				
IP1-24	P212112111.4A		1,844	1,844	0.0038	0.0069	1	ABS	150	70.00				
IP1-25			0	4,520	0.0094	0.0170	1		200	160.00				
IP1-26		IP1-49	0	8,396	0.0175	0.0315	1		300	630.00				
IP1-27	P212112112.11A		3,207	3,207	0.0067	0.0120	1	ABS	200	540.00				
IP1-28	P212112112.10A		786	3,993	0.0083	0.0150	1	ABS	200	150.00				
IP1-29	P212112112.8A	IP1-31	411	4,404	0.0092	0.0165	1	ABS	200	250.00				
IP1-30	P212112112.5		89	89	0.0002	0.0003	1	ABS	150	60.00				
IP1-31	P212112112.4		106	4,599	0.0096	0.0172	1	ABS	250	60.00				
IP1-32	P212112112.3	IP1-36	3,485	8,084	0.0168	0.0303	1	ABS	300	60.00				
IP1-33	P212112112.7A	IP1-35	4,608	4,608	0.0096	0.0173	1	ABS	250	320.00				
IP1-34	P212112112.1		1,007	1,007	0.0021	0.0038	1	ABS	150	70.00				
IP1-35	P212112112.2		741	6,356	0.0132	0.0238	1	ABS	250	110.00				
IP1-36		IP1-45	0	14,440	0.0301	0.0542	1		350	60.00				
IP1-37	M.1A	IP1-39	9,341	9,341	0.0195	0.0350	1	ABS	300	1,340.00				
IP1-38	M.2A		5,128	5,128	0.0107	0.0192	1	ABS	250	350.00				
IP1-39		IP1-41	0	14,469	0.0301	0.0543	1		350	70.00				
IP1-40	M.3A		3,560	3,560	0.0074	0.0134	1	ABS	200	680.00				
IP1-41		IP1-43	0	18,029	0.0376	0.0676	1		350	380.00				
IP1-42	P212112112.9A		1,314	1,314	0.0027	0.0049	1	ABS	150	200.00				
IP1-43		IP1-45	0	19,343	0.0403	0.0725	1		400	640.00				
IP1-44	P212112112.6A		816	816	0.0017	0.0031	1	ABS	150	80.00				
IP1-45			0	34,599	0.0721	0.1297	2		350	270.00	1			MP45
IP1-46			0	34,599	0.0721	0.1297	1		450	270.00				
IP1-47	P212112111.1		953	35,552	0.0741	0.1333	1	ABS	500	90.00				
IP1-48	P212112111.2		1,673	37,225	0.0776	0.1396	2	ABS	350	720.00	1			MP46
IP1-49		IP1-52	0	88,755	0.1849	0.3328	1		700	980.00				
IP1-50	P2121112.5A		1,411	1,411	0.0029	0.0053	1	ABS	150	70.00				
IP1-51	P2121112.4A		9,075	10,486	0.0218	0.0393	1	ABS	300	230.00				
IP1-52		IP1-55	0	99,241	0.2068	0.3722	1		700	490.00				
IP1-53	P2121112.21A		2,606	2,606	0.0054	0.0098	1	ABS	200	440.00				
IP1-54	P2121112.20A		1,759	4,365	0.0091	0.0164	1	ABS	200	400.00				
IP1-55	P2121111.8A		1,869	105,475	0.2197	0.3955	1	ABS	700	100.00				
IP1-56	P2121111.7A	IP1-86	3,869	109,344	0.2278	0.4100	1	ABS	700	310.00				
IP1-57	P2121112.23A		4,812	4,812	0.0100	0.0180	1	ABS	250	80.00				
IP1-58	P2121112.6U		1,815	6,627	0.0138	0.0249	1	ABS	250	240.00				
IP1-59	P2121112.5U		1,521	8,148	0.0170	0.0306	1	ABS	300	290.00				
IP1-60	P2121112.4U	IP1-62	3,426	11,574	0.0241	0.0434	1	ABS	300	430.00				
IP1-61	Add SB4-25-2		12,400	12,400	0.0258	0.0465	1	ABS	300	320.00				
IP1-62		IP1-67	0	23,974	0.0499	0.0899	1		400	260.00				
IP1-63	P2121112.3U		467	467	0.0010	0.0018	1	ABS	150	70.00				
IP1-64	P2121112.2U		232	699	0.0015	0.0026	1	ABS	150	220.00				
IP1-65	P2121112.1U		4,479	5,178	0.0108	0.0194	1	ABS	250	80.00				
IP1-66			0	5,178	0.0108	0.0194	2		150	320.00	1			MP47

Interceptor Pipes Calculation

Case No.	2
District ID	Pa

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-67		IP1-73	0	29,152	0.0607	0.1093	1		450	370.00				
IP1-68	P21211111.4	IP1-72	1,654	1,654	0.0034	0.0062	1	ABS	150	120.00				
IP1-69	Add SB4-25-1	IP1-71	3,838	3,838	0.0080	0.0144	1	ABS	200	330.00				
IP1-70	P21211111.6		4,262	4,262	0.0089	0.0160	1	ABS	200	60.00				
IP1-71	P21211111.5		3,566	11,666	0.0243	0.0437	1	ABS	300	230.00				
IP1-72			0	13,320	0.0278	0.0500	1		350	390.00				
IP1-73			0	42,472	0.0885	0.1593	1		500	350.00				
IP1-74			0	42,472	0.0885	0.1593	1		500	220.00				
IP1-75		IP1-78	0	42,472	0.0885	0.1593	1		500	390.00				
IP1-76	P21211111.2		1,589	1,589	0.0033	0.0060	1	ABS	150	120.00				
IP1-77	P21211111.3		15,104	16,693	0.0348	0.0626	2	ABS	250	320.00	1			MP49
IP1-78		IP1-80	0	59,165	0.1233	0.2219	1		600	50.00				
IP1-79	P21211111.1		163	163	0.0003	0.0006	1	ABS	150	300.00				
IP1-80		IP1-86	0	59,328	0.1236	0.2225	1		600	230.00				
IP1-81	P2121111.2	IP1-84	1,073	1,073	0.0022	0.0040	1		150	80.00				
IP1-82	P2121111.3A		835	835	0.0017	0.0031	1	ABS	150	320.00				
IP1-83	P2121111.5A		654	1,489	0.0031	0.0056	1	ABS	150	380.00				
IP1-84	P2121111.1		1,369	3,931	0.0082	0.0147	1	ABS	200	50.00				
IP1-85			0	3,931	0.0082	0.0147	2		150	420.00	1			MP50
IP1-86		IP1-90	0	172,603	0.3596	0.6473	1		800	350.00				
IP1-87	P2121111.6A	IP1-89	439	439	0.0009	0.0016	1	ABS	150	310.00				
IP1-88	P2121111.4A		2,373	2,373	0.0049	0.0089	1	ABS	150	530.00				
IP1-89			0	2,812	0.0059	0.0105	1		200	50.00				
IP1-90		IP1-96	0	175,415	0.3654	0.6578	1		800	460.00				
IP1-91	P2121111.1A	IP1-96	2,165	2,165	0.0045	0.0081	1	ABS	150	260.00				
IP1-92	P2121112.2A		3,116	3,116	0.0065	0.0117	1	ABS	200	80.00				
IP1-93	P2121112.3A		977	4,093	0.0085	0.0153	1	ABS	200	350.00				
IP1-94	P2121112.1		679	4,772	0.0099	0.0179	1	ABS	250	30.00				
IP1-95			0	4,772	0.0099	0.0179	2		150	410.00	1			MP51
IP1-96			0	182,352	0.3799	0.6838	1		800	410.00				
IP1-97	P21211.12U	IP1-99	1,692	184,044	0.3834	0.6902	1	ABS	800	90.00				
IP1-98	P21211.10U		1,643	1,643	0.0034	0.0062	1	ABS	150	220.00				
IP1-99		IP1-93	0	185,687	0.3868	0.6963	1		800	230.00				
IP1-100	P2121222.10A		3,168	3,168	0.0066	0.0119	1	ABS	200	720.00				
IP1-101	P2121222.9A		3,018	6,186	0.0129	0.0232	1	ABS	250	320.00				
IP1-102	P2121222.2U		1,200	1,200	0.0025	0.0045	1	ABS	150	120.00				
IP1-103	P2121222.3U		1,967	3,167	0.0066	0.0119	1	ABS	200	50.00				
IP1-104			0	9,353	0.0195	0.0351	2		200	510.00	1			MP52
IP1-105		IP1-108	0	9,353	0.0195	0.0351	1		300	820.00				
IP1-106	P2121221.8U		5,032	5,032	0.0105	0.0189	1	ABS	250	50.00				
IP1-107	P2121221.11A		1,904	1,904	0.0040	0.0071	1	ABS	150					
IP1-108	P2121221.7U		103	16,392	0.0342	0.0615	1	ABS	350	60.00				
IP1-109			0	16,392	0.0342	0.0615	2		250	230.00	1			MP53
IP1-110			0	16,392	0.0342	0.0615	1		350	70.00				
IP1-111	P2121221.5U		2,503	18,895	0.0394	0.0709	1	ABS	350	50.00				
IP1-112	P2121221.6U	IP1-114	3,957	22,852	0.0476	0.0857	1	ABS	400	110.00				
IP1-113	P2121221.10A		12,524	12,524	0.0261	0.0470	1	ABS	300	300.00				
IP1-114		IP1-116	0	35,376	0.0737	0.1327	1		500	360.00				
IP1-115	P2121221.9A		2,092	2,092	0.0044	0.0078	1	ABS	150	200.00				
IP1-116		IP1-122	0	37,468	0.0781	0.1405	1		500	260.00				
IP1-117	P2121221.4U	IP1-121	3,727	3,727	0.0078	0.0140	1	ABS	200	70.00				
IP1-118	P2121221.1U		477	477	0.0010	0.0018	1	ABS	150	90.00				
IP1-119	P2121221.3U		613	1,090	0.0023	0.0041	1	ABS	150	70.00				
IP1-120	P2121221.2U		2,820	3,910	0.0081	0.0147	1	ABS	200	60.00				
IP1-121			0	7,637	0.0159	0.0286	2		200	480.00	1			MP54
IP1-122		IP1-147	0	45,105	0.0940	0.1691	1		500	420.00				
IP1-123	P21211212.7A	IP1-125	2,114	2,114	0.0044	0.0079	1	ABS	150	120.00				
IP1-124	P21211212.6A		481	481	0.0010	0.0018	1	ABS	150	90.00				
IP1-125	P21211212.5A		571	3,166	0.0066	0.0119	1	ABS	200	200.00				
IP1-126	P21211212.4A		670	3,836	0.0080	0.0144	1	ABS	200	320.00				
IP1-127	P21211212.3A	IP1-130	842	4,678	0.0097	0.0175	1	ABS	250	80.00				
IP1-128	P21211211.1A		1,096	1,096	0.0023	0.0041	1	ABS	150	80.00				
IP1-129	P21211211.2A		640	1,736	0.0036	0.0065	1	ABS	150	350.00				
IP1-130		IP1-132	0	6,414	0.0134	0.0241	1		250	100.00				

Interceptor Pipes Calculation

Case No. 2
 District ID Pa

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Stator			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-131	P21211212.1		202	202	0.0004	0.0008	1	ABS	150	60.00				
IP1-132	P21211212.2	IP1-145	1,757	8,373	0.0174	0.0314	1	ABS	300	380.00				
IP1-133	P212112.5	IP1-135	1,478	1,478	0.0031	0.0055	1	ABS	150	90.00				
IP1-134	P212112.3U		287	287	0.0006	0.0011	1	ABS	150	70.00				
IP1-135	P212112.4	IP1-137	729	2,494	0.0052	0.0094	1	ABS	200	100.00				
IP1-136	P212115.12A		777	777	0.0016	0.0029	1	ABS	150	70.00				
IP1-137		IP1-140	0	3,271	0.0068	0.0123	1		200	90.00				
IP1-138	P2121121.2		1,976	1,976	0.0041	0.0074	1	ABS	150	50.00				
IP1-139	P2121121.1		367	2,343	0.0049	0.0088	1	ABS	150	190.00				
IP1-140		IP1-144	0	5,614	0.0117	0.0211	2		150	530.00	1			MP55
IP1-141	P2121122.1A	IP1-143	715	715	0.0015	0.0027	1	ABS	150	260.00				
IP1-142	P2121121.3A		1,512	1,512	0.0032	0.0057	1	ABS	150	220.00				
IP1-143			0	2,227	0.0046	0.0084	1		150	100.00				
IP1-144			0	7,841	0.0163	0.0294	1		250	90.00				
IP1-145			0	16,214	0.0338	0.0608	1		350	250.00				
IP1-146	P2121122.2A		4,377	20,591	0.0429	0.0772	1	ABS	400	160.00				
IP1-147		IP1-75	0	65,696	0.1369	0.2464	1		600	670.00				
IP1-148	P2121222.1	IP1-152	1,144	1,144	0.0024	0.0043	1	ABS	150	50.00				
IP1-149	P2121222.8A		1,586	1,586	0.0033	0.0059	1	ABS	150	170.00				
IP1-150	P2121222.7A		1,516	3,102	0.0065	0.0116	1	ABS	200	180.00				
IP1-151	P2121222.6A		7,407	10,509	0.0219	0.0394	1	ABS	300	380.00				
IP1-152			0	11,653	0.0243	0.0437	1		300	190.00				
IP1-153			0	11,653	0.0243	0.0437	2		200	160.00	1			MP56
IP1-154	P2121222.5A		4,249	4,249	0.0089	0.0159	1	ABS	200	50.00				
IP1-155	P2121222.4A		1,853	1,853	0.0039	0.0069	1	ABS	150	170.00				
IP1-156		IP1-160	0	17,755	0.0370	0.0666	1		350	270.00				
IP1-157	P212122.10A		4,984	4,984	0.0104	0.0187	1	ABS	250	100.00				
IP1-158	P212122.11A		739	5,723	0.0119	0.0215	1	ABS	250	150.00				
IP1-159	P212122.9A		854	6,577	0.0137	0.0247	1	ABS	250	270.00				
IP1-160	P212122.8		3,196	27,528	0.0574	0.1032	1	ABS	450	290.00				
IP1-161	P212122.6		2,122	29,650	0.0618	0.1112	1	ABS	450	40.00				
IP1-162	P212122.7		4,287	33,937	0.0707	0.1273	1	ABS	450	160.00				
IP1-63	P212122.4		4,233	4,233	0.0088	0.0159	2	ABS	150	160.00	1			MP57
IP1-64	P212122.5		1,860	6,093	0.0127	0.0228	1	ABS	250	180.00				
IP1-65		IP1-74	0	40,030	0.0834	0.1501	2		400	220.00	1			MP58
IP1-66	P212122.1		121	121	0.0003	0.0005	1	ABS	150	280.00				
IP1-67	P212122.2	IP1-69	2,450	2,571	0.0054	0.0096	1	ABS	200	50.00				
IP1-68	P212121.1U		4,622	4,622	0.0096	0.0173	1	ABS	250	60.00				
IP1-69		IP1-71	0	7,193	0.0150	0.0270	1		250	120.00				
IP1-70	P212121.2U		10,050	10,050	0.0209	0.0377	1	ABS	300	180.00				
IP1-71		IP1-73	0	17,243	0.0359	0.0647	1		350	150.00				
IP1-72	P212122.3		1,514	1,514	0.0032	0.0057	1	ABS	150	50.00				
IP1-73			0	18,757	0.0391	0.0703	2		250	330.00	1			MP59
IP1-74			0	58,787	0.1225	0.2205	1		600	680.00				
IP1-75		IP1-85	0	124,483	0.2593	0.4668	1		700	270.00				
IP1-76	P212115.6A		517	517	0.0011	0.0019	1	ABS	150	420.00				
IP1-77	P212115.10A	IP1-79	706	1,223	0.0025	0.0046	1	ABS	150	100.00				
IP1-78	P212115.11A		440	440	0.0009	0.0017	1	ABS	150	360.00				
IP1-79	P212115.9A	IP1-83	3,039	4,702	0.0098	0.0176	1	ABS	250	80.00				
IP1-80	P212115.7A		537	537	0.0011	0.0020	1	ABS	150	90.00				
IP1-81	P212115.8A		496	1,033	0.0022	0.0039	1	ABS	150	200.00				
IP1-82	P212112.2U		496	1,529	0.0032	0.0057	1	ABS	150	60.00				
IP1-83			0	6,231	0.0130	0.0234	2		150	440.00	1			MP60
IP1-84			0	6,231	0.0130	0.0234	1		250	290.00				
IP1-85		IP1-88	0	130,714	0.2723	0.4902	1		700	290.00				
IP1-86	P212112.1		5,082	5,082	0.0106	0.0191	1	ABS	250	50.00				
IP1-87			0	5,082	0.0106	0.0191	2		150	360.00	1			MP61
IP1-88		IP1-93	0	135,796	0.2829	0.5092	1		700	410.00				
IP1-89	P21212.8		3,401	3,401	0.0071	0.0128	1	ABS	200	50.00				
IP1-90	P21212.9		1,689	5,090	0.0106	0.0191	1	ABS	250	50.00				
IP1-91			0	5,090	0.0106	0.0191	2		150	250.00	1			MP62
IP1-92			0	5,090	0.0106	0.0191	1		250	270.00				
IP1-93		IP1-95	0	326,573	0.6804	1.2246	1		1000	100.00				
IP1-94	P21211.11U		3,685	3,685	0.0077	0.0138	1	ABS	200	130.00				
IP1-95		IP1-105	0	330,258	0.6880	1.2385	1		1100	410.00				

Interceptor Pipes Calculation

Case No.	2
District ID	Pa

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Stator			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-96	P21212.7	IP1-98	1,039	1,039	0.0022	0.0039	1	ABS	150	260.00				
IP1-97	P21212.6		2,602	2,602	0.0054	0.0098	1	ABS	200	120.00				
IP1-98		IP1-101	0	3,641	0.0076	0.0137	1		200	510.00				
IP1-99	P21212.4		3,541	3,541	0.0074	0.0133	1	ABS	200	150.00				
IP1-100	P21212.5		6,206	9,747	0.0203	0.0366	1	ABS	300	50.00				
IP1-101		IP1-105	0	13,388	0.0279	0.0502	2		250	310.00	1			MP63
IP1-102	P21211.7U		2,283	2,283	0.0048	0.0086	1	ABS	150	170.00				
IP1-103	P21211.9U		1,193	3,476	0.0072	0.0130	1	ABS	200	60.00				
IP1-104	P21211.8U		1,583	5,059	0.0105	0.0190	1	ABS	250	150.00				
IP1-105		IP1-108	0	348,705	0.7265	1.3076	1		1100	350.00				
IP1-106	P21212.3		2,481	2,481	0.0052	0.0093	1	ABS	200	50.00				
IP1-107			0	2,481	0.0052	0.0093	2		100	440.00	1			MP64
IP1-108		IP1-111	0	351,186	0.7316	1.3169	1		1100	280.00				
IP1-109	P21211.6U		773	773	0.0016	0.0029	1	ABS	150	110.00				
IP1-110	P21211.5U		916	1,689	0.0035	0.0063	1	ABS	150	80.00				
IP1-111	P21211.4U	IP1-128	602	353,477	0.7364	1.3255	1	ABS	1100	280.00				
IP1-112	P2122.2		502	502	0.0010	0.0019	1	ABS	150	70.00				
IP1-113	P2122.3	IP1-119	25	527	0.0011	0.0020	1	ABS	150	50.00				
IP1-114	P2122.6U	IP1-118	15,610	15,610	0.0325	0.0585	2	ABS	250	190.00	1			MP65
IP1-115	P2122.9A		1,054	1,054	0.0022	0.0040	1	ABS	150	630.00				
IP1-116	P2122.8A		2,306	3,360	0.0070	0.0126	1	ABS	200	500.00				
IP1-117	P2122.7A		1,567	4,927	0.0103	0.0185	1	ABS	250	500.00				
IP1-118	P2122.5		1,027	21,564	0.0449	0.0809	1	ABS	400	70.00				
IP1-119	P2122.4	IP1-122	2,630	24,721	0.0515	0.0927	1	ABS	400	570.00				
IP1-120	P2121.3A		1,994	1,994	0.0042	0.0075	1	ABS	150	500.00				
IP1-121	P2121.10A		5,450	7,444	0.0155	0.0279	1	ABS	250	280.00				
IP1-122		IP1-124	0	32,165	0.0670	0.1206	1		450	90.00				
IP1-123	P21212.2		2,792	2,792	0.0058	0.0105	1	ABS	200	460.00				
IP1-124			0	34,957	0.0728	0.1311	1		500	130.00				
IP1-125	P21212.1	IP1-127	2,541	37,498	0.0781	0.1406	1	ABS	500	210.00				
IP1-126	P21211.2U		2,639	2,639	0.0055	0.0099	1	ABS	200	100.00				
IP1-127			0	40,137	0.0836	0.1505	1		500	110.00				
IP1-128	P21211.3U		2,343	395,957	0.8249	1.4848	1	ABS	1100	450.00				
IP1-129	P21211.1U	IP1-132	3,463	399,420	0.8321	1.4978	1	ABS	1100	180.00				
IP1-130	P2121.1		2,672	2,672	0.0056	0.0100	1	ABS	200	50.00				
IP1-131	P2121.2		403	3,075	0.0064	0.0115	1	ABS	200	350.00				
IP1-132		IP1-158	0	402,495	0.8385	1.5094	1		1100	710.00				
IP1-133	P211.10	IP1-135	7,021	7,021	0.0146	0.0263	1	ABS	250	190.00				
IP1-134	P211.9		1,877	1,877	0.0039	0.0070	1	ABS	150	50.00				
IP1-135			0	8,898	0.0185	0.0334	2		200	280.00	1			MP66
IP1-136		IP1-158	0	8,898	0.0185	0.0334	1		300	520.00				
IP1-137	P2.2U	IP1-141	4,027	4,027	0.0084	0.0151	1	ABS	200	480.00				
IP1-138	P212.2A		4,067	4,067	0.0085	0.0153	1	ABS	200	280.00				
IP1-139	P212.1A		1,751	5,818	0.0121	0.0218	1	ABS	250	320.00				
IP1-140	P21.1		4,196	10,014	0.0209	0.0376	2	ABS	200	270.00	1			MP67
IP1-141			0	14,041	0.0293	0.0527	1		350	170.00				
IP1-142	P211.1		8,990	23,031	0.0480	0.0864	1	ABS	400	110.00				
IP1-143	P211.2	IP1-149	4,728	27,759	0.0578	0.1041	1	ABS	450	50.00				
IP1-144	P211.8		16,913	16,913	0.0352	0.0634	1	ABS	350	190.00				
IP1-145	P211.5U		490	17,403	0.0363	0.0653	1	ABS	350	50.00				
IP1-146	P211.4U	IP1-148	822	18,225	0.0380	0.0683	1	ABS	350	380.00				
IP1-147	P211.3		2,562	2,562	0.0053	0.0096	1	ABS	200	120.00				
IP1-148			0	20,787	0.0433	0.0780	2		300	210.00	1			MP68
IP1-149		IP1-156	0	48,546	0.1011	0.1820	1		600	450.00				
IP1-150	P211.10		761	761	0.0016	0.0029	1	ABS	150	30.00				
IP1-151	P211.8U		841	1,602	0.0033	0.0060	1	ABS	150	80.00				
IP1-152	P211.7U		367	1,969	0.0041	0.0074	1	ABS	150	30.00				
IP1-153	P211.9	IP1-156	2,220	4,189	0.0087	0.0157	1	ABS	200	990.00				
IP1-154	P211.7		1,018	1,018	0.0021	0.0038	1	ABS	150	40.00				
IP1-155	P211.6		9,690	10,708	0.0223	0.0402	1	ABS	300	70.00				
IP1-156			0	63,443	0.1322	0.2379	1		600	200.00				
IP1-157			0	63,443	0.1322	0.2379	1		600	350.00				
IP1-158		IP1-161	0	474,836	0.9892	1.7806	1		1200	370.00				
IP1-159	P2122.1U	IP1-161	4,009	4,009	0.0084	0.0150	1	ABS	200	330.00				
IP1-160	P212.3A		8,025	8,025	0.0167	0.0301	1	ABS	300	180.00				
IP1-161		STP	0	486,870	1.0143	1.8258	1		1200	50.00				

Interceptor Pipes Calculation

Case No.	2
District ID	Pb

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP2-1	P2211212.2A		1,228	1,228	0.0026	0.0046	1	ABS	150	200.00				
IP2-2	P221121.2	IP2-13	3,640	4,868	0.0101	0.0183	1	ABS	250	420.00				
IP2-3	P22112.3A		2,207	2,207	0.0046	0.0083	1	ABS	150	350.00				
IP2-4	P221122.2	IP2-8	1,471	3,678	0.0077	0.0138	1	ABS	200	60.00				
IP2-5	P22112.5A		2,668	2,668	0.0056	0.0100	1	ABS	200	90.00				
IP2-6	P22112.6A		552	3,220	0.0067	0.0121	1	ABS	200	150.00				
IP2-7	P22112.4A		9,981	13,201	0.0275	0.0495	1	ABS	350	480.00				
IP2-8			0	16,879	0.0352	0.0633	1		350	100.00				
IP2-9	P221122.1		1,553	18,432	0.0384	0.0691	1	ABS	350	50.00				
IP2-10	P221121.1A		3,558	21,990	0.0458	0.0825	1	ABS	400	200.00				
IP2-11	P221121.2A	IP2-13	1,638	23,628	0.0492	0.0886	1	ABS	400	110.00				
IP2-12	P2211211.1A		7,930	7,930	0.0165	0.0297	1	ABS	250	460.00				
IP2-13		IP2-16	0	36,426	0.0759	0.1366	1		500	170.00				
IP2-14	P221112.4A		883	883	0.0018	0.0033	1	ABS	150	80.00				
IP2-15	P221112.3		1,626	2,509	0.0052	0.0094	1	ABS	200	210.00				
IP2-16			0	38,935	0.0811	0.1460	1		500	340.00				
IP2-17	P221112.1	IP2-26	451	39,386	0.0821	0.1477	1	ABS	500	180.00				
IP2-18	P221112.7A		6,999	6,999	0.0146	0.0262	1	ABS	250	350.00				
IP2-19	P221112.6A		1,342	8,341	0.0174	0.0313	1	ABS	300	320.00				
IP2-20	P221112.5A	IP2-22	3,451	11,792	0.0246	0.0442	1	ABS	300	530.00				
IP2-21	P221112.2		629	629	0.0013	0.0024	1	ABS	150	180.00				
IP2-22		IP2-26	0	12,421	0.0259	0.0466	1		300	100.00				
IP2-23	P221111.4A	IP2-25	1,896	1,896	0.0040	0.0071	1	ABS	150	150.00				
IP2-24	P221111.2A		672	672	0.0014	0.0025	1	ABS	150	70.00				
IP2-25			0	2,568	0.0054	0.0096	1		200	80.00				
IP2-26		IP2-30	0	54,375	0.1133	0.2039	1		600	190.00				
IP2-27	P221111.3A	IP2-29	224	224	0.0005	0.0008	1	ABS	150	260.00				
IP2-28	P221111.5A		960	960	0.0020	0.0036	1	ABS	150	50.00				
IP2-29			0	1,184	0.0025	0.0044	1		150	570.00				
IP2-30	P221111.1A	IP2-36	1,414	56,973	0.1187	0.2136	1	ABS	600	320.00				
IP2-31	P221121.1	IP2-33	831	831	0.0017	0.0031	1	ABS	150	130.00				
IP2-32	P22112.1A		639	639	0.0013	0.0024	1	ABS	150	60.00				
IP2-33			0	1,470	0.0031	0.0055	1		150	260.00				
IP2-34	P22111.1		1,209	2,679	0.0056	0.0100	1	ABS	200	150.00				
IP2-35	P22111.2		4,696	7,375	0.0154	0.0277	1	ABS	250	50.00				
IP2-36		IP2-47	0	64,348	0.1341	0.2413	1		600	700.00				
IP2-37	P2211.5U	IP2-43	3,393	3,393	0.0071	0.0127	1	ABS	200	50.00				
IP2-38	P2212.12A		4,266	4,266	0.0089	0.0160	1	ABS	200	580.00				
IP2-39	P2212.10A	IP2-42	2,069	6,335	0.0132	0.0238	1	ABS	250	360.00				
IP2-40	P2212.11A		1,619	1,619	0.0034	0.0061	1	ABS	150	410.00				
IP2-41	P2212.8A		769	2,388	0.0050	0.0090	1	ABS	150	140.00				
IP2-42	P2212.9A		1,491	10,214	0.0213	0.0383	1	ABS	300	500.00				
IP2-43	P2211.4	IP2-45	1,141	14,748	0.0307	0.0553	1	ABS	350	50.00				
IP2-44	P2212.7A		872	872	0.0018	0.0033	1	ABS	150	410.00				
IP2-45	P2211.3		610	16,230	0.0338	0.0609	1	ABS	350	230.00				
IP2-46	P2211.2		1,104	17,334	0.0361	0.0650	2	ABS	250	210.00	1			MP70
IP2-47		IP2-49	0	81,682	0.1702	0.3063	1		700	320.00				
IP2-48	P2211.1		1,171	1,171	0.0024	0.0044	1	ABS	150	380.00				
IP2-49			0	82,853	0.1726	0.3107	1		700	1,200.00				
IP2-50	P222.12		3,238	3,238	0.0067	0.0121	1	ABS	200	330.00				
IP2-51	P222.17A		5,012	5,012	0.0104	0.0188	1	ABS	250	550.00				
IP2-52	P222.16A		2,452	7,464	0.0156	0.0280	1	ABS	250	100.00				
IP2-53			27,115	37,817	0.0788	0.1418	1		500	170.00				From PASAY
IP2-54			0	37,817	0.0788	0.1418	1		500	1,700.00				PASAY
IP2-55	P222.9U		5,298	5,298	0.0110	0.0199	1	ABS	250	530.00				
IP2-56	P222.7U		720	6,018	0.0125	0.0226	1	ABS	250	100.00				
IP2-57		IP2-59	0	43,835	0.0913	0.1644	1		500	700.00				PASAY
IP2-58	P222.5		368	368	0.0008	0.0014	1	ABS	150	50.00				
IP2-59			0	44,203	0.0921	0.1658	1		500	30.00				
IP2-60	P222.3		278	278	0.0006	0.0010	1	ABS	150	50.00				
IP2-61			0	44,481	0.0927	0.1668	1		500	60.00				PASAY
IP2-62			0	44,481	0.0927	0.1668	1		500	110.00				PASAY
IP2-63	P222.14A	IP2-65	260	44,741	0.0932	0.1678	1	ABS	500	350.00				
IP2-64	P222.13A		1,364	1,364	0.0028	0.0051	1	ABS	150	230.00				
IP2-65		IP2-85	0	46,105	0.0961	0.1729	1		500	140.00				

Interceptor Pipes Calculation

Case No. 2
 District ID Pb

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP2-66	P222.15A		1,504	1,504	0.0031	0.0056	1	ABS	150	260.00				
IP2-67	P222.6	IP2-82	3,124	4,628	0.0096	0.0174	1	ABS	250	800.00				
IP2-68	P2212.5		1,029	1,029	0.0021	0.0039	1	ABS	150	60.00				
IP2-69	P2212.3	IP2-76	148	1,177	0.0025	0.0044	1	ABS	150	20.00				
IP2-70	P2212.2	IP2-75	83	83	0.0002	0.0003	1	ABS	150	50.00				
IP2-71	P2212.6A	IP2-73	275	275	0.0006	0.0010	1	ABS	150	80.00				
IP2-72	P2211.6A		691	691	0.0014	0.0026	1	ABS	150	250.00				
IP2-73			0	966	0.0020	0.0036	1		150	120.00				
IP2-74	P2212.4		71	1,037	0.0022	0.0039	1	ABS	150	50.00				
IP2-75			0	1,120	0.0023	0.0042	1		150	50.00				
IP2-76			0	2,297	0.0048	0.0086	1		150	50.00				
IP2-77	P2212.1	IP2-80	552	2,849	0.0059	0.0107	1	ABS	200	450.00				
IP2-78	P221.6A	IP2-80	575	575	0.0012	0.0022	1	ABS	150	320.00				
IP2-79	P221.7A		337	337	0.0007	0.0013	1	ABS	150	200.00				
IP2-80		IP2-82	0	3,761	0.0078	0.0141	1		200	410.00				
IP2-81	P221.5A		1,881	1,881	0.0039	0.0071	1	ABS	150	210.00				
IP2-82		IP2-84	0	10,270	0.0214	0.0385	1		300	210.00				
IP2-83	P221.4A		1,321	1,321	0.0028	0.0050	1	ABS	150	70.00				
IP2-84			0	11,591	0.0241	0.0435	1		300	190.00				
IP2-85			0	57,696	0.1202	0.2164	1		600	130.00				
IP2-86	P221.3A	IP2-88	682	58,378	0.1216	0.2189	2	ABS	450	70.00	1			MP71
IP2-87	P221.1		282	282	0.0006	0.0011	1	ABS	150	40.00				
IP2-88	P221.2		11,155	69,815	0.1454	0.2618	1	ABS	600	60.00				
IP2-89		IP2-91	0	152,668	0.3181	0.5725	1		800	300.00				
IP2-90	P22.6A		3,010	3,010	0.0063	0.0113	1	ABS	200	100.00				
IP2-91			0	155,678	0.3243	0.5838	1		800	200.00				
IP2-92		IP2-95	0	155,678	0.3243	0.5838	1		800	120.00				
IP2-93	P222.1		2,552	2,552	0.0053	0.0096	1	ABS	200	410.00				
IP2-94	P22.3U		4,711	7,263	0.0151	0.0272	1	ABS	250	150.00				
IP2-95		IP2-101	0	162,941	0.3395	0.6110	1		800	1,100.00				
IP2-96	P22.5A	IP2-98	12,350	12,350	0.0257	0.0463	1	ABS	300	1,580.00				
IP2-97	P22.2U		638	638	0.0013	0.0024	1	ABS	150	550.00				
IP2-98			0	12,988	0.0271	0.0487	1		300	100.00				
IP2-99	P22.1		5,496	18,484	0.0385	0.0693	2	ABS	250	120.00	1			MP72
IP2-100			0	18,484	0.0385	0.0693	1		350	220.00				
IP2-101			0	181,425	0.3780	0.6803	1		800	220.00				PS4-1
IP2-102	P22.4	to Pc district	7,330	188,755	0.3932	0.7078	1	ABS	800	420.00				
	合計		188,755							27,950.00	3			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	6,410.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	3,070.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	3,870.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	3,530.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	1,130.00	2	250	330.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	310.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	3,950.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	1,400.00	2	450	70.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	1,520.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	2,360.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	27,550.00	Total	Force main	400.00
			All Total		27,950.00

Manhole Pump Station
3 (Places)

Interceptor Pipes Calculation

Case No.	2
District ID	Pc

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP3-1	P11.10		1,720	1,720	0.0036	0.0065	1	ABS	150	300.00				
IP3-2	P11.9		1,851	3,571	0.0074	0.0134	1	ABS	200	130.00				
IP3-3	P11.8		762	4,333	0.0090	0.0162	1	ABS	200	100.00				
IP3-4			0	0	0.0000	0.0000	1							PASAY
IP3-5	P11.6		885	5,218	0.0109	0.0196	1	ABS	250	540.00				
IP3-6	P11.12A	IP3-8	5,862	11,080	0.0231	0.0416	1	ABS	300	800.00				
IP3-7	P11.4U		13,264	13,264	0.0276	0.0497	1	ABS	350	150.00				
IP3-8		IP3-10	0	24,344	0.0507	0.0913	1		400	150.00				
IP3-9	P11.1U		604	604	0.0013	0.0023	1	ABS	150	150.00				
IP3-10		IP3-12	0	24,948	0.0520	0.0936	1		400	150.00				
IP3-11	P11.11U		2,465	2,465	0.0051	0.0092	1	ABS	200	150.00				
IP3-12		IP3-14	0	27,413	0.0571	0.1028	1		450	700.00				
IP3-13	P1.7A		15,988	15,988	0.0333	0.0600	1	ABS	350	50.00				
IP3-14		IP3-16	0	43,401	0.0904	0.1628	1		500	200.00				
IP3-15	B7		669	669	0.0014	0.0025	1	ABS	150	290.00				
IP3-16	P1.3U	IP3-21	314	44,384	0.0925	0.1664	1	ABS	500	220.00				
IP3-17	B8	IP3-21	2,124	2,124	0.0044	0.0080	1	ABS	150	340.00				
IP3-18	P1		755	755	0.0016	0.0028	1	ABS	150	120.00				
IP3-19	P2U		223	978	0.0020	0.0037	1	ABS	150	40.00				
IP3-20	P3U		118	1,096	0.0023	0.0041	1	ABS	150	280.00				
IP3-21	P1.6A	IP3-23	700	48,304	0.1006	0.1811	1	ABS	600	140.00				
IP3-22	P2.1U		3,789	3,789	0.0079	0.0142	1	ABS	200	220.00				
IP3-23	P1.1	IP3-58	1,615	53,708	0.1119	0.2014	1	ABS	600	190.00				
IP3-24	P121.21		500	500	0.0010	0.0019	1	ABS	150	20.00				Pasay
IP3-25	P121.20		500	1,000	0.0021	0.0038	1	ABS	150	50.00				Pasay
IP3-26	P121.18		500	1,500	0.0031	0.0056	1	ABS	150	20.00				Pasay
IP3-27	P121.14		500	2,000	0.0042	0.0075	1	ABS	150	60.00				Pasay
IP3-28	P121.13		1,000	3,000	0.0063	0.0113	1	ABS	200	20.00				Pasay
IP3-29	P121.11		1,000	4,000	0.0083	0.0150	1	ABS	200	30.00				Pasay
IP3-30	P121.9		1,000	5,000	0.0104	0.0188	1	ABS	250	50.00				Pasay
IP3-31	P121.7		2,000	7,000	0.0146	0.0263	1	ABS	250	330.00				Pasay
IP3-32	P121.3		4,000	11,000	0.0229	0.0413	1	ABS	300	130.00				Pasay
IP3-33	P121.19		246	246	0.0005	0.0009	1	ABS	150	80.00				
IP3-34	P121.17		193	439	0.0009	0.0016	1	ABS	150	30.00				
IP3-35	P121.16		270	709	0.0015	0.0027	1	ABS	150	50.00				
IP3-36	P121.15		137	846	0.0018	0.0032	1	ABS	150	110.00				
IP3-37	P121.12		291	1,137	0.0024	0.0043	1	ABS	150	80.00				
IP3-38	P121.10		230	1,367	0.0028	0.0051	1	ABS	150	60.00				
IP3-39	P121.8		946	2,313	0.0048	0.0087	1	ABS	150	40.00				
IP3-40	P121.6		1,732	4,045	0.0084	0.0152	1	ABS	200	190.00				
IP3-41	P121.5		319	4,364	0.0091	0.0164	1	ABS	200	70.00				
IP3-42	P121.4	IP3-56	0	4,364	0.0091	0.0164	1	ABS	200	190.00				
IP3-43			16,500	16,500	0.0344	0.0619	1		350	100.00				Pasay
IP3-44			8,500	25,000	0.0521	0.0938	1		400	1,000.00				Pasay
IP3-45			0	25,000	0.0521	0.0938	2		300	50.00	1			Pasay
IP3-46			2,400	27,400	0.0571	0.1028	1		450	300.00				Pasay
IP3-47	P11.5		3,450	30,850	0.0643	0.1157	1	ABS	450	100.00				Paranaque: 1250p
IP3-48	P11.3U		2,907	33,757	0.0703	0.1266	1	ABS	450	100.00				Paranaque: 407p
IP3-49	P11.2U		2,428	36,185	0.0754	0.1357	1	ABS	500	250.00				Paranaque: 328p
IP3-50	P12.1		3,836	40,021	0.0834	0.1501	1	ABS	500	50.00				Paranaque: 1536p
IP3-51	P12.2		2,948	42,969	0.0895	0.1611	1	ABS	500	150.00				Paranaque: 998p
IP3-52	P12.3		5,089	48,058	0.1001	0.1802	1	ABS	600	300.00				Paranaque: 1132p
IP3-53			4,000	63,058	0.1314	0.2365	2		450	60.00	1			MP73
IP3-54		IP3-56	1,500	64,558	0.1345	0.2421	1		600	910.00				Pasay
IP3-55	P121.22A		6,264	6,264	0.0131	0.0235	1	ABS	250	230.00				
IP3-56			0	75,186	0.1566	0.2819	1		700	860.00				
IP3-57			0	75,186	0.1566	0.2819	1		700	270.00				
IP3-58		IP3-62	0	128,894	0.2685	0.4834	1		700	240.00				
IP3-59	P1.5U		2,625	2,625	0.0055	0.0098	1	ABS	200	560.00				
IP3-60	P1.4U	IP3-62	3,089	5,714	0.0119	0.0214	1	ABS	250	320.00				
IP3-61	P1.2		3,019	3,019	0.0063	0.0113	1	ABS	200	130.00				
IP3-62		STP	0	137,627	0.2867	0.5161	1		700	50.00				

Interceptor Pipes Calculation

Case No. 2
 District ID Pd

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1: Gravity 2: Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Stator			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP4-1	B5	IP4-6	726	726	0.0015	0.0027	1	ABS	150	680.00				
IP4-2	B.9A		1,108	1,108	0.0023	0.0042	1	ABS	150	180.00				
IP4-3	B4U		1,015	2,123	0.0044	0.0080	1	ABS	150	150.00				
IP4-4	B1		1,053	3,176	0.0066	0.0119	1	ABS	200	110.00				
IP4-5	B2		508	3,684	0.0077	0.0138	1	ABS	200	140.00				
IP4-6	B3	IP4-9	2,446	6,856	0.0143	0.0257	1	ABS	250	380.00				
IP4-7	B.7A		43,924	43,924	0.0915	0.1647	1	ABS	500	100.00				
IP4-8	B.8A		41,655	85,579	0.1783	0.3209	1	ABS	700	570.00				
IP4-9	STP		0	92,435	0.1926	0.3466	1		700	2,860.00				
合計			92,435							5,170.00	0			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	1,010.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	250.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	380.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	0.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	0.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	3,430.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	5,170.00	Total	Force main	0.00
			All Total		5,170.00

Manhole Pump Station
0 (Places)

Interceptor Pipes Calculator

Case No. 2
 District ID L

Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
		For each (P)	umulative to (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
Lb	La-2	382,607	382,607	0.7971	1.4348	1		1100	1,300.00				PS2-8
La-2		64,307	446,914	0.9311	1.6759	1		1200	2,500.00				PS2-5
La-1		127,029	127,029	0.2646	0.4764				0.00				
Las Pinas STP Capacity		0	573,943	1.1957	2.1523								
Total		573,943							3,800.00	0			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	0.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	0.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	0.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	0.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	0.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	0.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	0.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1100	1,300.00	2	900	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1200	2,500.00	2	1000	0.00
Total	Gravity Flow	3,800.00	Total	Force main	0.00
			All Total		3,800.00

Manhole Pump Station	
0	(Places)

Interceptor Pipes Calculation

Case No. 2
 District ID La1

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP5-1	L21112.21U		2,182	2,182	0.0045	0.0082	1	ABS	150	20.00				
IP5-2	L21112.22U		4,178	6,360	0.0133	0.0239	2	ABS	150	300.00				MP1
IP5-3	Flow Type chang	IP5-5	0	6,360	0.0133	0.0239	1	ABS	250	1,590.00				
IP5-4	6-3-1		9,550	9,550	0.0199	0.0358	1	ABS	300	20.00				
IP5-5	L21112.20U		15,334	31,244	0.0651	0.1172	1	ABS	450	1,190.00				
IP5-6	L21112.19		3,437	34,681	0.0723	0.1301	1	ABS	450	200.00				
IP5-7	L21112.18U	IP5-10	747	35,428	0.0738	0.1329	1	ABS	500	100.00				
IP5-8	L21112.16U	IP5-10	1,287	1,287	0.0027	0.0048	1	ABS	150	50.00				
IP5-9	L21112.15U		590	590	0.0012	0.0022	1	ABS	150	1,500.00				
IP5-10	L21112.17U	IP5-13	1,615	38,920	0.0811	0.1460	2	ABS	400	430.00	1			MP2
IP5-11	L21111.7		19,283	19,283	0.0402	0.0723	1	ABS	400	1,500.00				
IP5-12	L21111.6		1,296	20,579	0.0429	0.0772	2	ABS	300	190.00	1			MP3
IP5-13	ICP1	IP5-15	0	59,499	0.1240	0.2231	1	ABS	600	300.00				
IP5-14	L21112.14U		382	382	0.0008	0.0014	2	ABS	75	320.00	1			MP4
IP5-15	ICP2	IP5-18	0	59,881	0.1248	0.2246	1	ABS	600	300.00				
IP5-16	L21111.5U	IP5-18	1,474	1,474	0.0031	0.0055	2	ABS	75	190.00	1			MP5
IP5-17	L21112.12U		709	709	0.0015	0.0027	1	ABS	150	240.00				
IP5-18	ICP3	IP5-20	0	62,064	0.1293	0.2327	1	ABS	600	300.00				
IP5-19	L21112.8U		434	434	0.0009	0.0016	1	ABS	150	570.00				
IP5-20	ICP4		0	62,498	0.1302	0.2344	1	ABS	600	300.00				
IP5-21	L21111.4	IP5-23	1,237	63,735	0.1328	0.2390	1	ABS	600	630.00				
IP5-22	L2111.3		313	313	0.0007	0.0012	1	ABS	150	650.00				
IP5-23	ICP5	IP5-27	0	64,048	0.1334	0.2402	2	ABS	500	650.00	1			MP73
IP5-24	L21112.13U		318	318	0.0007	0.0012	1	ABS	150	440.00				
IP5-25	L21112.11	IP5-28	552	870	0.0018	0.0033	1	ABS	150	400.00				
IP5-26	L21112.10	IP5-27	843	843	0.0018	0.0032	1	ABS	150	300.00				
IP5-27	L21112.9		735	65,626	0.1367	0.2461	1	ABS	600	450.00				
IP5-28	ICP6	IP5-31	0	66,496	0.1385	0.2494	1	ABS	600	450.00				
IP5-29	L21112.4		370	370	0.0008	0.0014	1	ABS	150	100.00				
IP5-30	L21112.6U		878	1,248	0.0026	0.0047	1	ABS	150	100.00				
IP5-31	ICP7	IP5-43	0	67,744	0.1411	0.2540	1	ABS	600	300.00				
IP5-32	L21112.7U		370	370	0.0008	0.0014	1	ABS	150	130.00				
IP5-33	L21112.5U		73	443	0.0009	0.0017	1	ABS	150	130.00				
IP5-34	L21112.3	IP5-37	513	956	0.0020	0.0036	1	ABS	150	130.00				
IP5-35	L21111.2		1,366	1,366	0.0028	0.0051	1	ABS	150	100.00				
IP5-36	L21111.1U		777	2,143	0.0045	0.0080	1	ABS	150	100.00				
IP5-37	L21112.2U		567	3,666	0.0076	0.0137	1	ABS	200	160.00				
IP5-38	L21112.1		2,017	5,683	0.0118	0.0213	1	ABS	250	300.00				
IP5-39	L2111.8		1,670	7,353	0.0153	0.0276	1	ABS	250	380.00				
IP5-40	L2111.7U	IP5-42	2,040	9,393	0.0196	0.0352	1	ABS	300	500.00				
IP5-41	L2111.6		6,509	6,509	0.0136	0.0244	1	ABS	250	150.00				
IP5-42	ICP8		0	15,902	0.0331	0.0596	2	ABS	250	150.00	1			MP6
IP5-43	ICP9	IP5-45	0	83,646	0.1743	0.3137	1	ABS	700	300.00				
IP5-44	L2111.4U		263	263	0.0005	0.0010	1	ABS	150	230.00				
IP5-45	ICP10		0	83,909	0.1748	0.3147	1	ABS	700	100.00				
IP5-46	L2111.5U	IP5-48	1,208	85,117	0.1773	0.3192	2	ABS	600	800.00				PS2-2
IP5-47	L2112.4U		2,869	2,869	0.0060	0.0108	1	ABS	200	400.00				
IP5-48	ICP11	IP5-52	0	87,986	0.1833	0.3299	1	ABS	700	400.00				
IP5-49	L2111.3		2,105	2,105	0.0044	0.0079	1	ABS	150	300.00				
IP5-50	L2111.2U		489	2,594	0.0054	0.0097	1	ABS	200	300.00				
IP5-51	L2111.1		3,006	5,600	0.0117	0.0210	1	ABS	250	300.00				
IP5-52	ICP12		0	93,586	0.1950	0.3509	1	ABS	700	300.00				
IP5-53	6-1-3	IP5-57	1,325	94,911	0.1977	0.3559	1	ABS	700	600.00				
IP5-54	L2112.3		181	181	0.0004	0.0007	1	ABS	150	200.00				
IP5-55	L2112.2		250	431	0.0009	0.0016	1	ABS	150	200.00				
IP5-56	L2112.1		140	571	0.0012	0.0021	1	ABS	150	200.00				
IP5-57	ICP13	IP5-59	0	95,482	0.1989	0.3581	1	ABS	700	300.00				
IP5-58	L211.8		7,620	7,620	0.0159	0.0286	1	ABS	250	90.00				
IP5-59	ICP14	IP5-63	0	103,102	0.2148	0.3866	1	ABS	700	500.00				

Interceptor Pipes Calculation

Case No. 2
 District ID La1

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP5-60	L211.7U		461	461	0.0010	0.0017	1	ABS	150	250.00				
IP5-61	L211.6		2,318	2,779	0.0058	0.0104	2	ABS	100	440.00	1			MP7
IP5-62	Flow Type change		0	2,779	0.0058	0.0104	1	ABS	200	50.00				
IP5-63	ICP15	IP5-66	0	105,881	0.2206	0.3971	1	ABS	700	300.00				
IP5-64	L211.4U	IP5-66	1,990	1,990	0.0041	0.0075	2	ABS	100	400.00	1			MP8
IP5-65	L211.5U		846	846	0.0018	0.0032	2	ABS	75	300.00	1			MP9
IP5-66	ICP16		0	2,836	0.0059	0.0106	1	ABS	200	300.00				
IP5-67	ICP17	IP5-73	0	108,717	0.2265	0.4077	1	ABS	700	500.00				
IP5-68	L211.3U	IP5-70	9,814	9,814	0.0204	0.0368	1	ABS	300	300.00				
IP5-69	L211.1		784	784	0.0016	0.0029	1	ABS	150	250.00				
IP5-70	L211.2		1,856	12,454	0.0259	0.0467	2	ABS	200	250.00	1			MP10
IP5-71	Flow Type change		0	12,454	0.0259	0.0467	1	ABS	300	250.00				
IP5-72	L212.1U		917	13,371	0.0279	0.0501	2	ABS	250	300.00	1			MP11
IP5-73	ICP18	STP	0	122,088	0.2544	0.4578	1	ABS	700	300.00				
IP5-74	6-1-2	STP	4,941	4,941	0.0103	0.0185	1	ABS	250	200.00				
IP5-75	STP		0	127,029	0.2646	0.4764	1	ABS	700	100.00				
Total			127,029							26,320.00	12			

Total Table

Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	6,590.00	2	75	810.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	1,210.00	2	100	840.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	3,010.00	2	150	300.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	1,070.00	2	200	250.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	450.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	1,500.00	2	300	190.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	1,390.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	430.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	3,030.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	3,700.00	2	500	650.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	800.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	21,600.00	Total	Force main	4,720.00
All Total					26,320.00

Manhole Pump Station
 12 (Places)

Interceptor Pipes Calculation

Case No. 2
 District ID La2

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP6-1	L22.3U		5,628	5,628	0.0117	0.0211	1	ABS	250	100.00				
IP6-2	L22.2		126	5,754	0.0120	0.0216	1	ABS	250	150.00				
IP6-3	L22.1	IP6-6	5,012	10,766	0.0224	0.0404	1	ABS	300	200.00				
IP6-4	L21.2U		4,180	4,180	0.0087	0.0157	1	ABS	200	100.00				
IP6-5	L21.1U		27,958	32,138	0.0670	0.1205	1	ABS	450	100.00				
IP6-6		IP6-8	0	42,904	0.0894	0.1609	1		500	100.00				
IP6-7	L121.1A		5,114	5,114	0.0107	0.0192	1	ABS	250	200.00				
IP6-8			0	48,018	0.1000	0.1801	1		600	300.00				
IP6-9	L2.1U	IP6-14	721	721	0.0015	0.0027	1	ABS	150	300.00				
IP6-10	D.1A		8,266	8,266	0.0172	0.0310	1	ABS	300	100.00				
IP6-11	D.2A		2,884	11,150	0.0232	0.0418	1	ABS	300	200.00				
IP6-12	Add SB6-1-1	IP6-14	1,675	12,825	0.0267	0.0481	1	ABS	300	500.00				
IP6-13	L0.2		1,731	1,731	0.0036	0.0065	1	ABS	150	100.00				
IP6-14	L 0.1		1,012	16,289	0.0339	0.0611	1	ABS	350	200.00				
IP6-15		To L b District	0	64,307	0.1340	0.2412	1		600	400.00				
合計			64,307							3,050.00	0			

Total Table

Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	400.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	100.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	450.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	1,000.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	200.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	100.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	700.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	0.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	3,050.00	Total	Force main	0.00
			All Total		3,050.00

Manhole Pump Station
0 (Places)

Interceptor Pipes Calculation

Case No. 2
 District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-1	L111222.41U		3,526	3,526	0.0073	0.0132	1	ABS	200	150.00				
IP7-2	L111222.40U		3,769	7,295	0.0152	0.0274	2	ABS	200	150.00		1		MP12
IP7-3	L111222.39U		554	7,849	0.0164	0.0294	2	ABS	200	200.00		1		MP13
IP7-4	L111222.38U		1,581	9,430	0.0196	0.0354	1	ABS	300	200.00				
IP7-5	L111222.37U		533	9,963	0.0208	0.0374	1	ABS	300	200.00				
IP7-6	L111222.36U	IP7-8	2,131	12,094	0.0252	0.0454	1	ABS	300	200.00				
IP7-7	L111222.33U		758	758	0.0016	0.0028	1	ABS	150	200.00				
IP7-8		IP7-14	0	12,852	0.0268	0.0482	1		300	200.00				
IP7-9	L111222.35U		2,978	2,978	0.0062	0.0112	1	ABS	200	120.00				
IP7-10	L111222.34U		272	3,250	0.0068	0.0122	1	ABS	200	120.00				
IP7-11	L111222.32U		585	3,835	0.0080	0.0144	1	ABS	200	120.00				
IP7-12	L111222.31U		111	3,946	0.0082	0.0148	1	ABS	200	120.00				
IP7-13	L111222.30U		1,151	5,097	0.0106	0.0191	2	ABS	150	130.00		1		MP14
IP7-14	L111222.29U		553	18,502	0.0385	0.0694	1	ABS	350	360.00				
IP7-15	L111222.25U	IP7-19	1,287	19,789	0.0412	0.0742	2	ABS	300	150.00		1		MP15
IP7-16	L111222.28U		1,205	1,205	0.0025	0.0045	1	ABS	150	130.00				
IP7-17	L111222.27U		721	1,926	0.0040	0.0072	1	ABS	150	130.00				
IP7-18	L111222.26U		1,754	3,680	0.0077	0.0138	1	ABS	200	140.00				
IP7-19	L111222.24U	IP7-21	136	23,605	0.0492	0.0885	1	ABS	400	310.00				
IP7-20	L111222.23U		6,529	6,529	0.0136	0.0245	2	ABS	150	60.00		1		MP16
IP7-21	L111222.22U	IP7-25	1,239	31,373	0.0654	0.1176	1	ABS	450	200.00				
IP7-22	L111222.19U		3,906	3,906	0.0081	0.0146	1	ABS	200	100.00				
IP7-23	L111222.18U		4,841	8,747	0.0182	0.0328	1	ABS	300	100.00				
IP7-24	L111222.20U		1,017	9,764	0.0203	0.0366	1	ABS	300	150.00				
IP7-25			0	41,137	0.0857	0.1543	2		400	150.00		1		MP17
IP7-26	L111222.21U	IP7-44	4,264	45,401	0.0946	0.1703	1	ABS	500	590.00				
IP7-27	L1112212.19U		3,656	3,656	0.0076	0.0137	2	ABS	150	120.00		1		MP18
IP7-28	L1112212.18U	IP7-31	632	4,288	0.0089	0.0161	1	ABS	200	120.00				
IP7-29	L1112212.17U		1,795	1,795	0.0037	0.0067	2	ABS	75	210.00		1		MP19
IP7-30	L1112212.16U		1,070	2,865	0.0060	0.0107	1	ABS	200	500.00				
IP7-31			0	7,153	0.0149	0.0268	1		250	100.00				
IP7-32	L1112212.15U	IP7-35	1,544	8,697	0.0181	0.0326	1	ABS	300	100.00				
IP7-33	L1112212.12U		1,093	1,093	0.0023	0.0041	1	ABS	150	100.00				
IP7-34	L1112212.14U		185	1,278	0.0027	0.0048	2	ABS	75	50.00		1		MP20
IP7-35	L1112212.13U	IP7-37	2,258	12,233	0.0255	0.0459	1	ABS	300	360.00				
IP7-36	L1112212.11U		223	223	0.0005	0.0008	1	ABS	150	110.00				
IP7-37		IP7-42	0	12,456	0.0260	0.0467	1		300	360.00				
IP7-38	L1112212.7U		246	246	0.0005	0.0009	1	ABS	150	100.00				
IP7-39	L1112212.8U		381	627	0.0013	0.0024	1	ABS	150	100.00				
IP7-40	L1112212.9U		4,634	5,261	0.0110	0.0197	1	ABS	250	100.00				
IP7-41	L1112212.10U		4,224	9,485	0.0198	0.0356	1	ABS	300	540.00				
IP7-42		IP7-44	0	21,941	0.0457	0.0823	1		400	200.00				
IP7-43	L1112212.6U		3,001	3,001	0.0063	0.0113	1	ABS	200	300.00				
IP7-44		IP7-46	0	70,343	0.1465	0.2638	1		600	450.00				
IP7-45	L1112212.5U		1,335	1,335	0.0028	0.0050	2	ABS	75	500.00		1		MP21
IP7-46		IP7-49	0	71,678	0.1493	0.2688	1		700	500.00				
IP7-47	L111222.17U		213	213	0.0004	0.0008	1	ABS	150	100.00				
IP7-48	L111222.16U		132	345	0.0007	0.0013	1	ABS	150	50.00				
IP7-49	L111222.15U		1,532	73,555	0.1532	0.2758	2	ABS	500	150.00				PS2-6
IP7-50		IP7-56	0	73,555	0.1532	0.2758	1		700	150.00				
IP7-51	L111222.14U		2,402	2,402	0.0050	0.0090	1	ABS	150	100.00				
IP7-52	L111222.12U	IP7-55	159	2,561	0.0053	0.0096	1	ABS	200	100.00				
IP7-53	L111222.13U		177	177	0.0004	0.0007	1	ABS	150	100.00				
IP7-54	L111222.11U		1,972	2,149	0.0045	0.0081	1	ABS	150	100.00				
IP7-55	L111222.10U		229	4,939	0.0103	0.0185	1	ABS	250	100.00				
IP7-56		IP7-61	0	78,494	0.1835	0.2944	1		700	100.00				
IP7-57	L111222.9U		3,274	3,274	0.0068	0.0123	1	ABS	200	100.00				
IP7-58	L111222.7U	IP7-60	1,233	4,507	0.0094	0.0169	2	ABS	150	100.00		1		MP22
IP7-59	L111222.8U		990	990	0.0021	0.0037	1	ABS	150	60.00				
IP7-60	L111222.6U		106	5,603	0.0117	0.0210	1	ABS	250	100.00				
IP7-61		IP7-70	0	84,097	0.1752	0.3154	1		700	250.00				
IP7-62	L111222.1U	IP7-64	609	609	0.0013	0.0023	1	ABS	150	250.00				
IP7-63	L111222.5U		1,522	1,522	0.0032	0.0057	1	ABS	150	60.00				
IP7-64	L111222.3U	IP7-66	428	2,559	0.0053	0.0096	2	ABS	100	150.00		1		MP23
IP7-65	L111222.4U		408	408	0.0009	0.0015	1	ABS	150	50.00				
IP7-66	L111222.2U	IP7-70	254	3,221	0.0067	0.0121	1	ABS	200	150.00				
IP7-67	L11122.18U	IP7-69	709	709	0.0015	0.0027	1	ABS	150	520.00				

Interceptor Pipes Calculation

Case No.	2
District ID	Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-68	L11122.19U		3,647	3,647	0.0076	0.0137	1	ABS	200	300.00				
IP7-69			0	4,356	0.0091	0.0163	1		200	200.00				
IP7-70		IP7-73	0	91,674	0.1910	0.3438	1		700	200.00				
IP7-71	L11122.23U	IP7-73	1,383	1,383	0.0029	0.0052	1	ABS	150	50.00				
IP7-72	L11122.20U		288	288	0.0006	0.0011	2	ABS	75	100.00	1			MP24
IP7-73		IP7-79	0	93,345	0.1945	0.3500	1		700	250.00				
IP7-74	L111221.6A		774	774	0.0016	0.0029	1	ABS	150	100.00				
IP7-75	L111221.1U		2,023	2,797	0.0058	0.0105	1	ABS	200	100.00				
IP7-76	L11122.24U		575	3,372	0.0070	0.0126	1	ABS	200	100.00				
IP7-77	L11122.22U	IP7-79	384	3,756	0.0078	0.0141	1	ABS	200	200.00				
IP7-78	L11122.21U		324	324	0.0007	0.0012	1	ABS	150	50.00				
IP7-79		IP7-84	0	97,425	0.2030	0.3653	1		700	200.00				
IP7-80	L11122.17U	IP7-83	1,451	1,451	0.0030	0.0054	1	ABS	150	150.00				
IP7-81	L11122.16U		994	994	0.0021	0.0037	1	ABS	150	20.00				
IP7-82	L11122.15U		320	1,314	0.0027	0.0049	1	ABS	150	40.00				
IP7-83	L11122.14U		928	3,693	0.0077	0.0138	2	ABS	150	300.00	1			MP25
IP7-84		IP7-102	0	101,118	0.2107	0.3792	1		700	360.00				
IP7-85	L1112212.4U	IP7-87	1,629	1,629	0.0034	0.0061	1	ABS	150	300.00				
IP7-86	L1112211.1U		11,272	11,272	0.0235	0.0423	1	ABS	300	300.00				
IP7-87	L1112212.2U	IP7-89	2,076	14,977	0.0312	0.0562	2	ABS	250	100.00	1			MP26
IP7-88	L1112212.3U		3,901	3,901	0.0081	0.0146	1	ABS	200	100.00				
IP7-89	L1112212.1		732	19,610	0.0409	0.0735	1	ABS	400	250.00				
IP7-90	L111221.4U		1,325	20,935	0.0436	0.0785	1	ABS	400	250.00				
IP7-91	L111221.2U		2,604	23,539	0.0490	0.0883	2	ABS	300	50.00	1			MP27
IP7-92	L111221.3U		571	24,110	0.0502	0.0904	1	ABS	400	250.00				
IP7-93	L111221.5U	IP7-97	336	24,446	0.0509	0.0917	1	ABS	400	250.00				
IP7-94	L11121.13U	IP7-96	1,289	1,289	0.0027	0.0048	1	ABS	150	200.00				
IP7-95	L11121.12U		504	504	0.0011	0.0019	1	ABS	150	100.00				
IP7-96	L11121.14U		8,830	10,623	0.0221	0.0398	1	ABS	300	100.00				
IP7-97		IP7-102	0	35,069	0.0731	0.1315	1		500	500.00				
IP7-98	L11121.8U	IP7-101	1,414	1,414	0.0029	0.0053	1	ABS	150	100.00				
IP7-99	L11121.9U	IP7-101	932	932	0.0019	0.0035	2	ABS	150	100.00	1			MP28
IP7-100	L11121.11U		1,680	1,680	0.0035	0.0063	1	ABS	150	100.00				
IP7-101	L11121.10U		803	4,829	0.0101	0.0181	2	ABS	150	550.00	1			MP29
IP7-102		IP7-105	0	141,016	0.2938	0.5288	1		700	150.00				
IP7-103	L11122.13U		896	896	0.0019	0.0034	1	ABS	150	100.00				
IP7-104	L11122.12U		643	1,539	0.0032	0.0058	2	ABS	75	560.00	1			MP30
IP7-105			0	142,555	0.2970	0.5346	1		700	660.00				
IP7-106	L11122.6U	IP7-116	2,244	144,799	0.3017	0.5430	1	ABS	800	100.00				
IP7-107	L11121.6U	IP7-114	1,310	1,310	0.0027	0.0049	1	ABS	150	200.00				
IP7-108	L11121.1U	IP7-112	871	871	0.0018	0.0033	1	ABS	150	300.00				
IP7-109	L11121.7U		1,556	1,556	0.0032	0.0058	1	ABS	150	100.00				
IP7-110	L11121.5U		580	2,136	0.0045	0.0080	1	ABS	150	150.00				
IP7-111	L11121.4U		446	2,582	0.0054	0.0097	1	ABS	200	100.00				
IP7-112	L11121.2U		295	3,748	0.0078	0.0141	1	ABS	200	100.00				
IP7-113	L11121.3U		801	4,549	0.0095	0.0171	2	ABS	150	100.00	1			MP31
IP7-114			0	5,859	0.0122	0.0220	1		250	400.00				
IP7-115	L11122.2U		525	6,384	0.0133	0.0239	1	ABS	250	200.00				
IP7-116	L11122.4U		1,248	152,431	0.3176	0.5716	1	ABS	800	100.00				PS2-4
IP7-117	L11122.3U	IP7-123	465	152,896	0.3185	0.5734	1	ABS	800	200.00				
IP7-118	L11122.11U		1,010	1,010	0.0021	0.0038	1	ABS	150	150.00				
IP7-119	L11122.10U		7,406	8,416	0.0175	0.0316	1	ABS	300	150.00				
IP7-120	L11122.9U		903	9,319	0.0194	0.0349	1	ABS	300	150.00				
IP7-121	L11122.8U		5,756	15,075	0.0314	0.0565	1	ABS	350	100.00				
IP7-122	L11122.7U		504	15,579	0.0325	0.0584	1	ABS	350	150.00				
IP7-123	L11122.5U	IP7-126	551	169,026	0.3521	0.6338	1	ABS	800	230.00				
IP7-124	L11122.1U		397	397	0.0008	0.0015	1	ABS	150	150.00				
IP7-125	L1112.12U		1,590	1,987	0.0041	0.0075	1	ABS	150	150.00				
IP7-126		IP7-131	0	171,013	0.3563	0.6413	1		800	650.00				
IP7-127	L1122.12U	IP7-130	5,717	5,717	0.0119	0.0214	1	ABS	250	1,200.00				
IP7-128	L1122.11U		7,128	7,128	0.0149	0.0267	1	ABS	250	590.00				
IP7-129	L1122.10U		7,880	15,008	0.0313	0.0563	1	ABS	350	600.00				
IP7-130			0	20,725	0.0432	0.0777	2		300	1,300.00	1			MP32
IP7-131		IP7-139	0	191,738	0.3995	0.7190	1		800	430.00				

Interceptor Pipes Calculation

Case No. 2
 District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-131	L1121.16U		30,906	30,906	0.0644	0.1159	1	ABS	450	130.00				
IP7-132	L1121.15U		564	31,470	0.0656	0.1180	1	ABS	450	150.00				
IP7-133	L1121.14U	IP7-138	438	31,908	0.0665	0.1197	1	ABS	450	150.00				
IP7-134	L1121.8U		764	764	0.0016	0.0029	1	ABS	150	130.00				
IP7-135	L1121.9U		1,394	2,158	0.0045	0.0081	1	ABS	150	100.00				
IP7-136	L1121.10		503	2,661	0.0055	0.0100	1	ABS	200	100.00				
IP7-137	L1121.12U		1,410	4,071	0.0085	0.0153	1	ABS	200	100.00				
IP7-138	L1121.13U		2,644	38,623	0.0805	0.1448	1	ABS	500	100.00				
IP7-139		IP7-146	0	230,361	0.4799	0.8639	1		900	430.00				
IP7-140	L11.5	IP7-145	5,885	5,885	0.0123	0.0221	2	ABS	150	350.00	1			MP33
IP7-141	L111.1U		1,677	1,677	0.0035	0.0063	1	ABS	150	100.00				
IP7-142	L111.2		621	2,298	0.0048	0.0086	1	ABS	150	100.00				
IP7-143	L111.3	IP7-145	980	3,278	0.0068	0.0123	1	ABS	200	100.00				
IP7-144	L111.5U		2,256	2,256	0.0047	0.0085	1	ABS	150	300.00				
IP7-145	L111.4U		889	12,308	0.0256	0.0462	2	ABS	200	700.00	1			MP34
IP7-146		IP7-148	0	242,669	0.5056	0.9100	1		900	150.00				
IP7-147	L111.13U		3,888	3,888	0.0081	0.0146	1	ABS	200	300.00				
IP7-148		IP7-150	0	246,557	0.5137	0.9246	1		900	220.00				
IP7-149	L111.10U		612	612	0.0013	0.0023	1	ABS	150	100.00				
IP7-150	L111.12U	IP7-153	583	247,752	0.5162	0.9291	1	ABS	900	100.00				
IP7-151	L111.9U		197	197	0.0004	0.0007	1	ABS	150	50.00				
IP7-152	L111.11U		3,630	3,827	0.0080	0.0144	1	ABS	200	50.00				
IP7-153		IP7-155	0	251,579	0.5241	0.9434	1		900	150.00				
IP7-154	L111.8U		751	751	0.0016	0.0028	1	ABS	150	150.00				
IP7-155		IP7-189	0	252,330	0.5257	0.9462	1		900	300.00				
IP7-156	L111.6U	IP7-158	785	785	0.0016	0.0029	1	ABS	150	200.00				
IP7-157	L111.7U		670	670	0.0014	0.0025	1	ABS	150	100.00				
IP7-158		IP7-189	0	1,455	0.0030	0.0055	1		150	100.00				
IP7-159	L1111.9U		171	171	0.0004	0.0006	1	ABS	150	100.00				
IP7-160	L1111.8U	IP7-166	232	403	0.0008	0.0015	1	ABS	150	100.00				
IP7-161	L1111.11U		5,385	5,385	0.0112	0.0202	1	ABS	250	100.00				
IP7-162	L1111.10U		569	5,954	0.0124	0.0223	1	ABS	250	100.00				
IP7-163	L1111.7U		277	6,231	0.0130	0.0234	1	ABS	250	100.00				
IP7-164	L1111.6U		202	6,433	0.0134	0.0241	1	ABS	250	100.00				
IP7-165	L1111.5U		3,484	9,917	0.0207	0.0372	1	ABS	300	100.00				
IP7-166	L1111.4U	IP7-174	654	10,974	0.0229	0.0412	2	ABS	200	200.00	1			MP35
IP7-167	L1112.11U	IP7-169	267	267	0.0006	0.0010	1	ABS	150	200.00				
IP7-168	L1112.9U		4,716	4,716	0.0098	0.0177	1	ABS	250	100.00				
IP7-169	L1112.10U		1,108	6,091	0.0127	0.0228	1	ABS	250	100.00				
IP7-170	L1112.8U		604	6,695	0.0139	0.0251	1	ABS	250	100.00				
IP7-171	L1112.6U		855	7,550	0.0157	0.0283	1	ABS	250	100.00				
IP7-172	L1112.5U		269	7,819	0.0163	0.0293	1	ABS	250	100.00				
IP7-173	L1112.4U		237	8,056	0.0168	0.0302	1	ABS	300	200.00				
IP7-174		IP7-178	0	19,030	0.0396	0.0714	1		400	150.00				
IP7-175	L1112.7U		512	512	0.0011	0.0019	1	ABS	150	100.00				
IP7-176	L1112.3U		1,857	2,369	0.0049	0.0089	1	ABS	150	100.00				
IP7-177	L1112.2U		318	2,687	0.0056	0.0101	1	ABS	200	200.00				
IP7-178	L1112.1U	IP7-180	446	22,163	0.0462	0.0831	1	ABS	400	100.00				
IP7-179	L1111.3U		970	970	0.0020	0.0036	1	ABS	150	100.00				
IP7-180	L1111.1U	IP7-182	79	23,212	0.0484	0.0870	1	ABS	400	100.00				
IP7-181	L1111.2U		1,002	1,002	0.0021	0.0038	1	ABS	150	100.00				
IP7-182	L111.18U		240	24,454	0.0509	0.0917	1	ABS	400	100.00				
IP7-183	L111.17U		487	24,941	0.0520	0.0935	1	ABS	400	100.00				
IP7-184	L111.16U	IP7-186	220	25,161	0.0524	0.0944	1	ABS	400	100.00				
IP7-185	L111.15U		1,560	1,560	0.0033	0.0059	1	ABS	150	100.00				
IP7-186		IP7-188	0	26,721	0.0557	0.1002	1		400	100.00				
IP7-187	L111.14U		286	286	0.0006	0.0011	1	ABS	150	100.00				
IP7-188			0	27,007	0.0563	0.1013	1		450	470.00				
IP7-189		IP7-193	0	280,792	0.5850	1.0530	1		1000	460.00				
IP7-190	L122.4U		1,549	1,549	0.0032	0.0058	1	ABS	150	150.00				
IP7-191	L122.3U		9,481	11,030	0.0230	0.0414	1	ABS	300	100.00				
IP7-192	L122.2		272	11,302	0.0235	0.0424	1	ABS	300	100.00				
IP7-193			0	292,094	0.6085	1.0954	1		1000	20.00				
IP7-194	L122.1		593	292,687	0.6098	1.0976	1	ABS	1000	100.00				
IP7-195	L12.2U	IP7-196	322	293,009	0.6104	1.0988	1	ABS	1000	100.00				
From La2 district				0	0.0000	0.0000	1		500	0.00				
IP7-196			0	293,009	0.6104	1.0988	1		1000	150.00				

Interceptor Pipes Calculation

Case No. 2
 District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Stator			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-197	L12.1		494	293,503	0.6115	1.1006	1	ABS	1000	100.00				
IP7-198	L1.1U	IP7-201	982	294,485	0.6135	1.1043	1	ABS	1000	100.00				
IP7-199	SSB5-1		27,897	27,897	0.0581	0.1046	1	ABS	450	600.00				
IP7-200	L11.2		9,322	37,219	0.0775	0.1396	1	ABS	500	200.00				
IP7-201	L11.1U		3,458	335,162	0.6983	1.2569	1	ABS	1100	200.00				
IP7-202	L11.3	IP7-204	4,834	339,996	0.7083	1.2750	1	ABS	1100	200.00				
IP7-203	L11.3		489	489	0.0010	0.0018	1	ABS	150	100.00				
IP7-204	L11.4	IP7-206	1,315	341,800	0.7121	1.2818	1	ABS	1100	500.00				
IP7-205	P211.11		4,833	4,833	0.0101	0.0181	1	ABS	250	150.00				
IP7-206		STP	0	346,633	0.7222	1.2999	1		1100	550.00				
IP7-207	L1122.8U		4,529	4,529	0.0094	0.0170	2	ABS	150	100.00	1			MP36
IP7-208	L1122.9U		2,990	7,519	0.0157	0.0282	1	ABS	250	200.00				
IP7-209	L1122.7U	IP7-212	1,929	9,448	0.0197	0.0354	1	ABS	300	200.00				
IP7-210	L1122.5		3,504	3,504	0.0073	0.0131	1	ABS	200	100.00				
IP7-211	L1122.6U		2,894	6,398	0.0133	0.0240	2	ABS	150	100.00	1			MP37
IP7-212		IP7-214	0	15,846	0.0330	0.0594	1		350	400.00				
IP7-213	L1122.3U		651	651	0.0014	0.0024	1	ABS	150	150.00				
IP7-214	L1122.4U		2,737	19,234	0.0401	0.0721	1	ABS	400	150.00				
IP7-215	L1122.2	IP7-225	1,234	20,468	0.0426	0.0768	1	ABS	400	150.00				
IP7-216	L1121.11U		2,634	2,634	0.0055	0.0099	1	ABS	200	200.00				
IP7-217	L1121.7U	IP7-221	3,289	5,923	0.0123	0.0222	1	ABS	250	600.00				
IP7-218	L1121.3U		405	405	0.0008	0.0015	1	ABS	150	100.00				
IP7-219	L1121.5		1,011	1,416	0.0030	0.0053	2	ABS	75	150.00	1			MP38
IP7-220	L1121.4		3,219	4,635	0.0097	0.0174	1	ABS	250	50.00				
IP7-221		IP7-224	0	10,558	0.0220	0.0396	1		300	150.00				
IP7-222	L1121.2U		707	707	0.0015	0.0027	2	ABS	75	100.00	1			MP39
IP7-223	L1121.1U		1,110	1,817	0.0038	0.0068	1	ABS	150	250.00				
IP7-224			0	12,375	0.0258	0.0464	1		300	200.00				
IP7-225		STP	0	32,843	0.0684	0.1232	1		450	200.00				
IP7-226	L1122.1U		3,131	3,131	0.0065	0.0117	1	ABS	200	150.00				
IP7-227	STP		0	382,607	0.7971	1.4348	1	ABS	1100	200.00				
Total			382,607							44,890.00	28			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	7,950.00	2	75	1,670.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	4,640.00	2	100	150.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	4,690.00	2	150	2,010.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	4,160.00	2	200	1,250.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	1,610.00	2	250	100.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	2,560.00	2	300	1,500.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	1,900.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	1,390.00	2	400	150.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	450.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	2,820.00	2	500	150.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	1,710.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	1,350.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	1,030.00	2	800	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1100	1,650.00	2	900	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1200	0.00	2	1000	0.00
Total	Gravity Flow	37,910.00	Total	Force main	6,980.00
All Total					44,890.00

Manhole Pump Station
28 (Places)

Total length table for Case 4 and Case 7

Gravity Flow

Diameter	Pa (m)	Pb (m)	Pc (m)	Pb+Pc (m)	Pd (m)	La1 (m)	La2 (m)	Lb (m)	La2+Lb (m)	Total
150	11,190.00	6,410.00	2,120.00	8,530.00	1,010.00	6,590.00	400.00	7,950.00	8,350.00	35,670.00
200	12,410.00	3,070.00	1,790.00	4,860.00	250.00	1,210.00	100.00	4,640.00	4,740.00	23,470.00
250	5,830.00	3,870.00	1,470.00	5,340.00	380.00	3,010.00	450.00	4,690.00	5,140.00	19,700.00
300	6,760.00	3,530.00	930.00	4,460.00	0.00	1,070.00	1,000.00	4,160.00	5,160.00	17,450.00
350	2,880.00	1,130.00	300.00	1,430.00	0.00	0.00	200.00	1,610.00	1,810.00	6,120.00
400	1,990.00	310.00	1,300.00	1,610.00	0.00	1,500.00	0.00	2,560.00	2,560.00	7,660.00
450	3,230.00	0.00	1,200.00	1,200.00	0.00	1,390.00	100.00	1,900.00	2,000.00	7,820.00
500	3,090.00	3,950.00	870.00	4,820.00	100.00	100.00	100.00	1,390.00	1,490.00	9,600.00
600	2,630.00	1,400.00	1,540.00	2,940.00	0.00	3,030.00	700.00	450.00	1,150.00	9,750.00
700	2,850.00	1,520.00	860.00	2,380.00	3,430.00	3,700.00	0.00	2,820.00	2,820.00	15,180.00
800	1,540.00	2,360.00	250.00	2,610.00	0.00	0.00	0.00	1,710.00	1,710.00	5,860.00
900	0.00	0.00	270.00	270.00	0.00	0.00	0.00	1,350.00	1,350.00	1,620.00
1000	100.00	0.00	290.00	290.00	0.00	0.00	0.00	680.00	680.00	1,070.00
1100	2,660.00			0.00				1,800.00	1,800.00	4,460.00
1200	420.00			0.00				200.00	200.00	620.00
1350				0.00					0.00	0.00
1500				0.00					0.00	0.00
1650				0.00					0.00	0.00
1800				0.00					0.00	0.00
Total	57,580.00	27,550.00	13,190.00	40,740.00	5,170.00	21,600.00	3,050.00	37,910.00	40,960.00	166,050.00

Force main Flow

Diameter	Pa (m)	Pb (m)	Pc (m)	Pb+Pc (m)	Pd (m)	La1 (m)	La2 (m)	Lb (m)	La2+Lb (m)	Total
75	560.00	0.00	0.00	0.00	0.00	810.00	0.00	1,670.00	1,670.00	3,040.00
100	440.00	0.00	0.00	0.00	0.00	840.00	0.00	150.00	150.00	1,430.00
150	3,140.00	0.00	0.00	0.00	0.00	300.00	0.00	2,010.00	2,010.00	5,450.00
200	1,850.00	0.00	0.00	0.00	0.00	250.00	0.00	1,250.00	1,250.00	3,350.00
250	1,380.00	330.00	0.00	330.00	0.00	450.00	0.00	100.00	100.00	2,260.00
300	210.00	0.00	50.00	50.00	0.00	190.00	0.00	1,500.00	1,500.00	1,950.00
350	1,580.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,580.00
400	220.00	0.00	0.00	0.00	0.00	430.00	0.00	150.00	150.00	800.00
450	0.00	70.00	60.00	130.00	0.00	0.00	0.00	0.00	0.00	130.00
500	0.00	0.00	0.00	0.00	0.00	650.00	0.00	150.00	150.00	800.00
600	0.00	0.00	0.00	0.00	0.00	800.00	0.00	0.00	0.00	800.00
700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900	0.00			0.00				0.00	0.00	0.00
1000	0.00			0.00				0.00	0.00	0.00
1100				0.00					0.00	0.00
1200				0.00					0.00	0.00
Total	9,380.00	400.00	110.00	510.00	0.00	4,720.00	0.00	6,980.00	6,980.00	21,590.00

Gravity + Force main = 187,640.00

Interceptor Pipes Calculation

Case No.	4	and	7
District ID	Pa		

< Note >

Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-1	P2121112.19U		3,273	3,273	0.0068	0.0123	1	ABS	200	560.00				
IP1-2	P2121112.17U		1,870	5,143	0.0107	0.0193	1	ABS	250	380.00				
IP1-3	P2121112.16U	IP1-8	2,265	7,408	0.0154	0.0278	1	ABS	250	480.00				
IP1-4	P2121112.24A		2,578	2,578	0.0054	0.0097	1	ABS	200	230.00				
IP1-5	P2121112.18U		458	3,036	0.0063	0.0114	1	ABS	200	1,150.00				
IP1-6	P2121112.15U		5,765	8,801	0.0183	0.0330	2	ABS	200	150.00	1			MP40
IP1-7	P2121112.14U		2,350	11,151	0.0232	0.0418	1	ABS	300	160.00				
IP1-8			0	18,559	0.0387	0.0696	1		350	340.00				
IP1-9	P2121112.13U	IP1-11	7,275	25,834	0.0538	0.0969	1	ABS	400	70.00				
IP1-10	P2121112.11U		611	611	0.0013	0.0023	1	ABS	150	420.00				
IP1-11	P2121112.12U		2,973	29,418	0.0613	0.1103	2	ABS	350	590.00	1			MP41
IP1-12		IP1-15	0	29,418	0.0613	0.1103	1		450	900.00				
IP1-13	P2121112.10U		1,161	1,161	0.0024	0.0044	2	ABS	75	150.00	1			MP42
IP1-14			0	1,161	0.0024	0.0044	1		150	620.00				
IP1-15		IP1-20	0	30,579	0.0637	0.1147	1		450	330.00				
IP1-16	P2121112.9U		140	140	0.0003	0.0005	1	ABS	150	180.00				
IP1-17	P2121112.8U	IP1-19	528	668	0.0014	0.0025	1	ABS	150	140.00				
IP1-18	P2121112.7U		1,207	1,207	0.0025	0.0045	1	ABS	150	70.00				
IP1-19			0	1,875	0.0039	0.0070	2		75	410.00	1			MP43
IP1-20			0	32,454	0.0676	0.1217	1		450	730.00				
IP1-21	P2121112.22A	IP1-49	10,680	43,134	0.0899	0.1618	1	ABS	500	550.00				
IP1-22	P21212111.3	IP1-26	3,876	3,876	0.0081	0.0145	2	ABS	150	250.00	1			MP44
IP1-23	P21212111.5A	IP1-25	2,676	2,676	0.0056	0.0100	1	ABS	200	310.00				
IP1-24	P21212111.4A		1,844	1,844	0.0038	0.0069	1	ABS	150	70.00				
IP1-25			0	4,520	0.0094	0.0170	1		200	160.00				
IP1-26		IP1-49	0	8,396	0.0175	0.0315	1		300	630.00				
IP1-27	P2121212.11A		3,207	3,207	0.0067	0.0120	1	ABS	200	540.00				
IP1-28	P2121212.10A		786	3,993	0.0083	0.0150	1	ABS	200	150.00				
IP1-29	P2121212.8A	IP1-31	411	4,404	0.0092	0.0165	1	ABS	200	250.00				
IP1-30	P2121212.5		89	89	0.0002	0.0003	1	ABS	150	60.00				
IP1-31	P2121212.4		106	4,599	0.0096	0.0172	1	ABS	250	60.00				
IP1-32	P2121212.3	IP1-36	3,485	8,084	0.0168	0.0303	1	ABS	300	60.00				
IP1-33	P2121212.7A	IP1-35	4,608	4,608	0.0096	0.0173	1	ABS	250	320.00				
IP1-34	P2121212.1		1,007	1,007	0.0021	0.0038	1	ABS	150	70.00				
IP1-35	P2121212.2		741	6,356	0.0132	0.0238	1	ABS	250	110.00				
IP1-36		IP1-45	0	14,440	0.0301	0.0542	1		350	60.00				
IP1-37	M.1A	IP1-39	9,341	9,341	0.0195	0.0350	1	ABS	300	1,340.00				
IP1-38	M.2A		5,128	5,128	0.0107	0.0192	1	ABS	250	350.00				
IP1-39		IP1-41	0	14,469	0.0301	0.0543	1		350	70.00				
IP1-40	M.3A		3,560	3,560	0.0074	0.0134	1	ABS	200	680.00				
IP1-41		IP1-43	0	18,029	0.0376	0.0676	1		350	380.00				
IP1-42	P2121212.9A		1,314	1,314	0.0027	0.0049	1	ABS	150	200.00				
IP1-43		IP1-45	0	19,343	0.0403	0.0725	1		400	640.00				
IP1-44	P2121212.6A		816	816	0.0017	0.0031	1	ABS	150	80.00				
IP1-45			0	34,599	0.0721	0.1297	2		350	270.00	1			MP45
IP1-46			0	34,599	0.0721	0.1297	1		450	270.00				
IP1-47	P21212111.1		953	35,552	0.0741	0.1333	1	ABS	500	90.00				
IP1-48	P21212111.2		1,673	37,225	0.0776	0.1396	2	ABS	350	720.00	1			MP46
IP1-49		IP1-52	0	88,755	0.1849	0.3328	1		700	980.00				
IP1-50	P2121112.5A		1,411	1,411	0.0029	0.0053	1	ABS	150	70.00				
IP1-51	P2121112.4A		9,075	10,486	0.0218	0.0393	1	ABS	300	230.00				
IP1-52		IP1-55	0	99,241	0.2068	0.3722	1		700	490.00				
IP1-53	P2121112.21A		2,606	2,606	0.0054	0.0098	1	ABS	200	440.00				
IP1-54	P2121112.20A		1,759	4,365	0.0091	0.0164	1	ABS	200	400.00				
IP1-55	P2121111.8A		1,869	105,475	0.2197	0.3955	1	ABS	700	100.00				
IP1-56	P2121111.7A	IP1-86	3,869	109,344	0.2278	0.4100	1	ABS	700	310.00				
IP1-57	P2121112.23A		4,812	4,812	0.0100	0.0180	1	ABS	250	80.00				
IP1-58	P2121112.6U		1,815	6,627	0.0138	0.0249	1	ABS	250	240.00				
IP1-59	P2121112.5U		1,521	8,148	0.0170	0.0306	1	ABS	300	290.00				
IP1-60	P2121112.4U	IP1-62	3,426	11,574	0.0241	0.0434	1	ABS	300	430.00				
IP1-61	Add SB4-25-2		12,400	12,400	0.0258	0.0465	1	ABS	300	320.00				
IP1-62		IP1-67	0	23,974	0.0499	0.0899	1		400	260.00				
IP1-63	P2121112.3U		467	467	0.0010	0.0018	1	ABS	150	70.00				
IP1-64	P2121112.2U		232	699	0.0015	0.0026	1	ABS	150	220.00				
IP1-65	P2121112.1U		4,479	5,178	0.0108	0.0194	1	ABS	250	80.00				

Interceptor Pipes Calculation

Case No.	4	and	7
District ID	Pa		

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-66			0	5,178	0.0108	0.0194	2		150	320.00				MP47
IP1-67		IP1-73	0	29,152	0.0607	0.1093	1		450	370.00				
IP1-68	P21211111.4	IP1-72	1,654	1,654	0.0034	0.0062	1	ABS	150	120.00				
IP1-69	Add SB4-25-1	IP1-71	3,838	3,838	0.0080	0.0144	1	ABS	200	330.00				
IP1-70	P21211111.6		4,262	4,262	0.0089	0.0160	1	ABS	200	60.00				
IP1-71	P21211111.5		3,566	11,666	0.0243	0.0437	1	ABS	300	230.00				
IP1-72			0	13,320	0.0278	0.0500	1		350	390.00				
IP1-73			0	42,472	0.0885	0.1593	1		500	350.00				
IP1-74			0	42,472	0.0885	0.1593	1		500	220.00				
IP1-75		IP1-78	0	42,472	0.0885	0.1593	1		500	390.00				
IP1-76	P21211111.2		1,589	1,589	0.0033	0.0060	1	ABS	150	120.00				
IP1-77	P21211111.3		15,104	16,693	0.0348	0.0626	2	ABS	250	320.00	1			MP49
IP1-78		IP1-80	0	59,165	0.1233	0.2219	1		600	50.00				
IP1-79	P21211111.1		163	163	0.0003	0.0006	1	ABS	150	300.00				
IP1-80		IP1-86	0	59,328	0.1236	0.2225	1		600	230.00				
IP1-81	P2121111.2	IP1-84	1,073	1,073	0.0022	0.0040	1		150	80.00				
IP1-82	P2121111.3A		835	835	0.0017	0.0031	1	ABS	150	320.00				
IP1-83	P2121111.5A		654	1,489	0.0031	0.0056	1	ABS	150	380.00				
IP1-84	P2121111.1		1,369	3,931	0.0082	0.0147	1	ABS	200	50.00				
IP1-85			0	3,931	0.0082	0.0147	2		150	420.00	1			MP50
IP1-86		IP1-90	0	172,603	0.3596	0.6473	1		800	350.00				
IP1-87	P2121111.6A	IP1-89	439	439	0.0009	0.0016	1	ABS	150	310.00				
IP1-88	P2121111.4A		2,373	2,373	0.0049	0.0089	1	ABS	150	530.00				
IP1-89			0	2,812	0.0059	0.0105	1		200	50.00				
IP1-90		IP1-96	0	175,415	0.3654	0.6578	1		800	460.00				
IP1-91	P212111.1A	IP1-96	2,165	2,165	0.0045	0.0081	1	ABS	150	260.00				
IP1-92	P2121112.2A		3,116	3,116	0.0065	0.0117	1	ABS	200	80.00				
IP1-93	P2121112.3A		977	4,093	0.0085	0.0153	1	ABS	200	350.00				
IP1-94	P2121112.1		679	4,772	0.0099	0.0179	1	ABS	250	30.00				
IP1-95			0	4,772	0.0099	0.0179	2		150	410.00	1			MP51
IP1-96			0	182,352	0.3799	0.6838	1		800	410.00				
IP1-97	P21211.12U	IP1-99	1,692	184,044	0.3834	0.6902	1	ABS	800	90.00				
IP1-98	P21211.10U		1,643	1,643	0.0034	0.0062	1	ABS	150	220.00				
IP1-99		IP1-93	0	185,687	0.3868	0.6963	1		800	230.00				
IP1-100	P2121222.10A		3,168	3,168	0.0066	0.0119	1	ABS	200	720.00				
IP1-101	P2121222.9A	IP1-104	3,018	6,186	0.0129	0.0232	1	ABS	250	320.00				
IP1-102	P2121222.2U		1,200	1,200	0.0025	0.0045	1	ABS	150	120.00				
IP1-103	P2121222.3U		1,967	3,167	0.0066	0.0119	1	ABS	200	50.00				
IP1-104			0	9,353	0.0195	0.0351	2		200	510.00	1			MP52
IP1-105		IP1-108	0	9,353	0.0195	0.0351	1		300	820.00				
IP1-106	P2121221.8U		5,032	5,032	0.0105	0.0189	1	ABS	250	50.00				
IP1-107	P2121221.11A		1,904	1,904	0.0040	0.0071	1	ABS	150					
IP1-108	P2121221.7U		103	16,392	0.0342	0.0615	1	ABS	350	60.00				
IP1-109			0	16,392	0.0342	0.0615	2		250	230.00	1			MP53
IP1-110			0	16,392	0.0342	0.0615	1		350	70.00				
IP1-111	P2121221.5U		2,503	18,895	0.0394	0.0709	1	ABS	350	50.00				
IP1-112	P2121221.6U	IP1-114	3,957	22,852	0.0476	0.0857	1	ABS	400	110.00				
IP1-113	P2121221.10A		12,524	12,524	0.0261	0.0470	1	ABS	300	300.00				
IP1-114		IP1-116	0	35,376	0.0737	0.1327	1		500	360.00				
IP1-115	P2121221.9A		2,092	2,092	0.0044	0.0078	1	ABS	150	200.00				
IP1-116		IP1-122	0	37,468	0.0781	0.1405	1		500	260.00				
IP1-117	P2121221.4U	IP1-121	3,727	3,727	0.0078	0.0140	1	ABS	200	70.00				
IP1-118	P2121221.1U		477	477	0.0010	0.0018	1	ABS	150	90.00				
IP1-119	P2121221.3U		613	1,090	0.0023	0.0041	1	ABS	150	70.00				
IP1-120	P2121221.2U		2,820	3,910	0.0081	0.0147	1	ABS	200	60.00				
IP1-121			0	7,637	0.0159	0.0286	2		200	480.00	1			MP54
IP1-122		IP1-147	0	45,105	0.0940	0.1691	1		500	420.00				
IP1-123	P21211212.7A	IP1-125	2,114	2,114	0.0044	0.0079	1	ABS	150	120.00				
IP1-124	P21211212.6A		481	481	0.0010	0.0018	1	ABS	150	90.00				
IP1-125	P21211212.5A		571	3,166	0.0066	0.0119	1	ABS	200	200.00				
IP1-126	P21211212.4A		670	3,836	0.0080	0.0144	1	ABS	200	320.00				
IP1-127	P21211212.3A	IP1-130	842	4,678	0.0097	0.0175	1	ABS	250	80.00				
IP1-128	P21211211.1A		1,096	1,096	0.0023	0.0041	1	ABS	150	80.00				
IP1-129	P21211211.2A		640	1,736	0.0036	0.0065	1	ABS	150	350.00				

Interceptor Pipes Calculation

Case No.	4	and	7
District ID	Pa		

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-130		IP1-132	0	6,414	0.0134	0.0241	1		250	100.00				
IP1-131	P21211212.1		202	202	0.0004	0.0008	1	ABS	150	60.00				
IP1-132	P21211212.2	IP1-145	1,757	8,373	0.0174	0.0314	1	ABS	300	380.00				
IP1-133	P212112.5	IP1-135	1,478	1,478	0.0031	0.0055	1	ABS	150	90.00				
IP1-134	P212112.3U		287	287	0.0006	0.0011	1	ABS	150	70.00				
IP1-135	P212112.4	IP1-137	729	2,494	0.0052	0.0094	1	ABS	200	100.00				
IP1-136	P212115.12A		777	777	0.0016	0.0029	1	ABS	150	70.00				
IP1-137		IP1-140	0	3,271	0.0068	0.0123	1		200	90.00				
IP1-138	P2121121.2		1,976	1,976	0.0041	0.0074	1	ABS	150	50.00				
IP1-139	P2121121.1		367	2,343	0.0049	0.0088	1	ABS	150	190.00				
IP1-140		IP1-144	0	5,614	0.0117	0.0211	2		150	530.00	1			MP55
IP1-141	P2121122.1A	IP1-143	715	715	0.0015	0.0027	1	ABS	150	260.00				
IP1-142	P2121121.3A		1,512	1,512	0.0032	0.0057	1	ABS	150	220.00				
IP1-143			0	2,227	0.0046	0.0084	1		150	100.00				
IP1-144			0	7,841	0.0163	0.0294	1		250	90.00				
IP1-145			0	16,214	0.0338	0.0608	1		350	250.00				
IP1-146	P2121122.2A		4,377	20,591	0.0429	0.0772	1	ABS	400	160.00				
IP1-147		IP1-75	0	65,696	0.1369	0.2464	1		600	670.00				
IP1-148	P2121222.1	IP1-152	1,144	1,144	0.0024	0.0043	1	ABS	150	50.00				
IP1-149	P2121222.8A		1,586	1,586	0.0033	0.0059	1	ABS	150	170.00				
IP1-150	P2121222.7A		1,516	3,102	0.0065	0.0116	1	ABS	200	180.00				
IP1-151	P2121222.6A		7,407	10,509	0.0219	0.0394	1	ABS	300	380.00				
IP1-152			0	11,653	0.0243	0.0437	1		300	190.00				
IP1-153		IP1-156	0	11,653	0.0243	0.0437	2		200	160.00	1			MP56
IP1-154	P2121222.5A	IP1-156	4,249	4,249	0.0089	0.0159	1	ABS	200	50.00				
IP1-155	P2121222.4A		1,853	1,853	0.0039	0.0069	1	ABS	150	170.00				
IP1-156		IP1-160	0	17,755	0.0370	0.0666	1		350	270.00				
IP1-157	P212122.10A		4,984	4,984	0.0104	0.0187	1	ABS	250	100.00				
IP1-158	P212122.11A		739	5,723	0.0119	0.0215	1	ABS	250	150.00				
IP1-159	P212122.9A		854	6,577	0.0137	0.0247	1	ABS	250	270.00				
IP1-160	P212122.8		3,196	27,528	0.0574	0.1032	1	ABS	450	290.00				
IP1-161	P212122.6		2,122	29,650	0.0618	0.1112	1	ABS	450	40.00				
IP1-162	P212122.7	IP1-65	4,287	33,937	0.0707	0.1273	1	ABS	450	160.00				
IP1-63	P212122.4		4,233	4,233	0.0088	0.0159	2	ABS	150	160.00	1			MP57
IP1-64	P212122.5		1,860	6,093	0.0127	0.0228	1	ABS	250	180.00				
IP1-65		IP1-74	0	40,030	0.0834	0.1501	2		400	220.00	1			MP58
IP1-66	P212122.1		121	121	0.0003	0.0005	1	ABS	150	280.00				
IP1-67	P212122.2	IP1-69	2,450	2,571	0.0054	0.0096	1	ABS	200	50.00				
IP1-68	P212121.1U		4,622	4,622	0.0096	0.0173	1	ABS	250	60.00				
IP1-69		IP1-71	0	7,193	0.0150	0.0270	1		250	120.00				
IP1-70	P212121.2U		10,050	10,050	0.0209	0.0377	1	ABS	300	180.00				
IP1-71		IP1-73	0	17,243	0.0359	0.0647	1		350	150.00				
IP1-72	P212122.3		1,514	1,514	0.0032	0.0057	1	ABS	150	50.00				
IP1-73			0	18,757	0.0391	0.0703	2		250	330.00	1			MP59
IP1-74			0	58,787	0.1225	0.2205	1		600	680.00				
IP1-75		IP1-85	0	124,483	0.2593	0.4668	1		700	270.00				
IP1-76	P212115.6A		517	517	0.0011	0.0019	1	ABS	150	420.00				
IP1-77	P212115.10A	IP1-79	706	1,223	0.0025	0.0046	1	ABS	150	100.00				
IP1-78	P212115.11A		440	440	0.0009	0.0017	1	ABS	150	360.00				
IP1-79	P212115.9A	IP1-83	3,039	4,702	0.0098	0.0176	1	ABS	250	80.00				
IP1-80	P212115.7A		537	537	0.0011	0.0020	1	ABS	150	90.00				
IP1-81	P212115.8A		496	1,033	0.0022	0.0039	1	ABS	150	200.00				
IP1-82	P212112.2U		496	1,529	0.0032	0.0057	1	ABS	150	60.00				
IP1-83			0	6,231	0.0130	0.0234	2		150	440.00	1			MP60
IP1-84			0	6,231	0.0130	0.0234	1		250	290.00				
IP1-85		IP1-88	0	130,714	0.2723	0.4902	1		700	290.00				
IP1-86	P212112.1		5,082	5,082	0.0106	0.0191	1	ABS	250	50.00				
IP1-87			0	5,082	0.0106	0.0191	2		150	360.00	1			MP61
IP1-88		IP1-93	0	135,796	0.2829	0.5092	1		700	410.00				
IP1-89	P21212.8		3,401	3,401	0.0071	0.0128	1	ABS	200	50.00				
IP1-90	P21212.9		1,689	5,090	0.0106	0.0191	1	ABS	250	50.00				
IP1-91			0	5,090	0.0106	0.0191	2		150	250.00	1			MP62
IP1-92			0	5,090	0.0106	0.0191	1		250	270.00				
IP1-93		IP1-95	0	326,573	0.6804	1.2246	1		1000	100.00				

Interceptor Pipes Calculation

Case No.	4	and	7
District ID	Pa		

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-94	P21211.11U		3,685	3,685	0.0077	0.0138	1	ABS	200	130.00				
IP1-95		IP1-105	0	330,258	0.6880	1.2385	1		1100	410.00				
IP1-96	P21212.7	IP1-98	1,039	1,039	0.0022	0.0039	1	ABS	150	260.00				
IP1-97	P21212.6		2,602	2,602	0.0054	0.0098	1	ABS	200	120.00				
IP1-98		IP1-101	0	3,641	0.0076	0.0137	1		200	510.00				
IP1-99	P21212.4		3,541	3,541	0.0074	0.0133	1	ABS	200	150.00				
IP1-100	P21212.5		6,206	9,747	0.0203	0.0366	1	ABS	300	50.00				
IP1-101		IP1-105	0	13,388	0.0279	0.0502	2		250	310.00	1			MP63
IP1-102	P21211.7U		2,283	2,283	0.0048	0.0086	1	ABS	150	170.00				
IP1-103	P21211.9U		1,193	3,476	0.0072	0.0130	1	ABS	200	60.00				
IP1-104	P21211.8U		1,583	5,059	0.0105	0.0190	1	ABS	250	150.00				
IP1-105		IP1-108	0	348,705	0.7265	1.3076	1		1100	350.00				
IP1-106	P21212.3		2,481	2,481	0.0052	0.0093	1	ABS	200	50.00				
IP1-107			0	2,481	0.0052	0.0093	2		100	440.00	1			MP64
IP1-108		IP1-111	0	351,186	0.7316	1.3169	1		1100	280.00				
IP1-109	P21211.6U		773	773	0.0016	0.0029	1	ABS	150	110.00				
IP1-110	P21211.5U		916	1,689	0.0035	0.0063	1	ABS	150	80.00				
IP1-111	P21211.4U	IP1-128	602	353,477	0.7364	1.3255	1	ABS	1100	280.00				
IP1-112	P2122.2		502	502	0.0010	0.0019	1	ABS	150	70.00				
IP1-113	P2122.3	IP1-119	25	527	0.0011	0.0020	1	ABS	150	50.00				
IP1-114	P2122.6U	IP1-118	15,610	15,610	0.0325	0.0585	2	ABS	250	190.00	1			MP65
IP1-115	P2122.9A		1,054	1,054	0.0022	0.0040	1	ABS	150	630.00				
IP1-116	P2122.8A		2,306	3,360	0.0070	0.0126	1	ABS	200	500.00				
IP1-117	P2122.7A		1,567	4,927	0.0103	0.0185	1	ABS	250	500.00				
IP1-118	P2122.5		1,027	21,564	0.0449	0.0809	1	ABS	400	70.00				
IP1-119	P2122.4	IP1-122	2,630	24,721	0.0515	0.0927	1	ABS	400	570.00				
IP1-120	P2121.3A		1,994	1,994	0.0042	0.0075	1	ABS	150	500.00				
IP1-121	P2121.10A		5,450	7,444	0.0155	0.0279	1	ABS	250	280.00				
IP1-122		IP1-124	0	32,165	0.0670	0.1206	1		450	90.00				
IP1-123	P21212.2		2,792	2,792	0.0058	0.0105	1	ABS	200	460.00				
IP1-124			0	34,957	0.0728	0.1311	1		500	130.00				
IP1-125	P21212.1	IP1-127	2,541	37,498	0.0781	0.1406	1	ABS	500	210.00				
IP1-126	P21211.2U		2,639	2,639	0.0055	0.0099	1	ABS	200	100.00				
IP1-127			0	40,137	0.0836	0.1505	1		500	110.00				
IP1-128	P21211.3U		2,343	395,957	0.8249	1.4848	1	ABS	1100	450.00				
IP1-129	P21211.1U	IP1-132	3,463	399,420	0.8321	1.4978	1	ABS	1100	180.00				
IP1-130	P2121.1		2,672	2,672	0.0056	0.0100	1	ABS	200	50.00				
IP1-131	P2121.2		403	3,075	0.0064	0.0115	1	ABS	200	350.00				
IP1-132		IP1-158	0	402,495	0.8385	1.5094	1		1100	710.00				
IP1-133	P211.10	IP1-135	7,021	7,021	0.0146	0.0263	1	ABS	250	190.00				
IP1-134	P211.9		1,877	1,877	0.0039	0.0070	1	ABS	150	50.00				
IP1-135			0	8,898	0.0185	0.0334	2		200	280.00	1			MP66
IP1-136		IP1-158	0	8,898	0.0185	0.0334	1		300	520.00				
IP1-137	P2.2U	IP1-141	4,027	4,027	0.0084	0.0151	1	ABS	200	480.00				
IP1-138	P212.2A		4,067	4,067	0.0085	0.0153	1	ABS	200	280.00				
IP1-139	P212.1A		1,751	5,818	0.0121	0.0218	1	ABS	250	320.00				
IP1-140	P21.1		4,196	10,014	0.0209	0.0376	2	ABS	200	270.00	1			MP67
IP1-141			0	14,041	0.0293	0.0527	1		350	170.00				
IP1-142	P211.1		8,990	23,031	0.0480	0.0864	1	ABS	400	110.00				
IP1-143	P211.2	IP1-149	4,728	27,759	0.0578	0.1041	1	ABS	450	50.00				
IP1-144	P211.8		16,913	16,913	0.0352	0.0634	1	ABS	350	190.00				
IP1-145	P211.5U		490	17,403	0.0363	0.0653	1	ABS	350	50.00				
IP1-146	P211.4U	IP1-148	822	18,225	0.0380	0.0683	1	ABS	350	380.00				
IP1-147	P211.3		2,562	2,562	0.0053	0.0096	1	ABS	200	120.00				
IP1-148			0	20,787	0.0433	0.0780	2		300	210.00	1			MP68
IP1-149		IP1-156	0	48,546	0.1011	0.1820	1		600	450.00				
IP1-150	P211.10		761	761	0.0016	0.0029	1	ABS	150	30.00				
IP1-151	P211.8U		841	1,602	0.0033	0.0060	1	ABS	150	80.00				
IP1-152	P211.7U		367	1,969	0.0041	0.0074	1	ABS	150	30.00				
IP1-153	P211.9	IP1-156	2,220	4,189	0.0087	0.0157	1	ABS	200	990.00				
IP1-154	P211.7		1,018	1,018	0.0021	0.0038	1	ABS	150	40.00				
IP1-155	P211.6		9,690	10,708	0.0223	0.0402	1	ABS	300	70.00				
IP1-156			0	63,443	0.1322	0.2379	1		600	200.00				
IP1-157			0	63,443	0.1322	0.2379	1		600	350.00				
IP1-158		IP1-161	0	474,836	0.9892	1.7806	1		1200	370.00				
IP1-159	P2122.1U	IP1-161	4,009	4,009	0.0084	0.0150	1	ABS	200	330.00				

Interceptor Pipes Calculation

Case No. 4 and 7
 District ID Pa

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-160	P212.3A		8,025	8,025	0.0167	0.0301	1	ABS	300	180.00				
IP1-161		STP	0	486,870	1.0143	1.8258	1		1200	50.00				
合計			486,870							66,960.00	28			

Total Table

Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	11,190.00	2	75	560.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	12,410.00	2	100	440.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	5,830.00	2	150	3,140.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	6,760.00	2	200	1,850.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	2,880.00	2	250	1,380.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	1,990.00	2	300	210.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	3,230.00	2	350	1,580.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	3,090.00	2	400	220.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	2,630.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	2,850.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	1,540.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	100.00	2	800	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1100	2,660.00	2	900	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1200	420.00	2	1000	0.00
Total	Gravity Flow	57,580.00	Total	Force main	9,380.00
			All Total		66,960.00

Manhole Pump Station
 28 (Places)

Interceptor Pipes Calculation

Case No.	4 and 7
District ID	Pb

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP2-1	P2211212.2A		1,228	1,228	0.0026	0.0046	1	ABS	150	200.00				
IP2-2	P221121.2	IP2-13	3,640	4,868	0.0101	0.0183	1	ABS	250	420.00				
IP2-3	P22112.3A		2,207	2,207	0.0046	0.0083	1	ABS	150	350.00				
IP2-4	P221122.2	IP2-8	1,471	3,678	0.0077	0.0138	1	ABS	200	60.00				
IP2-5	P22112.5A		2,668	2,668	0.0056	0.0100	1	ABS	200	90.00				
IP2-6	P22112.6A		552	3,220	0.0067	0.0121	1	ABS	200	150.00				
IP2-7	P22112.4A		9,981	13,201	0.0275	0.0495	1	ABS	350	480.00				
IP2-8			0	16,879	0.0352	0.0633	1		350	100.00				
IP2-9	P221122.1		1,553	18,432	0.0384	0.0691	1	ABS	350	50.00				
IP2-10	P221121.1A		3,558	21,990	0.0458	0.0825	1	ABS	400	200.00				
IP2-11	P221121.2A		1,638	23,628	0.0492	0.0886	1	ABS	400	110.00				
IP2-12	P2211211.1A		7,930	7,930	0.0165	0.0297	1	ABS	250	460.00				
IP2-13		IP2-16	0	36,426	0.0759	0.1366	1		500	170.00				
IP2-14	P22112.4A		883	883	0.0018	0.0033	1	ABS	150	80.00				
IP2-15	P22112.3		1,626	2,509	0.0052	0.0094	1	ABS	200	210.00				
IP2-16			0	38,935	0.0811	0.1460	1		500	340.00				
IP2-17	P221121.1	IP2-26	451	39,386	0.0821	0.1477	1	ABS	500	180.00				
IP2-18	P22112.7A		6,999	6,999	0.0146	0.0262	1	ABS	250	350.00				
IP2-19	P22112.6A		1,342	8,341	0.0174	0.0313	1	ABS	300	320.00				
IP2-20	P22112.5A	IP2-22	3,451	11,792	0.0246	0.0442	1	ABS	300	530.00				
IP2-21	P22112.2		629	629	0.0013	0.0024	1	ABS	150	180.00				
IP2-22		IP2-26	0	12,421	0.0259	0.0466	1		300	100.00				
IP2-23	P221111.4A	IP2-25	1,896	1,896	0.0040	0.0071	1	ABS	150	150.00				
IP2-24	P221111.2A		672	672	0.0014	0.0025	1	ABS	150	70.00				
IP2-25			0	2,568	0.0054	0.0096	1		200	80.00				
IP2-26		IP2-30	0	54,375	0.1133	0.2039	1		600	190.00				
IP2-27	P221111.3A	IP2-29	224	224	0.0005	0.0008	1	ABS	150	260.00				
IP2-28	P221111.5A		960	960	0.0020	0.0036	1	ABS	150	50.00				
IP2-29			0	1,184	0.0025	0.0044	1		150	570.00				
IP2-30	P221111.1A	IP2-36	1,414	56,973	0.1187	0.2136	1	ABS	600	320.00				
IP2-31	P221121.1	IP2-33	831	831	0.0017	0.0031	1	ABS	150	130.00				
IP2-32	P22112.1A		639	639	0.0013	0.0024	1	ABS	150	60.00				
IP2-33			0	1,470	0.0031	0.0055	1		150	260.00				
IP2-34	P22111.1		1,209	2,679	0.0056	0.0100	1	ABS	200	150.00				
IP2-35	P22111.2		4,696	7,375	0.0154	0.0277	1	ABS	250	50.00				
IP2-36		IP2-47	0	64,348	0.1341	0.2413	1		600	700.00				
IP2-37	P2211.5U	IP2-43	3,393	3,393	0.0071	0.0127	1	ABS	200	50.00				
IP2-38	P2212.12A		4,266	4,266	0.0089	0.0160	1	ABS	200	580.00				
IP2-39	P2212.10A	IP2-42	2,069	6,335	0.0132	0.0238	1	ABS	250	360.00				
IP2-40	P2212.11A		1,619	1,619	0.0034	0.0061	1	ABS	150	410.00				
IP2-41	P2212.8A		769	2,388	0.0050	0.0090	1	ABS	150	140.00				
IP2-42	P2212.9A		1,491	10,214	0.0213	0.0383	1	ABS	300	500.00				
IP2-43	P2211.4	IP2-45	1,141	14,748	0.0307	0.0553	1	ABS	350	50.00				
IP2-44	P2212.7A		872	872	0.0018	0.0033	1	ABS	150	410.00				
IP2-45	P2211.3		610	16,230	0.0338	0.0609	1	ABS	350	230.00				
IP2-46	P2211.2		1,104	17,334	0.0361	0.0650	2	ABS	250	210.00	1			MP70
IP2-47		IP2-49	0	81,682	0.1702	0.3063	1		700	320.00				
IP2-48	P2211.1		1,171	1,171	0.0024	0.0044	1	ABS	150	380.00				
IP2-49			0	82,853	0.1726	0.3107	1		700	1,200.00				
IP2-50	P222.12		3,238	3,238	0.0067	0.0121	1	ABS	200	330.00				
IP2-51	P222.17A		5,012	5,012	0.0104	0.0188	1	ABS	250	550.00				
IP2-52	P222.16A		2,452	7,464	0.0156	0.0280	1	ABS	250	100.00				
IP2-53			27,115	37,817	0.0788	0.1418	1		500	170.00				From PASAY
IP2-54			0	37,817	0.0788	0.1418	1		500	1,700.00				PASAY
IP2-55	P222.9U		5,298	5,298	0.0110	0.0199	1	ABS	250	530.00				
IP2-56	P222.7U		720	6,018	0.0125	0.0226	1	ABS	250	100.00				
IP2-57		IP2-59	0	43,835	0.0913	0.1644	1		500	700.00				PASAY
IP2-58	P222.5		368	368	0.0008	0.0014	1	ABS	150	50.00				
IP2-59			0	44,203	0.0921	0.1658	1		500	30.00				
IP2-60	P222.3		278	278	0.0006	0.0010	1	ABS	150	50.00				
IP2-61			0	44,481	0.0927	0.1668	1		500	60.00				PASAY
IP2-62			0	44,481	0.0927	0.1668	1		500	110.00				PASAY
IP2-63	P222.14A	IP2-65	260	44,741	0.0932	0.1678	1	ABS	500	350.00				
IP2-64	P222.13A		1,364	1,364	0.0028	0.0051	1	ABS	150	230.00				

Interceptor Pipes Calculation

Case No.	4 and 7
District ID	Pb

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP2-65		IP2-85	0	46,105	0.0961	0.1729	1		500	140.00				
IP2-66	P222.15A		1,504	1,504	0.0031	0.0056	1	ABS	150	260.00				
IP2-67	P222.6	IP2-82	3,124	4,628	0.0096	0.0174	1	ABS	250	800.00				
IP2-68	P2212.5		1,029	1,029	0.0021	0.0039	1	ABS	150	60.00				
IP2-69	P2212.3	IP2-76	148	1,177	0.0025	0.0044	1	ABS	150	20.00				
IP2-70	P2212.2	IP2-75	83	83	0.0002	0.0003	1	ABS	150	50.00				
IP2-71	P2212.6A	IP2-73	275	275	0.0006	0.0010	1	ABS	150	80.00				
IP2-72	P2211.6A		691	691	0.0014	0.0026	1	ABS	150	250.00				
IP2-73			0	966	0.0020	0.0036	1		150	120.00				
IP2-74	P2212.4		71	1,037	0.0022	0.0039	1	ABS	150	50.00				
IP2-75			0	1,120	0.0023	0.0042	1		150	50.00				
IP2-76			0	2,297	0.0048	0.0086	1		150	50.00				
IP2-77	P2212.1	IP2-80	552	2,849	0.0059	0.0107	1	ABS	200	450.00				
IP2-78	P221.6A	IP2-80	575	575	0.0012	0.0022	1	ABS	150	320.00				
IP2-79	P221.7A		337	337	0.0007	0.0013	1	ABS	150	200.00				
IP2-80		IP2-82	0	3,761	0.0078	0.0141	1		200	410.00				
IP2-81	P221.5A		1,881	1,881	0.0039	0.0071	1	ABS	150	210.00				
IP2-82		IP2-84	0	10,270	0.0214	0.0385	1		300	210.00				
IP2-83	P221.4A		1,321	1,321	0.0028	0.0050	1	ABS	150	70.00				
IP2-84			0	11,591	0.0241	0.0435	1		300	190.00				
IP2-85			0	57,696	0.1202	0.2164	1		600	130.00				
IP2-86	P221.3A	IP2-88	682	58,378	0.1216	0.2189	2	ABS	450	70.00	1			MP71
IP2-87	P221.1		282	282	0.0006	0.0011	1	ABS	150	40.00				
IP2-88	P221.2		11,155	69,815	0.1454	0.2618	1	ABS	600	60.00				
IP2-89		IP2-91	0	152,668	0.3181	0.5725	1		800	300.00				
IP2-90	P22.6A		3,010	3,010	0.0063	0.0113	1	ABS	200	100.00				
IP2-91			0	155,678	0.3243	0.5838	1		800	200.00				
IP2-92		IP2-95	0	155,678	0.3243	0.5838	1		800	120.00				
IP2-93	P222.1		2,552	2,552	0.0053	0.0096	1	ABS	200	410.00				
IP2-94	P22.3U		4,711	7,263	0.0151	0.0272	1	ABS	250	150.00				
IP2-95		IP2-101	0	162,941	0.3395	0.6110	1		800	1,100.00				
IP2-96	P22.5A	IP2-98	12,350	12,350	0.0257	0.0463	1	ABS	300	1,580.00				
IP2-97	P22.2U		638	638	0.0013	0.0024	1	ABS	150	550.00				
IP2-98			0	12,988	0.0271	0.0487	1		300	100.00				
IP2-99	P22.1		5,496	18,484	0.0385	0.0693	2	ABS	250	120.00	1			MP72
IP2-100			0	18,484	0.0385	0.0693	1		350	220.00				
IP2-101			0	181,425	0.3780	0.6803	1		800	220.00				PS4-1
IP2-102	P22.4	Pc ^	7,330	188,755	0.3932	0.7078	1	ABS	800	420.00				
合計			188,755							27,950.00	3			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	6,410.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	3,070.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	3,870.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	3,530.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	1,130.00	2	250	330.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	310.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	3,950.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	1,400.00	2	450	70.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	1,520.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	2,360.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	27,550.00	Total	Force main	400.00
			All Total		27,950.00

Manhole Pump Station
3 (Places)

Interceptor Pipes Calculation

Case No.	4	and	7
District ID	Pc		

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP3-1	P11.10		1,720	1,720	0.0036	0.0065	1	ABS	150	300.00				
IP3-2	P11.9		1,851	3,571	0.0074	0.0134	1	ABS	200	130.00				
IP3-3	P11.8		762	4,333	0.0090	0.0162	1	ABS	200	100.00				
IP3-4			0	0	0.0000	0.0000	1							PASAY
IP3-5	P11.6		885	5,218	0.0109	0.0196	1	ABS	250	540.00				
IP3-6	P11.12A	IP3-8	5,862	11,080	0.0231	0.0416	1	ABS	300	800.00				
IP3-7	P11.4U		13,264	13,264	0.0276	0.0497	1	ABS	350	150.00				
IP3-8		IP3-10	0	24,344	0.0507	0.0913	1		400	150.00				
IP3-9	P11.1U		604	604	0.0013	0.0023	1	ABS	150	150.00				
IP3-10		IP3-12	0	24,948	0.0520	0.0936	1		400	150.00				
IP3-11	P11.11U		2,465	2,465	0.0051	0.0092	1	ABS	200	150.00				
IP3-12		IP3-14	0	27,413	0.0571	0.1028	1		450	700.00				
IP3-13	P1.7A		15,988	15,988	0.0333	0.0600	1	ABS	350	50.00				
IP3-14		IP3-16	0	43,401	0.0904	0.1628	1		500	200.00				
IP3-15	B7		669	669	0.0014	0.0025	1	ABS	150	290.00				
IP3-16	P1.3U	IP3-21	314	44,384	0.0925	0.1664	1	ABS	500	220.00				
IP3-17	B8	IP3-21	2,124	2,124	0.0044	0.0080	1	ABS	150	340.00				
IP3-18	P1		755	755	0.0016	0.0028	1	ABS	150	120.00				
IP3-19	P2U		223	978	0.0020	0.0037	1	ABS	150	40.00				
IP3-20	P3U		118	1,096	0.0023	0.0041	1	ABS	150	280.00				
IP3-21	P1.6A	IP3-23	700	48,304	0.1006	0.1811	1	ABS	600	140.00				
IP3-22	P2.1U		3,789	3,789	0.0079	0.0142	1	ABS	200	220.00				
IP3-23	P1.1	IP3-58	1,615	53,708	0.1119	0.2014	1	ABS	600	190.00				
	From Pb district	IP3-57	188,755	188,755	0.3932	0.7078	1	ABS	800	250.00				
IP3-24	P121.21		500	500	0.0010	0.0019	1	ABS	150	20.00				Pasay
IP3-25	P121.20		500	1,000	0.0021	0.0038	1	ABS	150	50.00				Pasay
IP3-26	P121.18		500	1,500	0.0031	0.0056	1	ABS	150	20.00				Pasay
IP3-27	P121.14		500	2,000	0.0042	0.0075	1	ABS	150	60.00				Pasay
IP3-28	P121.13		1,000	3,000	0.0063	0.0113	1	ABS	200	20.00				Pasay
IP3-29	P121.11		1,000	4,000	0.0083	0.0150	1	ABS	200	30.00				Pasay
IP3-30	P121.9		1,000	5,000	0.0104	0.0188	1	ABS	250	50.00				Pasay
IP3-31	P121.7		2,000	7,000	0.0146	0.0263	1	ABS	250	330.00				Pasay
IP3-32	P121.3		4,000	11,000	0.0229	0.0413	1	ABS	300	130.00				Pasay
IP3-33	P121.19		246	246	0.0005	0.0009	1	ABS	150	80.00				
IP3-34	P121.17		193	439	0.0009	0.0016	1	ABS	150	30.00				
IP3-35	P121.16		270	709	0.0015	0.0027	1	ABS	150	50.00				
IP3-36	P121.15		137	846	0.0018	0.0032	1	ABS	150	110.00				
IP3-37	P121.12		291	1,137	0.0024	0.0043	1	ABS	150	80.00				
IP3-38	P121.10		230	1,367	0.0028	0.0051	1	ABS	150	60.00				
IP3-39	P121.8		946	2,313	0.0048	0.0087	1	ABS	150	40.00				
IP3-40	P121.6		1,732	4,045	0.0084	0.0152	1	ABS	200	190.00				
IP3-41	P121.5		319	4,364	0.0091	0.0164	1	ABS	200	70.00				
IP3-42	P121.4	IP3-56	0	4,364	0.0091	0.0164	1	ABS	200	190.00				
IP3-43	P11.7U1		16,500	16,500	0.0344	0.0619	1	ABS	350	100.00				Pasay
IP3-44	P11.7U		8,500	25,000	0.0521	0.0938	1	ABS	400	1,000.00				Pasay
IP3-45	MP		0	25,000	0.0521	0.0938	2	ABS	300	50.00	1			Pasay
IP3-46	P11.5.1		2,400	27,400	0.0571	0.1028	1	ABS	450	300.00				Pasay
IP3-47	P11.5		3,450	30,850	0.0643	0.1157	1	ABS	450	100.00				Paranaque: 1250p
IP3-48	P11.3U		2,907	33,757	0.0703	0.1266	1	ABS	450	100.00				Paranaque: 407p
IP3-49	P11.2U		2,428	36,185	0.0754	0.1357	1	ABS	500	250.00				Paranaque: 328p
IP3-50	P12.1		3,836	40,021	0.0834	0.1501	1	ABS	500	50.00				Paranaque: 1536p
IP3-51	P12.2		2,948	42,969	0.0895	0.1611	1	ABS	500	150.00				Paranaque: 998p
IP3-52	P12.3	IP3-53	5,089	48,058	0.1001	0.1802	1	ABS	600	300.00				Paranaque: 1132p
IP3-53	P121.1		4,000	63,058	0.1314	0.2365	2	ABS	450	60.00	1			MP73
IP3-54	P121.2	IP3-56	1,500	64,558	0.1345	0.2421	1	ABS	600	910.00				Pasay
IP3-55	P121.22A		6,264	6,264	0.0131	0.0235	1	ABS	250	230.00				
IP3-56			0	75,186	0.1566	0.2819	1		700	860.00				
IP3-57			0	263,941	0.5499	0.9898	1		900	270.00				
IP3-58		IP3-62	0	317,649	0.6618	1.1912	1		1000	240.00				
IP3-59	P1.5U		2,625	2,625	0.0055	0.0098	1	ABS	200	560.00				
IP3-60	P1.4U	IP3-62	3,089	5,714	0.0119	0.0214	1	ABS	250	320.00				

Interceptor Pipes Calculation

Case No. 4 and 7
 District ID Pc

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP3-61	P1.2		3,019	3,019	0.0063	0.0113	1	ABS	200	130.00				
IP3-62		STP	0	326,382	0.6800	1.2239	1		1000	50.00				
Total			326,382							13,300.00	2			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	2,120.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	1,790.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	1,470.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	930.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	300.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	1,300.00	2	300	50.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	1,200.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	870.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	1,540.00	2	450	60.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	860.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	250.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	270.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	290.00	2	800	0.00
Total	Gravity Flow	13,190.00	Total	Force main	110.00
			All Total		13,300.00

Manhole Pump Station
 2 (Places)

Interceptor Pipes Calculation

Case No. 4 and 7
 District ID Pd

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP4-1	B5	IP4-6	726	726	0.0015	0.0027	1	ABS	150	680.00				
IP4-2	B.9A		1,108	1,108	0.0023	0.0042	1	ABS	150	180.00				
IP4-3	B4U		1,015	2,123	0.0044	0.0080	1	ABS	150	150.00				
IP4-4	B1		1,053	3,176	0.0066	0.0119	1	ABS	200	110.00				
IP4-5	B2		508	3,684	0.0077	0.0138	1	ABS	200	140.00				
IP4-6	B3	IP4-9	2,446	6,856	0.0143	0.0257	1	ABS	250	380.00				
IP4-7	B.7A		43,924	43,924	0.0915	0.1647	1	ABS	500	100.00				
IP4-8	B.8A		41,655	85,579	0.1783	0.3209	1	ABS	700	570.00				
IP4-9		STP	0	92,435	0.1926	0.3466	1		700	2,860.00				
合計			92,435							5,170.00	0			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	1,010.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	250.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	380.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	0.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	0.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	3,430.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	5,170.00	Total	Force main	0.00
			All Total		5,170.00

Manhole Pump Station
 0 (Places)

Interceptor Pipes Calculation

Case No.	4	and	7
District ID	La1		

< Note >

Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP5-1	L21112.21U		2,182	2,182	0.0045	0.0082	1	ABS	150	20.00				
IP5-2	L21112.22U		4,178	6,360	0.0133	0.0239	2	ABS	150	300.00	1			MP1
IP5-3		IP5-5	0	6,360	0.0133	0.0239	1		250	1,590.00				
IP5-4	L21112.23A		9,550	9,550	0.0199	0.0358	1	ABS	300	20.00				
IP5-5	L21112.20U		15,334	31,244	0.0651	0.1172	1	ABS	450	1,190.00				
IP5-6	L21112.19U		3,437	34,681	0.0723	0.1301	1	ABS	450	200.00				
IP5-7	L21112.18U	IP5-10	747	35,428	0.0738	0.1329	1	ABS	500	100.00				
IP5-8	L21112.16U	IP5-10	1,287	1,287	0.0027	0.0048	1	ABS	150	50.00				
IP5-9	L21112.15U		590	590	0.0012	0.0022	1	ABS	150	1,500.00				
IP5-10	L21112.17U	IP5-13	1,615	38,920	0.0811	0.1460	2	ABS	400	430.00	1			MP2
IP5-11	L21111.7U		19,283	19,283	0.0402	0.0723	1	ABS	400	1,500.00				
IP5-12	L21111.6U		1,296	20,579	0.0429	0.0772	2	ABS	300	190.00	1			MP3
IP5-13		IP5-15	0	59,499	0.1240	0.2231	1		600	300.00				
IP5-14	L21112.14U		382	382	0.0008	0.0014	2	ABS	75	320.00	1			MP4
IP5-15		IP5-18	0	59,881	0.1248	0.2246	1		600	300.00				
IP5-16	L21111.5U	IP5-18	1,474	1,474	0.0031	0.0055	2	ABS	75	190.00	1			MP5
IP5-17	L21112.12U		709	709	0.0015	0.0027	1	ABS	150	240.00				
IP5-18		IP5-20	0	62,064	0.1293	0.2327	1		600	300.00				
IP5-19	L21112.8U		434	434	0.0009	0.0016	1	ABS	150	570.00				
IP5-20			0	62,498	0.1302	0.2344	1		600	300.00				
IP5-21	L21111.4U	IP5-23	1,237	63,735	0.1328	0.2390	1	ABS	600	630.00				
IP5-22	L2111.3U		313	313	0.0007	0.0012	1	ABS	150	650.00				
IP5-23		IP5-27	0	64,048	0.1334	0.2402	2		500	650.00	1			MP73
IP5-24	L21112.13U		318	318	0.0007	0.0012	1	ABS	150	440.00				
IP5-25	L21112.11U	IP5-28	552	870	0.0018	0.0033	1	ABS	150	400.00				
IP5-26	L21112.10U	IP5-27	843	843	0.0018	0.0032	1	ABS	150	300.00				
IP5-27	L21112.9U		735	65,626	0.1367	0.2461	1	ABS	600	450.00				
IP5-28		IP5-31	0	66,496	0.1385	0.2494	1		600	450.00				
IP5-29	L21112.4U		370	370	0.0008	0.0014	1	ABS	150	100.00				
IP5-30	L21112.6U		878	1,248	0.0026	0.0047	1	ABS	150	100.00				
IP5-31		IP5-43	0	67,744	0.1411	0.2540	1		600	300.00				
IP5-32	L21112.7U		370	370	0.0008	0.0014	1	ABS	150	130.00				
IP5-33	L21112.5U		73	443	0.0009	0.0017	1	ABS	150	130.00				
IP5-34	L21112.3U	IP5-37	513	956	0.0020	0.0036	1	ABS	150	130.00				
IP5-35	L21111.2U		1,366	1,366	0.0028	0.0051	1	ABS	150	100.00				
IP5-36	L21111.1U		777	2,143	0.0045	0.0080	1	ABS	150	100.00				
IP5-37	L21112.2U		567	3,666	0.0076	0.0137	1	ABS	200	160.00				
IP5-38	L21112.1U		2,017	5,683	0.0118	0.0213	1	ABS	250	300.00				
IP5-39	L2111.8U		1,670	7,353	0.0153	0.0276	1	ABS	250	380.00				
IP5-40	L2111.7U	IP5-42	2,040	9,393	0.0196	0.0352	1	ABS	300	500.00				
IP5-41	L2111.6U		6,509	6,509	0.0136	0.0244	1	ABS	250	150.00				
IP5-42			0	15,902	0.0331	0.0596	2		250	150.00	1			MP6
IP5-43		IP5-45	0	83,646	0.1743	0.3137	1		700	300.00				
IP5-44	L2111.4U		263	263	0.0005	0.0010	1	ABS	150	230.00				
IP5-45			0	83,909	0.1748	0.3147	1		700	100.00				
IP5-46	L2111.5U	IP5-48	1,208	85,117	0.1773	0.3192	2	ABS	600	800.00				PS4-2
IP5-47	L2112.4U		2,869	2,869	0.0060	0.0108	1	ABS	200	400.00				
IP5-48		IP5-52	0	87,986	0.1833	0.3299	1		700	400.00				
IP5-49	L2111.3		2,105	2,105	0.0044	0.0079	1	ABS	150	300.00				
IP5-50	L2111.2U		489	2,594	0.0054	0.0097	1	ABS	200	300.00				
IP5-51	L2111.1		3,006	5,600	0.0117	0.0210	1	ABS	250	300.00				
IP5-52			0	93,586	0.1950	0.3509	1		700	300.00				
IP5-53	L2112.5A	IP5-57	1,325	94,911	0.1977	0.3559	1	ABS	700	600.00				
IP5-54	L2112.3		181	181	0.0004	0.0007	1	ABS	150	200.00				
IP5-55	L2112.2		250	431	0.0009	0.0016	1	ABS	150	200.00				
IP5-56	L2112.1		140	571	0.0012	0.0021	1	ABS	150	200.00				
IP5-57		IP5-59	0	95,482	0.1989	0.3581	1		700	300.00				
IP5-58	L211.8		7,620	7,620	0.0159	0.0286	1	ABS	250	90.00				
IP5-59		IP5-63	0	103,102	0.2148	0.3866	1		700	500.00				
IP5-60	L211.7U		461	461	0.0010	0.0017	1	ABS	150	250.00				
IP5-61	L211.6		2,318	2,779	0.0058	0.0104	2	ABS	100	440.00	1			MP7
IP5-62			0	2,779	0.0058	0.0104	1		200	50.00				
IP5-63		IP5-66	0	105,881	0.2206	0.3971	1		700	300.00				
IP5-64	L211.4U	IP5-66	1,990	1,990	0.0041	0.0075	2	ABS	100	400.00	1			MP8

Interceptor Pipes Calculation

Case No. 4 and 7
 District ID La1

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP5-65	L211.5U		846	846	0.0018	0.0032	2	ABS	75	300.00		1		MP9
IP5-66			0	2,836	0.0059	0.0106	1		200	300.00				
IP5-67		IP5-73	0	108,717	0.2265	0.4077	1		700	500.00				
IP5-68	L211.3U	IP5-70	9,814	9,814	0.0204	0.0368	1	ABS	300	300.00				
IP5-69	L211.1		784	784	0.0016	0.0029	1	ABS	150	250.00				
IP5-70	L211.2		1,856	12,454	0.0259	0.0467	2	ABS	200	250.00		1		MP10
IP5-71			0	12,454	0.0259	0.0467	1		300	250.00				
IP5-72	L212.1U		917	13,371	0.0279	0.0501	2	ABS	250	300.00		1		MP11
IP5-73		STP	0	122,088	0.2544	0.4578	1		700	300.00				
IP5-74	L212.2A	STP	4,941	4,941	0.0103	0.0185	1	ABS	250	200.00				
IP5-75	STP		0	127,029	0.2646	0.4764	1	ABS	700	100.00				
Total			127,029							26,320.00		12		

Total Table

Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	6,590.00	2	75	810.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	1,210.00	2	100	840.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	3,010.00	2	150	300.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	1,070.00	2	200	250.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	450.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	1,500.00	2	300	190.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	1,390.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	430.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	3,030.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	3,700.00	2	500	650.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	800.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total Gravity Flow		21,600.00	Total Force main		4,720.00
All Total			26,320.00		

Manhole Pump Station
 12 (Places)

Interceptor Pipes Calculation

Case No. 4 and 7
 District ID La2

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP6-1	L22.3U		5,628	5,628	0.0117	0.0211	1	ABS	250	100.00				
IP6-2	L22.2		126	5,754	0.0120	0.0216	1	ABS	250	150.00				
IP6-3	L22.1	IP6-6	5,012	10,766	0.0224	0.0404	1	ABS	300	200.00				
IP6-4	L21.2U		4,180	4,180	0.0087	0.0157	1	ABS	200	100.00				
IP6-5	L21.1U		27,958	32,138	0.0670	0.1205	1	ABS	450	100.00				
IP6-6		IP6-8	0	42,904	0.0894	0.1609	1		500	100.00				
IP6-7	L121.1A		5,114	5,114	0.0107	0.0192	1	ABS	250	200.00				
IP6-8			0	48,018	0.1000	0.1801	1		600	300.00				
IP6-9	L2.1U	IP6-14	721	721	0.0015	0.0027	1	ABS	150	300.00				
IP6-10	D.1A		8,266	8,266	0.0172	0.0310	1	ABS	300	100.00				
IP6-11	D.2A		2,884	11,150	0.0232	0.0418	1	ABS	300	200.00				
IP6-12	Add SB6-1-1	IP6-14	1,675	12,825	0.0267	0.0481	1	ABS	300	500.00				
IP6-13	L0.2		1,731	1,731	0.0036	0.0065	1	ABS	150	100.00				
IP6-14	L 0.1		1,012	16,289	0.0339	0.0611	1	ABS	350	200.00				
IP6-15		To L b District	0	64,307	0.1340	0.2412	1		600	400.00				
合計			64,307							3,050.00	0			

Total Table

Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	400.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	100.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	450.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	1,000.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	200.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	100.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	700.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	0.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	3,050.00	Total	Force main	0.00
			All Total		3,050.00

Manhole Pump Station
 0 (Places)

Interceptor Pipes Calculation

Case No.	4	and	7
District ID	Lb		

< Note >

Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-1	L111222.41		3,526	3,526	0.0073	0.0132	1	ABS	200	150.00				
IP7-2	L111222.40U		3,769	7,295	0.0152	0.0274	2	ABS	200	150.00				MP12
IP7-3	L111222.39		554	7,849	0.0164	0.0294	2	ABS	200	200.00	1			MP13
IP7-4	L111222.38U		1,581	9,430	0.0196	0.0354	1	ABS	300	200.00				
IP7-5	L111222.37U		533	9,963	0.0208	0.0374	1	ABS	300	200.00				
IP7-6	L111222.36	IP7-8	2,131	12,094	0.0252	0.0454	1	ABS	300	200.00				
IP7-7	L111222.33U		758	758	0.0016	0.0028	1	ABS	150	200.00				
IP7-8	ICP1	IP7-14	0	12,852	0.0268	0.0482	1	ABS	300	200.00				
IP7-9	L111222.35U		2,978	2,978	0.0062	0.0112	1	ABS	200	120.00				
IP7-10	L111222.34U		272	3,250	0.0068	0.0122	1	ABS	200	120.00				
IP7-11	L111222.32U		585	3,835	0.0080	0.0144	1	ABS	200	120.00				
IP7-12	L111222.31U		111	3,946	0.0082	0.0148	1	ABS	200	120.00				
IP7-13	L111222.30U		1,151	5,097	0.0106	0.0191	2	ABS	150	130.00	1			MP14
IP7-14	L111222.29U		553	18,502	0.0385	0.0694	1	ABS	350	360.00				
IP7-15	L111222.25U	IP7-19	1,287	19,789	0.0412	0.0742	2	ABS	300	150.00	1			MP15
IP7-16	L111222.28U		1,205	1,205	0.0025	0.0045	1	ABS	150	130.00				
IP7-17	L111222.27U		721	1,926	0.0040	0.0072	1	ABS	150	130.00				
IP7-18	L111222.26		1,754	3,680	0.0077	0.0138	1	ABS	200	140.00				
IP7-19	L111222.24	IP7-21	136	23,605	0.0492	0.0885	1	ABS	400	310.00				
IP7-20	L111222.23		6,529	6,529	0.0136	0.0245	2	ABS	150	60.00	1			MP16
IP7-21	L111222.22	IP7-25	1,239	31,373	0.0654	0.1176	1	ABS	450	200.00				
IP7-22	L111222.19U		3,906	3,906	0.0081	0.0146	1	ABS	200	100.00				
IP7-23	L111222.18		4,841	8,747	0.0182	0.0328	1	ABS	300	100.00				
IP7-24	L111222.20U		1,017	9,764	0.0203	0.0366	1	ABS	300	150.00				
IP7-25	ICP2		0	41,137	0.0857	0.1543	2	ABS	400	150.00	1			MP17
IP7-26	L111222.21	IP7-44	4,264	45,401	0.0946	0.1703	1	ABS	500	590.00				
IP7-27	L1112212.19U		3,656	3,656	0.0076	0.0137	2	ABS	150	120.00	1			MP18
IP7-28	L1112212.18	IP7-31	632	4,288	0.0089	0.0161	1	ABS	200	120.00				
IP7-29	L1112212.17U		1,795	1,795	0.0037	0.0067	2	ABS	75	210.00	1			MP19
IP7-30	L1112212.16U		1,070	2,865	0.0060	0.0107	1	ABS	200	500.00				
IP7-31	ICP3		0	7,153	0.0149	0.0268	1	ABS	250	100.00				
IP7-32	L1112212.15	IP7-35	1,544	8,697	0.0181	0.0326	1	ABS	300	100.00				
IP7-33	L1112212.12		1,093	1,093	0.0023	0.0041	1	ABS	150	100.00				
IP7-34	L1112212.14		185	1,278	0.0027	0.0048	2	ABS	75	50.00	1			MP20
IP7-35	L1112212.13	IP7-37	2,258	12,233	0.0255	0.0459	1	ABS	300	360.00				
IP7-36	L1112212.11U		223	223	0.0005	0.0008	1	ABS	150	110.00				
IP7-37	ICP4	IP7-42	0	12,456	0.0260	0.0467	1	ABS	300	360.00				
IP7-38	L1112212.7U		246	246	0.0005	0.0009	1	ABS	150	100.00				
IP7-39	L1112212.8U		381	627	0.0013	0.0024	1	ABS	150	100.00				
IP7-40	L1112212.9U		4,634	5,261	0.0110	0.0197	1	ABS	250	100.00				
IP7-41	L1112212.10U		4,224	9,485	0.0198	0.0356	1	ABS	300	540.00				
IP7-42	ICP5	IP7-44	0	21,941	0.0457	0.0823	1	ABS	400	200.00				
IP7-43	L1112212.6U		3,001	3,001	0.0063	0.0113	1	ABS	200	300.00				
IP7-44	ICP6	IP7-46	0	70,343	0.1465	0.2638	1	ABS	600	450.00				
IP7-45	L1112212.5U		1,335	1,335	0.0028	0.0050	2	ABS	75	500.00	1			MP21
IP7-46	ICP7	IP7-49	0	71,678	0.1493	0.2688	1	ABS	700	500.00				
IP7-47	L111222.17		213	213	0.0004	0.0008	1	ABS	150	100.00				
IP7-48	L111222.16		132	345	0.0007	0.0013	1	ABS	150	50.00				
IP7-49	L111222.15		1,532	73,555	0.1532	0.2758	2	ABS	500	150.00				PS4-5
IP7-50	Flow Type change	IP7-56	0	73,555	0.1532	0.2758	1	ABS	700	150.00				
IP7-51	L111222.14		2,402	2,402	0.0050	0.0090	1	ABS	150	100.00				
IP7-52	L111222.12	IP7-55	159	2,561	0.0053	0.0096	1	ABS	200	100.00				
IP7-53	L111222.13		177	177	0.0004	0.0007	1	ABS	150	100.00				
IP7-54	L111222.11		1,972	2,149	0.0045	0.0081	1	ABS	150	100.00				
IP7-55	L111222.10		229	4,939	0.0103	0.0185	1	ABS	250	100.00				
IP7-56	ICP8	IP7-61	0	78,494	0.1635	0.2944	1	ABS	700	100.00				
IP7-57	L111222.9		3,274	3,274	0.0068	0.0123	1	ABS	200	100.00				
IP7-58	L111222.7	IP7-60	1,233	4,507	0.0094	0.0169	2	ABS	150	100.00	1			MP22
IP7-59	L111222.8		990	990	0.0021	0.0037	1	ABS	150	60.00				
IP7-60	L111222.6		106	5,603	0.0117	0.0210	1	ABS	250	100.00				
IP7-61	ICP9	IP7-70	0	84,097	0.1752	0.3154	1	ABS	700	250.00				
IP7-62	L111222.1	IP7-64	609	609	0.0013	0.0023	1	ABS	150	250.00				
IP7-63	L111222.5		1,522	1,522	0.0032	0.0057	1	ABS	150	60.00				
IP7-64	L111222.3	IP7-66	428	2,559	0.0053	0.0096	2	ABS	100	150.00	1			MP23
IP7-65	L111222.4		408	408	0.0009	0.0015	1	ABS	150	50.00				
IP7-66	L111222.2	IP7-70	254	3,221	0.0067	0.0121	1	ABS	200	150.00				

Interceptor Pipes Calculation

Case No.	4	and	7
District ID	Lb		

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-67	L11122.18U	IP7-69	709	709	0.0015	0.0027	1	ABS	150	520.00				
IP7-68	L11122.19U		3,647	3,647	0.0076	0.0137	1	ABS	200	300.00				
IP7-69	ICP10		0	4,356	0.0091	0.0163	1	ABS	200	200.00				
IP7-70	ICP11	IP7-73	0	91,674	0.1910	0.3438	1	ABS	700	200.00				
IP7-71	L11122.23	IP7-73	1,383	1,383	0.0029	0.0052	1	ABS	150	50.00				
IP7-72	L11122.20U		288	288	0.0006	0.0011	2	ABS	75	100.00	1			MP24
IP7-73	ICP12	IP7-79	0	93,345	0.1945	0.3500	1	ABS	700	250.00				
IP7-74	5-14-1		774	774	0.0016	0.0029	1	ABS	150	100.00				
IP7-75	L111221.1U		2,023	2,797	0.0058	0.0105	1	ABS	200	100.00				
IP7-76	L11122.24		575	3,372	0.0070	0.0126	1	ABS	200	100.00				
IP7-77	L11122.22	IP7-79	384	3,756	0.0078	0.0141	1	ABS	200	200.00				
IP7-78	L11122.21		324	324	0.0007	0.0012	1	ABS	150	50.00				
IP7-79	ICP13	IP7-84	0	97,425	0.2030	0.3653	1	ABS	700	200.00				
IP7-80	L11122.17U	IP7-83	1,451	1,451	0.0030	0.0054	1	ABS	150	150.00				
IP7-81	L11122.16		994	994	0.0021	0.0037	1	ABS	150	20.00				
IP7-82	L11122.15		320	1,314	0.0027	0.0049	1	ABS	150	40.00				
IP7-83	L11122.14		928	3,693	0.0077	0.0138	2	ABS	150	300.00	1			MP25
IP7-84	ICP14	IP7-102	0	101,118	0.2107	0.3792	1	ABS	700	360.00				
IP7-85	L1112212.4	IP7-87	1,629	1,629	0.0034	0.0061	1	ABS	150	300.00				
IP7-86	L1112211.1U		11,272	11,272	0.0235	0.0423	1	ABS	300	300.00				
IP7-87	L1112212.2U	IP7-89	2,076	14,977	0.0312	0.0562	2	ABS	250	100.00	1			MP26
IP7-88	L1112212.3		3,901	3,901	0.0081	0.0146	1	ABS	200	100.00				
IP7-89	L1112212.1		732	19,610	0.0409	0.0735	1	ABS	400	250.00				
IP7-90	L111221.4		1,325	20,935	0.0436	0.0785	1	ABS	400	250.00				
IP7-91	L111221.2U		2,604	23,539	0.0490	0.0883	2	ABS	300	50.00	1			MP27
IP7-92	L111221.3U		571	24,110	0.0502	0.0904	1	ABS	400	250.00				
IP7-93	L111221.5U	IP7-97	336	24,446	0.0509	0.0917	1	ABS	400	250.00				
IP7-94	L11121.13U	IP7-96	1,289	1,289	0.0027	0.0048	1	ABS	150	200.00				
IP7-95	L11121.12U		504	504	0.0011	0.0019	1	ABS	150	100.00				
IP7-96	L11121.14U		8,830	10,623	0.0221	0.0398	1	ABS	300	100.00				
IP7-97	ICP15	IP7-102	0	35,069	0.0731	0.1315	1	ABS	500	500.00				
IP7-98	L11121.8	IP7-101	1,414	1,414	0.0029	0.0053	1	ABS	150	100.00				
IP7-99	L11121.9	IP7-101	932	932	0.0019	0.0035	2	ABS	150	100.00	1			MP28
IP7-100	L11121.11		1,680	1,680	0.0035	0.0063	1	ABS	150	100.00				
IP7-101	L11121.10		803	4,829	0.0101	0.0181	2	ABS	150	550.00	1			MP29
IP7-102	ICP16	IP7-105	0	141,016	0.2938	0.5288	1	ABS	700	150.00				
IP7-103	L11122.13		896	896	0.0019	0.0034	1	ABS	150	100.00				
IP7-104	L11122.12U		643	1,539	0.0032	0.0058	2	ABS	75	560.00	1			MP30
IP7-105	ICP17		0	142,555	0.2970	0.5346	1	ABS	700	660.00				
IP7-106	L11122.6	IP7-116	2,244	144,799	0.3017	0.5430	1	ABS	800	100.00				
IP7-107	L11121.6U	IP7-114	1,310	1,310	0.0027	0.0049	1	ABS	150	200.00				
IP7-108	L11121.1U	IP7-112	871	871	0.0018	0.0033	1	ABS	150	300.00				
IP7-109	L11121.7U		1,556	1,556	0.0032	0.0058	1	ABS	150	100.00				
IP7-110	L11121.5U		580	2,136	0.0045	0.0080	1	ABS	150	150.00				
IP7-111	L11121.4U		446	2,582	0.0054	0.0097	1	ABS	200	100.00				
IP7-112	L11121.2		295	3,748	0.0078	0.0141	1	ABS	200	100.00				
IP7-113	L11121.3		801	4,549	0.0095	0.0171	2	ABS	150	100.00	1			MP31
IP7-114			0	5,859	0.0122	0.0220	1		250	400.00				
IP7-115	L11122.2U		525	6,384	0.0133	0.0239	1	ABS	250	200.00				
IP7-116	L11122.4		1,248	152,431	0.3176	0.5716	1	ABS	800	100.00				PS4-4
IP7-117	L11122.3	IP7-123	465	152,896	0.3185	0.5734	1	ABS	800	200.00				
IP7-118	L11122.11		1,010	1,010	0.0021	0.0038	1	ABS	150	150.00				
IP7-119	L11122.10		7,406	8,416	0.0175	0.0316	1	ABS	300	150.00				
IP7-120	L11122.9		903	9,319	0.0194	0.0349	1	ABS	300	150.00				
IP7-121	L11122.8U		5,756	15,075	0.0314	0.0565	1	ABS	350	100.00				
IP7-122	L11122.7		504	15,579	0.0325	0.0584	1	ABS	350	150.00				
IP7-123	L11122.5	IP7-126	551	169,026	0.3521	0.6338	1	ABS	800	230.00				
IP7-124	L11122.1U		397	397	0.0008	0.0015	1	ABS	150	150.00				
IP7-125	L1112.12U		1,590	1,987	0.0041	0.0075	1	ABS	150	150.00				
IP7-126	ICP19	IP7-131	0	171,013	0.3563	0.6413	1	ABS	800	650.00				
IP7-127	L1122.12U	IP7-130	5,717	5,717	0.0119	0.0214	1	ABS	250	1,200.00				
IP7-128	L1122.11U		7,128	7,128	0.0149	0.0267	1	ABS	250	590.00				
IP7-129	L1122.10U		7,880	15,008	0.0313	0.0563	1	ABS	350	600.00				
IP7-130	ICP20		0	20,725	0.0432	0.0777	2	ABS	300	1,300.00	1			MP32

Interceptor Pipes Calculation

Case No.	4	and	7
District ID	Lb		

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP7-131	ICP21	IP7-139	0	191,738	0.3995	0.7190	1	ABS	800	430.00				
IP7-131	L1121.16		30,906	30,906	0.0644	0.1159	1	ABS	450	130.00				
IP7-132	L1121.15U		564	31,470	0.0656	0.1180	1	ABS	450	150.00				
IP7-133	L1121.14U	IP7-138	438	31,908	0.0665	0.1197	1	ABS	450	150.00				
IP7-134	L1121.8U		764	764	0.0016	0.0029	1	ABS	150	130.00				
IP7-135	L1121.9U		1,394	2,158	0.0045	0.0081	1	ABS	150	100.00				
IP7-136	L1121.10		503	2,661	0.0055	0.0100	1	ABS	200	100.00				
IP7-137	L1121.12U		1,410	4,071	0.0085	0.0153	1	ABS	200	100.00				
IP7-138	L1121.13U		2,644	38,623	0.0805	0.1448	1	ABS	500	100.00				
IP7-139	ICP22	IP7-146	0	230,361	0.4799	0.8639	1	ABS	900	430.00				
IP7-140	L11.5	IP7-145	5,885	5,885	0.0123	0.0221	2	ABS	150	350.00	1			MP33
IP7-141	L111.1U		1,677	1,677	0.0035	0.0063	1	ABS	150	100.00				
IP7-142	L111.2		621	2,298	0.0048	0.0086	1	ABS	150	100.00				
IP7-143	L111.3	IP7-145	980	3,278	0.0068	0.0123	1	ABS	200	100.00				
IP7-144	L111.5U		2,256	2,256	0.0047	0.0085	1	ABS	150	300.00				
IP7-145	L111.4U		889	12,308	0.0256	0.0462	2	ABS	200	700.00	1			MP34
IP7-146	ICP23	IP7-148	0	242,669	0.5056	0.9100	1	ABS	900	150.00				
IP7-147	L111.13U		3,888	3,888	0.0081	0.0146	1	ABS	200	300.00				
IP7-148	ICP24	IP7-150	0	246,557	0.5137	0.9246	1	ABS	900	220.00				
IP7-149	L111.10U		612	612	0.0013	0.0023	1	ABS	150	100.00				
IP7-150	L111.12U	IP7-153	583	247,752	0.5162	0.9291	1	ABS	900	100.00				
IP7-151	L111.9U		197	197	0.0004	0.0007	1	ABS	150	50.00				
IP7-152	L111.11		3,630	3,827	0.0080	0.0144	1	ABS	200	50.00				
IP7-153	ICP25	IP7-155	0	251,579	0.5241	0.9434	1	ABS	900	150.00				
IP7-154	L111.8U		751	751	0.0016	0.0028	1	ABS	150	150.00				
IP7-155	ICP26	IP7-189	0	252,330	0.5257	0.9462	1	ABS	900	300.00				
IP7-156	L111.6U	IP7-158	785	785	0.0016	0.0029	1	ABS	150	200.00				
IP7-157	L111.7U		670	670	0.0014	0.0025	1	ABS	150	100.00				
IP7-158	ICP27	IP7-189	0	1,455	0.0030	0.0055	1	ABS	150	100.00				
IP7-159	L1111.9U		171	171	0.0004	0.0006	1	ABS	150	100.00				
IP7-160	L1111.8	IP7-166	232	403	0.0008	0.0015	1	ABS	150	100.00				
IP7-161	L1111.11		5,385	5,385	0.0112	0.0202	1	ABS	250	100.00				
IP7-162	L1111.10		569	5,954	0.0124	0.0223	1	ABS	250	100.00				
IP7-163	L1111.7		277	6,231	0.0130	0.0234	1	ABS	250	100.00				
IP7-164	L1111.6U		202	6,433	0.0134	0.0241	1	ABS	250	100.00				
IP7-165	L1111.5		3,484	9,917	0.0207	0.0372	1	ABS	300	100.00				
IP7-166	L1111.4U	IP7-174	654	10,974	0.0229	0.0412	2	ABS	200	200.00	1			MP35
IP7-167	L1112.11U	IP7-169	267	267	0.0006	0.0010	1	ABS	150	200.00				
IP7-168	L1112.9U		4,716	4,716	0.0098	0.0177	1	ABS	250	100.00				
IP7-169	L1112.10U		1,108	6,091	0.0127	0.0228	1	ABS	250	100.00				
IP7-170	L1112.8U		604	6,695	0.0139	0.0251	1	ABS	250	100.00				
IP7-171	L1112.6U		855	7,550	0.0157	0.0283	1	ABS	250	100.00				
IP7-172	L1112.5U		269	7,819	0.0163	0.0293	1	ABS	250	100.00				
IP7-173	L1112.4U		237	8,056	0.0168	0.0302	1	ABS	300	200.00				
IP7-174	ICP28	IP7-178	0	19,030	0.0396	0.0714	1	ABS	400	150.00				
IP7-175	L1112.7U		512	512	0.0011	0.0019	1	ABS	150	100.00				
IP7-176	L1112.3U		1,857	2,369	0.0049	0.0089	1	ABS	150	100.00				
IP7-177	L1112.2U		318	2,687	0.0056	0.0101	1	ABS	200	200.00				
IP7-178	L1112.1U	IP7-180	446	22,163	0.0462	0.0831	1	ABS	400	100.00				
IP7-179	L1111.3U		970	970	0.0020	0.0036	1	ABS	150	100.00				
IP7-180	L1111.1U	IP7-182	79	23,212	0.0484	0.0870	1	ABS	400	100.00				
IP7-181	L1111.2U		1,002	1,002	0.0021	0.0038	1	ABS	150	100.00				
IP7-182	L1111.18U		240	24,454	0.0509	0.0917	1	ABS	400	100.00				
IP7-183	L111.17U		487	24,941	0.0520	0.0935	1	ABS	400	100.00				
IP7-184	L111.16U	IP7-186	220	25,161	0.0524	0.0944	1	ABS	400	100.00				
IP7-185	L111.15		1,560	1,560	0.0033	0.0059	1	ABS	150	100.00				
IP7-186	ICP29	IP7-188	0	26,721	0.0557	0.1002	1	ABS	400	100.00				
IP7-187	L111.14U		286	286	0.0006	0.0011	1	ABS	150	100.00				
IP7-188	ICP30		0	27,007	0.0563	0.1013	1	ABS	450	470.00				
IP7-189	ICP31	IP7-193	0	280,792	0.5850	1.0530	1	ABS	1000	460.00				
IP7-190	L122.4U		1,549	1,549	0.0032	0.0058	1	ABS	150	150.00				
IP7-191	L122.3U		9,481	11,030	0.0230	0.0414	1	ABS	300	100.00				
IP7-192	L122.2		272	11,302	0.0235	0.0424	1	ABS	300	100.00				
IP7-193	ICP32		0	292,094	0.6085	1.0954	1	ABS	1000	20.00				
IP7-194	L122.1		593	292,687	0.6098	1.0976	1	ABS	1000	100.00				
IP7-195	L12.2U	IP7-196	322	293,009	0.6104	1.0988	1	ABS	1000	100.00				

Interceptor Pipes Calculation

Case No. 4 and 7
 District ID Lb

< Note >
 Interceptor pipes for case 4 and 7 are similar, because the difference is only a location of Pc-STP.

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
From La2 distr	From La2 district		64,307	64,307	0.1340	0.2412	1	ABS	600	0.00				
IP7-196	ICP33		0	357,316	0.7444	1.3399	1	ABS	1100	150.00				
IP7-197	L12.1		494	357,810	0.7454	1.3418	1	ABS	1100	100.00				
IP7-198	L1.1U	IP7-201	982	358,792	0.7475	1.3455	1	ABS	1100	100.00				
IP7-199	SSB5-1		27,897	27,897	0.0581	0.1046	1	ABS	450	600.00				
IP7-200	L11.2		9,322	37,219	0.0775	0.1396	1	ABS	500	200.00				
IP7-201	L11.1		3,458	399,469	0.8322	1.4980	1	ABS	1100	200.00				
IP7-202	L11.3	IP7-204	4,834	404,303	0.8423	1.5161	1	ABS	1100	200.00				
IP7-203	L11.3		489	489	0.0010	0.0018	1	ABS	150	100.00				
IP7-204	L11.4	IP7-206	1,315	406,107	0.8461	1.5229	1	ABS	1100	500.00				
IP7-205	P211.11		4,833	4,833	0.0101	0.0181	1	ABS	250	150.00				
IP7-206	ICP34	STP	0	410,940	0.8561	1.5410	1	ABS	1100	550.00				
IP7-207	L1122.8U		4,529	4,529	0.0094	0.0170	2	ABS	150	100.00	1			MP36
IP7-208	L1122.9U		2,990	7,519	0.0157	0.0282	1	ABS	250	200.00				
IP7-209	L1122.7U	IP7-212	1,929	9,448	0.0197	0.0354	1	ABS	300	200.00				
IP7-210	L1122.5		3,504	3,504	0.0073	0.0131	1	ABS	200	100.00				
IP7-211	L1122.6U		2,894	6,398	0.0133	0.0240	2	ABS	150	100.00	1			MP37
IP7-212	ICP35	IP7-214	0	15,846	0.0330	0.0594	1	ABS	350	400.00				
IP7-213	L1122.3U		651	651	0.0014	0.0024	1	ABS	150	150.00				
IP7-214	L1122.4U		2,737	19,234	0.0401	0.0721	1	ABS	400	150.00				
IP7-215	L1122.2	IP7-225	1,234	20,468	0.0426	0.0768	1	ABS	400	150.00				
IP7-216	L1121.11U		2,634	2,634	0.0055	0.0099	1	ABS	200	200.00				
IP7-217	L1121.7U	IP7-221	3,289	5,923	0.0123	0.0222	1	ABS	250	600.00				
IP7-218	L1121.3U		405	405	0.0008	0.0015	1	ABS	150	100.00				
IP7-219	L1121.5		1,011	1,416	0.0030	0.0053	2	ABS	75	150.00	1			MP38
IP7-220	L1121.4		3,219	4,635	0.0097	0.0174	1	ABS	250	50.00				
IP7-221	ICP36	IP7-224	0	10,558	0.0220	0.0396	1	ABS	300	150.00				
IP7-222	L 1121.2U		707	707	0.0015	0.0027	2	ABS	75	100.00	1			MP39
IP7-223	L1121.1U		1,110	1,817	0.0038	0.0068	1	ABS	150	250.00				
IP7-224	ICP37		0	12,375	0.0258	0.0464	1	ABS	300	200.00				
IP7-225	ICP38	STP	0	32,843	0.0684	0.1232	1	ABS	450	200.00				
IP7-226	L1122.1U		3,131	3,131	0.0065	0.0117	1	ABS	200	150.00				
IP7-227	STP		0	446,914	0.9311	1.6759	1	ABS	1200	200.00				
Total			446,914							44,890.00	28			

Total Table

Total Table					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	7,950.00	2	75	1,670.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	4,640.00	2	100	150.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	4,690.00	2	150	2,010.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	4,160.00	2	200	1,250.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	1,610.00	2	250	100.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	2,560.00	2	300	1,500.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	1,900.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	1,390.00	2	400	150.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	450.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	2,820.00	2	500	150.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	1,710.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	1,350.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	680.00	2	800	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1100	1,800.00	2	900	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1200	200.00	2	1000	0.00
Total	Gravity Flow	37,910.00	Total	Force main	6,980.00
All Total					44,890.00

Manhole Pump Station
28 (Places)

Total length table for Case 5 and Case 8

Gravity Flow

Diameter	Pa1 (m)	Lb1 (m)	Pa1+Lb1 (m)	Pa2 (m)	Pb2 (m)	Pa2+Pb2 (m)	Pb1 (m)	Pc (m)	Pd (m)	La1 (m)	La2 (m)	Lb2 (m)	La2+Lb2 (m)	Total
150	1,960.00	1,220.00	3,180.00	8,400.00	550.00	8,950.00	5,860.00	2,120.00	1,010.00	6,270.00	400.00	7,180.00	7,580.00	34,970.00
200	1,940.00	1,380.00	3,320.00	9,720.00	0.00	9,720.00	3,870.00	1,790.00	250.00	1,530.00	550.00	4,500.00	5,050.00	25,530.00
250	840.00	810.00	1,650.00	4,980.00	0.00	4,980.00	3,070.00	1,470.00	380.00	800.00	100.00	3,690.00	3,790.00	16,140.00
300	930.00	1,240.00	2,170.00	5,030.00	0.00	5,030.00	2,330.00	930.00	0.00	2,710.00	900.00	2,100.00	3,000.00	16,170.00
350	320.00	1,270.00	1,590.00	1,470.00	1,680.00	3,150.00	430.00	300.00	0.00	570.00	200.00	1,750.00	1,950.00	7,990.00
400	660.00	360.00	1,020.00	2,360.00	440.00	2,800.00	310.00	1,300.00	0.00	0.00	100.00	3,260.00	3,360.00	8,790.00
450	970.00	510.00	1,480.00	900.00	1,020.00	1,920.00	0.00	1,200.00	0.00	1,500.00	100.00	100.00	200.00	6,300.00
500	1,060.00	200.00	1,260.00	1,760.00	0.00	1,760.00	3,950.00	870.00	100.00	1,190.00	300.00	0.00	300.00	9,430.00
600	580.00	590.00	1,170.00	3,810.00	0.00	3,810.00	1,400.00	1,540.00	570.00	300.00	400.00	1,210.00	1,610.00	10,400.00
700	1,580.00	1,950.00	3,530.00	3,510.00	0.00	3,510.00	1,520.00	1,420.00	2,860.00	5,830.00	0.00	2,660.00	2,660.00	21,330.00
800	0.00	0.00	0.00	0.00	0.00	0.00	1,720.00	0.00	0.00	900.00	0.00	680.00	680.00	3,300.00
900	1,410.00	0.00	1,410.00	1,420.00	0.00	1,420.00	0.00	0.00	0.00	0.00	0.00	1,800.00	1,800.00	4,630.00
1000	0.00	0.00	0.00	1,340.00	0.00	1,340.00	0.00	0.00	0.00	0.00	0.00	200.00	200.00	1,540.00
1100	0.00	0.00	0.00	370.00		370.00						0.00	0.00	370.00
1200	0.00	0.00	0.00	50.00		50.00						0.00	0.00	50.00
1350			0.00			0.00							0.00	0.00
1500			0.00			0.00							0.00	0.00
1650			0.00			0.00							0.00	0.00
1800			0.00			0.00							0.00	0.00
Total	12,250.00	9,530.00	21,780.00	45,120.00	3,690.00	48,810.00	24,460.00	12,940.00	5,170.00	21,600.00	3,050.00	29,130.00	32,180.00	166,940.00

Force main Flow

Diameter	Pa1 (m)	Lb1 (m)	Pa1+Lb1 (m)	Pa2 (m)	Pb2 (m)	Pa2+Pb2 (m)	Pb1 (m)	Pc (m)	Pd (m)	La1 (m)	La2 (m)	Lb2 (m)	La2+Lb2 (m)	Total
75	560.00	760.00	1,320.00	0.00	0.00	0.00	0.00	0.00	0.00	810.00	0.00	1,010.00	1,010.00	3,140.00
100	0.00	0.00	0.00	440.00	0.00	440.00	0.00	0.00	0.00	400.00	0.00	250.00	250.00	1,090.00
150	320.00	250.00	570.00	2,820.00	0.00	2,820.00	0.00	0.00	0.00	440.00	0.00	1,500.00	1,500.00	5,330.00
200	150.00	410.00	560.00	1,700.00	0.00	1,700.00	0.00	0.00	0.00	300.00	0.00	1,000.00	1,000.00	3,560.00
250	0.00	0.00	0.00	1,060.00	0.00	1,060.00	210.00	0.00	0.00	550.00	0.00	1,350.00	1,350.00	3,170.00
300	0.00	150.00	150.00	210.00	120.00	330.00	0.00	50.00	0.00	150.00	0.00	0.00	0.00	680.00
350	590.00	0.00	590.00	270.00	0.00	270.00	0.00	0.00	0.00	190.00	0.00	0.00	0.00	1,050.00
400	0.00	0.00	0.00	940.00	0.00	940.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	940.00
450	0.00	150.00	150.00	0.00	0.00	0.00	70.00	60.00	0.00	430.00	0.00	0.00	0.00	710.00
500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600	0.00	150.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	650.00	0.00	0.00	0.00	800.00
700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900	0.00	0.00	0.00	0.00		0.00						0.00	0.00	0.00
1000	0.00	0.00	0.00	0.00		0.00						0.00	0.00	0.00
1100			0.00			0.00							0.00	0.00
1200			0.00			0.00							0.00	0.00
Total	1,620.00	1,870.00	3,490.00	7,440.00	120.00	7,560.00	280.00	110.00	0.00	3,920.00	0.00	5,110.00	5,110.00	20,470.00

Gravity + Force main = 187,410.00 188210

AP-392

Interceptor Pipes Calculation

Case No. 5 and 8
 District ID Pa1

< Note >
 Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-1	P2121112.19U		3,832	3,832	0.0080	0.0144	1	ABS	200	560.00				
IP1-2	P2121112.17U		1,870	5,702	0.0119	0.0214	1	ABS	250	380.00				
IP1-3	P2121112.16U	IP1-8	2,652	8,354	0.0174	0.0313	1	ABS	300	480.00				
			0											
IP1-4	P2121112.24A		3,018	3,018	0.0063	0.0113	1	ABS	200	230.00				
IP1-5	P2121112.18U		458	3,476	0.0072	0.0130	1	ABS	200	1,150.00				
IP1-6	P2121112.15U		6,750	10,226	0.0213	0.0383	2	ABS	200	150.00	1			MP40
IP1-7	P2121112.14U		2,751	12,977	0.0270	0.0487	1	ABS	300	160.00				
IP1-8			0	21,331	0.0444	0.0800	1	ABS	400	340.00				
IP1-9	P2121112.13U	IP1-11	8,518	29,849	0.0622	0.1119	1	ABS	450	70.00				
			0											
IP1-10	P2121112.11U		611	611	0.0013	0.0023	1	ABS	150	420.00				
IP1-11	P2121112.12U		3,481	33,941	0.0707	0.1273	2	ABS	350	590.00	1			MP41
IP1-12		IP1-15	0	33,941	0.0707	0.1273	1	ABS	450	900.00				
			0											
IP1-13	P2121112.10U		1,161	1,161	0.0024	0.0044	2	ABS	75	150.00	1			MP42
IP1-14			0	1,161	0.0024	0.0044	1	ABS	150	620.00				
IP1-15		IP1-20	0	35,102	0.0731	0.1316	1	ABS	500	330.00				
			0											
IP1-16	P2121112.9U		140	140	0.0003	0.0005	1	ABS	150	180.00				
IP1-17	P2121112.8U	IP1-19	528	668	0.0014	0.0025	1	ABS	150	140.00				
			0											
IP1-18	P2121112.7U		1,207	1,207	0.0025	0.0045	1	ABS	150	70.00				
IP1-19			0	1,875	0.0039	0.0070	2	ABS	75	410.00	1			MP43
IP1-20			0	36,977	0.0770	0.1387	1	ABS	500	730.00				
IP1-21	P2121112.22A	IP1-25	12,504	49,481	0.1031	0.1856	1	ABS	600	150.00				
			0											
IP1-22	P2121112.23A		5,634	5,634	0.0117	0.0211	1	ABS	250	80.00				
IP1-23	P2121112.6U		1,815	7,449	0.0155	0.0279	1	ABS	250	240.00				
IP1-24	P2121112.5U		1,521	8,970	0.0187	0.0336	1	ABS	300	290.00				
IP1-25	P2121112.4U	IP1-27	4,011	62,482	0.1301	0.2342	1	ABS	600	430.00				
			0											
IP1-26	Add SB4-25-2		14,518	14,518	0.0302	0.0544	1	ABS	350	320.00				
IP1-27		IP1-32	0	76,980	0.1604	0.2887	1	ABS	700	260.00				
			0											
IP1-28	P2121112.3U		467	467	0.0010	0.0018	1	ABS	150	70.00				
IP1-29	P2121112.2U		232	699	0.0015	0.0026	1	ABS	150	220.00				
IP1-30	P2121112.1U		5,244	5,943	0.0124	0.0223	1	ABS	250	80.00				
IP1-31			0	5,943	0.0124	0.0223	2	ABS	150	320.00	1			MP47
IP1-32		IP1-38	0	82,923	0.1728	0.3110	1	ABS	700	370.00				
			0											
IP1-33	P2121111.4	IP1-37	1,654	1,654	0.0034	0.0062	1	ABS	150	120.00				
			0											
from Lb1 district			98,494	98,494	0.2052	0.3694	1	ABS	700	0.00				
IP1-34	Add SB4-25-1	IP1-36	4,494	102,988	0.2146	0.3862	1	ABS	700	330.00				
			0											
IP1-35	P2121111.6		4,990	4,990	0.0104	0.0187	1	ABS	250	60.00				
IP1-36	P2121111.5		4,175	112,153	0.2337	0.4206	1	ABS	700	230.00				
IP1-37			0	113,807	0.2371	0.4268	1	ABS	700	390.00				
IP1-38			0	196,730	0.4099	0.7377	1	ABS	900	350.00				
IP1-39			0	196,730	0.4099	0.7377	1	ABS	900	220.00				
IP1-40		IP1-43	0	196,730	0.4099	0.7377	1	ABS	900	390.00				
			0											
IP1-41	P2121111.2		1,589	1,589	0.0033	0.0060	1	ABS	150	120.00				
IP1-42	P2121111.3	STP	17,683	19,272	0.0402	0.0723	1	ABS	400	320.00				
			0											
IP1-43		IP1-44	0	196,730	0.4099	0.7377	1	ABS	900	350.00				
			0											
IP1-44	P2121111.1	STP	163	196,893	0.4102	0.7383	1	ABS	900	100.00				

Interceptor Pipes Calculation

Case No.	5 and 8
District ID	Lb1

< Note >
 Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP2-1	L111222.41U		4,879	4,879	0.0102	0.0183	1	ABS	250	150.00				
IP2-2	L111222.40U		5,215	10,094	0.0210	0.0379	2	ABS	200	150.00		1		MP12
IP2-3	L111222.39U		554	10,648	0.0222	0.0399	2	ABS	200	200.00		1		MP13
IP2-4	L111222.38U		1,581	12,229	0.0255	0.0459	1	ABS	300	200.00				
IP2-5	L111222.37U		533	12,762	0.0266	0.0479	1	ABS	300	200.00				
IP2-6	L111222.36U	IP2-8	2,949	15,711	0.0327	0.0589	1	ABS	350	200.00				
			0											
IP2-7	L111222.33U		758	758	0.0016	0.0028	1	ABS	150	200.00				
IP2-8		IP2-14	0	16,469	0.0343	0.0618	1	ABS	350	200.00				
			0											
IP2-9	L111222.35U		4,121	4,121	0.0086	0.0155	1	ABS	200	120.00				
IP2-10	L111222.34U		272	4,393	0.0092	0.0165	1	ABS	200	120.00				
IP2-11	L111222.32U		585	4,978	0.0104	0.0187	1	ABS	250	120.00				
IP2-12	L111222.31U		111	5,089	0.0106	0.0191	1	ABS	250	120.00				
IP2-13	L111222.30U		1,151	6,240	0.0130	0.0234	2	ABS	150	130.00		1		MP14
IP2-14	L111222.29U		553	23,262	0.0485	0.0872	1	ABS	400	360.00				
IP2-15	L111222.25U	IP2-19	1,287	24,549	0.0511	0.0921	2	ABS	300	150.00		1		MP15
			0											
IP2-16	L111222.28U		1,205	1,205	0.0025	0.0045	1	ABS	150	130.00				
IP2-17	L111222.27U		721	1,926	0.0040	0.0072	1	ABS	150	130.00				
IP2-18	L111222.26U		1,754	3,680	0.0077	0.0138	1	ABS	200	140.00				
IP2-19	L111222.24U	IP2-21	136	28,365	0.0591	0.1064	1	ABS	450	310.00				
			0											
IP2-20	L111222.23U		9,034	9,034	0.0188	0.0339	2	ABS	200	60.00		1		MP16
IP2-21	L111222.22U	IP2-25	1,239	38,638	0.0805	0.1449	1	ABS	500	200.00				
			0											
IP2-22	L111222.19U		5,405	5,405	0.0113	0.0203	1	ABS	250	100.00				
IP2-23	L111222.18U		6,699	12,104	0.0252	0.0454	1	ABS	300	100.00				
IP2-24	L111222.20U		1,017	13,121	0.0273	0.0492	1	ABS	350	150.00				
IP2-25			0	51,759	0.1078	0.1941	2	ABS	450	150.00		1		MP17
IP2-26	L111222.21U	IP2-44	5,900	57,659	0.1201	0.2162	1	ABS	600	590.00				
			0											
IP2-27	L1112212.19U		5,059	5,059	0.0105	0.0190	2	ABS	150	120.00		1		MP18
IP2-28	L1112212.18U	IP2-31	632	5,691	0.0119	0.0213	1	ABS	250	120.00				
			0											
IP2-29	L1112212.17U		1,795	1,795	0.0037	0.0067	2	ABS	75	210.00		1		MP19
IP2-30	L1112212.16U		1,070	2,865	0.0060	0.0107	1	ABS	200	500.00				
IP2-31			0	8,556	0.0178	0.0321	1	ABS	300	100.00				
IP2-32	L1112212.15U	IP2-35	1,544	10,100	0.0210	0.0379	1	ABS	300	100.00				
			0											
IP2-33	L1112212.12U		1,093	1,093	0.0023	0.0041	1	ABS	150	100.00				
IP2-34	L1112212.14U		185	1,278	0.0027	0.0048	2	ABS	75	50.00		1		MP20
IP2-35	L1112212.13U	IP2-37	3,124	14,502	0.0302	0.0544	1	ABS	350	360.00				
			0											
IP2-36	L1112212.11U		223	223	0.0005	0.0008	1	ABS	150	110.00				
IP2-37		IP2-42	0	14,725	0.0307	0.0552	1	ABS	350	360.00				
			0											
IP2-38	L1112212.7U		246	246	0.0005	0.0009	1	ABS	150	100.00				
IP2-39	L1112212.8U		381	627	0.0013	0.0024	1	ABS	150	100.00				
IP2-40	L1112212.9U		6,412	7,039	0.0147	0.0264	1	ABS	250	100.00				
IP2-41	L1112212.10U		5,845	12,884	0.0268	0.0483	1	ABS	300	540.00				
IP2-42		IP2-44	0	27,609	0.0575	0.1035	1	ABS	450	200.00				
			0											
IP2-43	L1112212.6U		4,153	4,153	0.0087	0.0156	1	ABS	200	300.00				
IP2-44		IP2-46	0	89,421	0.1863	0.3353	1	ABS	700	450.00				
			0											
IP2-45	L1112212.5U		1,335	1,335	0.0028	0.0050	2	ABS	75	500.00		1		MP21
IP2-46		IP2-49	0	90,756	0.1891	0.3403	1	ABS	700	500.00				
			0											
IP2-47	L111222.17U		213	213	0.0004	0.0008	1	ABS	150	100.00				
IP2-48	L111222.16U		132	345	0.0007	0.0013	1	ABS	150	50.00				
IP2-49	L111222.15U		1,532	92,633	0.1930	0.3474	2	ABS	600	150.00				PS6
IP2-50		IP2-56	0	92,633	0.1930	0.3474	1	ABS	700	150.00				
			0											
IP2-51	L111222.14U		3,324	3,324	0.0069	0.0125	1	ABS	200	100.00				
IP2-52	L111222.12U	IP2-55	159	3,483	0.0073	0.0131	1	ABS	200	100.00				
			0											
IP2-53	L111222.13U		177	177	0.0004	0.0007	1	ABS	150	100.00				
IP2-54	L111222.11U		1,972	2,149	0.0045	0.0081	1	ABS	150	100.00				
IP2-55	L111222.10U		229	5,861	0.0122	0.0220	1	ABS	250	100.00				
IP2-56	ICP8	to Pa1 district	0	98,494	0.2052	0.3694	1	ABS	700	850.00				

Interceptor Pipes Calculation

Case No. 5 and 8
 District ID Pa2

< Note >
 Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP3-1	P212112111.3	IP3-5	0	4,077	0.0085	0.0153	2	ABS	150	250.00		1		MP44
IP3-2	P212112111.5A	IP3-4	0	2,815	0.0059	0.0106	1	ABS	200	310.00				
IP3-3	P212112111.4A		1,844	1,844	0.0038	0.0069	1	ABS	150	70.00				
IP3-4			0	4,659	0.0097	0.0175	1	ABS	250	160.00				
IP3-5		IP3-28	0	8,736	0.0182	0.0328	1	ABS	300	630.00				
IP3-6	P212112112.11A		3,373	3,373	0.0070	0.0126	1	ABS	200	540.00				
IP3-7	P212112112.10A		786	4,159	0.0087	0.0156	1	ABS	200	150.00				
IP3-8	P212112112.8A	IP3-10	411	4,570	0.0095	0.0171	1	ABS	250	250.00				
IP3-9	P212112112.5		89	89	0.0002	0.0003	1	ABS	150	60.00				
IP3-10	P212112112.4		106	4,765	0.0099	0.0179	1	ABS	250	60.00				
IP3-11	P212112112.3	IP3-15	3,666	8,431	0.0176	0.0316	1	ABS	300	60.00				
IP3-12	P212112112.7A	IP3-14	4,847	4,847	0.0101	0.0182	1	ABS	250	320.00				
IP3-13	P212112112.1		1,007	1,007	0.0021	0.0038	1	ABS	150	70.00				
IP3-14	P212112112.2		741	6,595	0.0137	0.0247	1	ABS	250	110.00				
IP3-15		IP3-24	0	15,026	0.0313	0.0563	1	ABS	350	60.00				
IP3-16	M.1A	IP3-18	9,825	9,825	0.0205	0.0368	1	ABS	300	1,340.00				
IP3-17	M.2A		5,394	5,394	0.0112	0.0202	1	ABS	250	350.00				
IP3-18		IP3-20	0	15,219	0.0317	0.0571	1	ABS	350	70.00				
IP3-19	M.3A		3,744	3,744	0.0078	0.0140	1	ABS	200	680.00				
IP3-20		IP3-22	0	18,963	0.0395	0.0711	1	ABS	400	380.00				
IP3-21	P212112112.9A		1,314	1,314	0.0027	0.0049	1	ABS	150	200.00				
IP3-22		IP3-24	0	20,277	0.0422	0.0760	1	ABS	400	640.00				
IP3-23	P212112112.6A		816	816	0.0017	0.0031	1	ABS	150	80.00				
IP3-24			0	36,119	0.0752	0.1354	2	ABS	350	270.00	1			MP45
IP3-25			0	36,119	0.0752	0.1354	1	ABS	500	270.00				
IP3-26	P212112111.1		953	37,072	0.0772	0.1390	1	ABS	500	90.00				
IP3-27	P212112111.2		1,673	38,745	0.0807	0.1453	2	ABS	400	720.00	1			MP46
IP3-28		IP3-31	0	47,481	0.0989	0.1781	1	ABS	600	980.00				
IP3-29	P2121112.5A		1,411	1,411	0.0029	0.0053	1	ABS	150	70.00				
IP3-30	P2121112.4A		9,545	10,956	0.0228	0.0411	1	ABS	300	230.00				
IP3-31		IP3-34	0	58,437	0.1217	0.2191	1	ABS	600	490.00				
IP3-32	P2121112.21A		2,741	2,741	0.0057	0.0103	1	ABS	200	440.00				
IP3-33	P2121112.20A		1,759	4,500	0.0094	0.0169	1	ABS	200	400.00				
IP3-34	P2121111.8A		1,869	64,806	0.1350	0.2430	1	ABS	600	100.00				
IP3-35	P2121111.7A	IP3-41	4,069	68,875	0.1435	0.2583	1	ABS	600	310.00				
IP3-36	P 2121111.2	IP3-39	1,073	1,073	0.0022	0.0040	1	ABS	150	80.00				
IP3-37	P2121111.3A		835	835	0.0017	0.0031	1	ABS	150	320.00				
IP3-38	P2121111.5A		654	1,489	0.0031	0.0056	1	ABS	150	380.00				
IP3-39	P 2121111.1		1,369	3,931	0.0082	0.0147	1	ABS	200	50.00				
IP3-40			0	3,931	0.0082	0.0147	2	ABS	150	420.00	1			MP50
IP3-41		IP3-45	0	72,806	0.1517	0.2730	1	ABS	700	350.00				
IP3-42	P2121111.6A	IP3-44	439	439	0.0009	0.0016	1	ABS	150	310.00				
IP3-43	P2121111.4A		2,496	2,496	0.0052	0.0094	1	ABS	200	530.00				
IP3-44			0	2,935	0.0061	0.0110	1	ABS	200	50.00				
IP3-45		IP3-51	0	75,741	0.1578	0.2840	1	ABS	700	460.00				
IP3-46	P2121111.1A	IP3-51	2,277	2,277	0.0047	0.0085	1	ABS	150	260.00				
IP3-47	P2121112.2A		3,277	3,277	0.0068	0.0123	1	ABS	200	80.00				
IP3-48	P2121112.3A		977	4,254	0.0089	0.0160	1	ABS	200	350.00				
IP3-49	P2121112.1		679	4,933	0.0103	0.0185	1	ABS	250	30.00				
IP3-50			0	4,933	0.0103	0.0185	2	ABS	150	410.00	1			MP51
IP3-51			0	82,951	0.1728	0.3111	1	ABS	700	410.00				
IP3-52	P2121112U	IP3-54	1,692	84,643	0.1763	0.3174	1	ABS	700	90.00				
IP3-53	P2121110U		1,643	1,643	0.0034	0.0062	1	ABS	150	220.00				
IP3-54		IP3-148	0	86,286	0.1798	0.3236	1	ABS	700	230.00				
IP3-55	P2121222.10A		3,332	3,332	0.0069	0.0125	1	ABS	200	720.00				
IP3-56	P2121222.9A	IP3-59	3,174	6,506	0.0136	0.0244	1	ABS	250	320.00				
IP3-57	P2121222.2U		1,200	1,200	0.0025	0.0045	1	ABS	150	120.00				
IP3-58	P2121222.3U		1,967	3,167	0.0066	0.0119	1	ABS	200	50.00				
IP3-59			0	9,673	0.0202	0.0363	2	ABS	200	510.00	1			MP52
IP3-60		IP3-63	0	9,673	0.0202	0.0363	1	ABS	300	820.00				
IP3-61	P2121221.8U	IP3-63	5,293	5,293	0.0110	0.0198	1	ABS	250	50.00				
IP3-62	P2121221.11A		1,904	1,904	0.0040	0.0071	1	ABS	150					
IP3-63	P2121221.7U		103	16,973	0.0354	0.0636	1	ABS	350	60.00				
IP3-64			0	16,973	0.0354	0.0636	2	ABS	250	230.00	1			MP53
IP3-65			0	16,973	0.0354	0.0636	1	ABS	350	70.00				

Interceptor Pipes Calculation

Case No. 5 and 8
 District ID Pa2

< Note >
 Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m ³)	Output (kw)	
IP3-66	P2121221.5U		2,633	19,606	0.0408	0.0735	1	ABS	400	50.00				
IP3-67	P2121221.6U	IP3-69	4,162	23,768	0.0495	0.0891	1	ABS	400	110.00				
			0											
IP3-68	P2121221.10A		13,173	13,173	0.0274	0.0494	1	ABS	350	300.00				
IP3-69		IP3-71	0	36,941	0.0770	0.1385	1	ABS	500	360.00				
			0											
IP3-70	P2121221.9A		2,200	2,200	0.0046	0.0083	1	ABS	150	200.00				
IP3-71		IP3-77	0	39,141	0.0815	0.1468	1	ABS	500	260.00				
			0											
IP3-72	P2121221.4U	IP3-76	3,920	3,920	0.0082	0.0147	1	ABS	200	70.00				
			0											
IP3-73	P2121221.1U		477	477	0.0010	0.0018	1	ABS	150	90.00				
IP3-74	P2121221.3U		613	1,090	0.0023	0.0041	1	ABS	150	70.00				
IP3-75	P2121221.2U		2,966	4,056	0.0085	0.0152	1	ABS	200	60.00				
IP3-76			0	7,976	0.0166	0.0299	2	ABS	200	480.00	1			MP54
IP3-77		IP3-102	0	47,117	0.0982	0.1767	1	ABS	600	420.00				
			0											
IP3-78	P21211212.7A	IP3-80	2,224	2,224	0.0046	0.0083	1	ABS	150	120.00				
			0											
IP3-79	P21211212.6A		481	481	0.0010	0.0018	1	ABS	150	90.00				
IP3-80	P21211212.5A		571	3,276	0.0068	0.0123	1	ABS	200	200.00				
IP3-81	P21211212.4A		670	3,946	0.0082	0.0148	1	ABS	200	320.00				
IP3-82	P21211212.3A	IP3-85	842	4,788	0.0100	0.0180	1	ABS	250	80.00				
			0											
IP3-83	P21211211.1A		1,096	1,096	0.0023	0.0041	1	ABS	150	80.00				
IP3-84	P21211211.2A		640	1,736	0.0036	0.0065	1	ABS	150	350.00				
IP3-85		IP3-87	0	6,524	0.0136	0.0245	1	ABS	250	100.00				
			0											
IP3-86	P21211212.1		202	202	0.0004	0.0008	1	ABS	150	60.00				
IP3-87	P21211212.2	IP3-100	1,757	8,483	0.0177	0.0318	1	ABS	300	380.00				
			0											
IP3-88	P212112.5	IP3-90	1,478	1,478	0.0031	0.0055	1	ABS	150	90.00				
			0											
IP3-89	P212112.3U		287	287	0.0006	0.0011	1	ABS	150	70.00				
IP3-90	P212112.4	IP3-92	729	2,494	0.0052	0.0094	1	ABS	200	100.00				
			0											
IP3-91	P212115.12A		777	777	0.0016	0.0029	1	ABS	150	70.00				
IP3-92		IP3-95	0	3,271	0.0068	0.0123	1	ABS	200	90.00				
			0											
IP3-93	P2121121.2		1,976	1,976	0.0041	0.0074	1	ABS	150	50.00				
IP3-94	P2121121.1		367	2,343	0.0049	0.0088	1	ABS	150	190.00				
IP3-95		IP3-99	0	5,614	0.0117	0.0211	2	ABS	150	530.00	1			MP55
			0											
IP3-96	P2121122.1A	IP3-98	715	715	0.0015	0.0027	1	ABS	150	260.00				
			0											
IP3-97	P2121121.3A		1,512	1,512	0.0032	0.0057	1	ABS	150	220.00				
IP3-98			0	2,227	0.0046	0.0084	1	ABS	150	100.00				
IP3-99			0	7,841	0.0163	0.0294	1	ABS	250	90.00				
IP3-100			0	16,324	0.0340	0.0612	1	ABS	350	250.00				
IP3-101	P2121122.2A		4,604	20,928	0.0436	0.0785	1	ABS	400	160.00				
IP3-102		IP3-130	0	68,045	0.1418	0.2552	1	ABS	600	670.00				
			0											
IP3-103	P2121222.1	IP3-107	1,144	1,144	0.0024	0.0043	1	ABS	150	50.00				
			0											
IP3-104	P2121222.8A		1,586	1,586	0.0033	0.0059	1	ABS	150	170.00				
IP3-105	P2121222.7A		1,516	3,102	0.0065	0.0116	1	ABS	200	180.00				
IP3-106	P2121222.6A		7,791	10,893	0.0227	0.0408	1	ABS	300	380.00				
IP3-107			0	12,037	0.0251	0.0451	1	ABS	300	190.00				
IP3-108		IP3-111	0	12,037	0.0251	0.0451	2	ABS	200	160.00	1			MP56
			0											
IP3-109	P2121222.5A	IP3-111	4,469	4,469	0.0093	0.0168	1	ABS	200	50.00				
			0											
IP3-110	P2121222.4A		1,853	1,853	0.0039	0.0069	1	ABS	150	170.00				
IP3-111		IP3-115	0	18,359	0.0382	0.0688	1	ABS	350	270.00				
			0											
IP3-112	P212122.10A		5,242	5,242	0.0109	0.0197	1	ABS	250	100.00				
IP3-113	P212122.11A		739	5,981	0.0125	0.0224	1	ABS	250	150.00				
IP3-114	P212122.9A		854	6,835	0.0142	0.0256	1	ABS	250	270.00				
IP3-115	P212122.8		3,362	28,556	0.0595	0.1071	1	ABS	450	290.00				
IP3-116	P212122.6		2,232	30,788	0.0641	0.1155	1	ABS	450	40.00				
IP3-117	P212122.7	IP3-120	4,509	35,297	0.0735	0.1324	1	ABS	500	160.00				
			0											
IP3-118	P212122.4		4,452	4,452	0.0093	0.0167	2	ABS	150	160.00	1			MP57
IP3-119	P212122.5		1,860	6,312	0.0132	0.0237	1	ABS	250	180.00				
IP3-120		IP3-129	0	41,609	0.0867	0.1560	2	ABS	400	220.00	1			MP58
			0											
IP3-121	P212122.1		121	121	0.0003	0.0005	1	ABS	150	280.00				
IP3-122	P212122.2	IP3-124	2,577	2,698	0.0056	0.0101	1	ABS	200	50.00				
			0											
IP3-123	P212121.1U		4,861	4,861	0.0101	0.0182	1	ABS	250	60.00				
IP3-124		IP3-126	0	7,559	0.0157	0.0283	1	ABS	250	120.00				
			0											
IP3-125	P212121.2U		10,571	10,571	0.0220	0.0396	1	ABS	300	180.00				
IP3-126		IP3-128	0	18,130	0.0378	0.0680	1	ABS	350	150.00				
			0											
IP3-127	P212122.3		1,514	1,514	0.0032	0.0057	1	ABS	150	50.00				
IP3-128			0	19,644	0.0409	0.0737	2	ABS	250	330.00	1			MP59
IP3-129			0	61,253	0.1276	0.2297	1	ABS	600	680.00				
IP3-130		IP3-140	0	129,298	0.2694	0.4849	1	ABS	700	270.00				
			0											
IP3-131	P212115.6A		517	517	0.0011	0.0019	1	ABS	150	420.00				

Interceptor Pipes Calculation

Case No. 5 and 8
 District ID Pa2

< Note >
 Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP3-132	P212115.10A	IP3-134	706	1,223	0.0025	0.0046	1	ABS	150	100.00				
			0											
IP3-133	P212115.11A		440	440	0.0009	0.0017	1	ABS	150	360.00				
IP3-134	P212115.9A	IP3-138	3,196	4,859	0.0101	0.0182	1	ABS	250	80.00				
			0											
IP3-135	P212115.7A		537	537	0.0011	0.0020	1	ABS	150	90.00				
IP3-136	P212115.8A		496	1,033	0.0022	0.0039	1	ABS	150	200.00				
IP3-137	P212112.2U		496	1,529	0.0032	0.0057	1	ABS	150	60.00				
IP3-138			0	6,388	0.0133	0.0240	2	ABS	150	440.00	1			MP60
IP3-139			0	6,388	0.0133	0.0240	1	ABS	250	290.00				
IP3-140		IP3-143	0	135,686	0.2827	0.5088	1	ABS	700	290.00				
			0											
IP3-141	P212112.1		5,345	5,345	0.0111	0.0200	1	ABS	250	50.00				
IP3-142			0	5,345	0.0111	0.0200	2	ABS	150	360.00	1			MP61
IP3-143		IP3-148	0	141,031	0.2938	0.5289	1	ABS	700	410.00				
			0											
IP3-144	P21212.8		3,577	3,577	0.0075	0.0134	1	ABS	200	50.00				
IP3-145	P21212.9		1,689	5,266	0.0110	0.0197	1	ABS	250	50.00				
IP3-146			0	5,266	0.0110	0.0197	2	ABS	150	250.00	1			MP62
IP3-147			0	5,266	0.0110	0.0197	1	ABS	250	270.00				
IP3-148		IP3-150	0	232,583	0.4845	0.8722	1	ABS	900	100.00				
			0											
IP3-149	P21211.11U		3,876	3,876	0.0081	0.0145	1	ABS	200	130.00				
IP3-150		IP3-160	0	236,459	0.4926	0.8867	1	ABS	900	410.00				
			0											
IP3-151	P21212.7	IP3-153	1,039	1,039	0.0022	0.0039	1	ABS	150	260.00				
			0											
IP3-152	P21212.6		2,737	2,737	0.0057	0.0103	1	ABS	200	120.00				
IP3-153		IP3-156	0	3,776	0.0079	0.0142	1	ABS	200	510.00				
			0											
IP3-154	P21212.4		3,724	3,724	0.0078	0.0140	1	ABS	200	150.00				
IP3-155	P21212.5		6,528	10,252	0.0214	0.0384	1	ABS	300	50.00				
IP3-156		IP3-160	0	14,028	0.0292	0.0526	2	ABS	250	310.00	1			MP63
			0											
IP3-157	P21211.7U		2,401	2,401	0.0050	0.0090	1	ABS	150	170.00				
IP3-158	P21211.9U		1,193	3,594	0.0075	0.0135	1	ABS	200	60.00				
IP3-159	P21211.8U		1,583	5,177	0.0108	0.0194	1	ABS	250	150.00				
IP3-160		IP3-163	0	255,664	0.5326	0.9587	1	ABS	900	350.00				
			0											
IP3-161	P21212.3		2,610	2,610	0.0054	0.0098	1	ABS	200	50.00				
IP3-162			0	2,610	0.0054	0.0098	2	ABS	100	440.00	1			MP64
IP3-163		IP3-166	0	258,274	0.5381	0.9685	1	ABS	900	280.00				
			0											
IP3-164	P21211.6U		773	773	0.0016	0.0029	1	ABS	150	110.00				
IP3-165	P21211.5U		916	1,689	0.0035	0.0063	1	ABS	150	80.00				
IP3-166	P21211.4U	IP3-183	602	260,565	0.5428	0.9771	1	ABS	900	280.00				
			0											
IP3-167	P2122.2		502	502	0.0010	0.0019	1	ABS	150	70.00				
IP3-168	P2122.3	IP3-174	25	527	0.0011	0.0020	1	ABS	150	50.00				
			0											
IP3-169	P2122.6U	IP3-173	16,419	16,419	0.0342	0.0616	2	ABS	250	190.00	1			MP65
			0											
IP3-170	P2122.9A		1,054	1,054	0.0022	0.0040	1	ABS	150	630.00				
IP3-171	P2122.8A		2,425	3,479	0.0072	0.0130	1	ABS	200	500.00				
IP3-172	P2122.7A		1,567	5,046	0.0105	0.0189	1	ABS	250	500.00				
IP3-173	P2122.5		1,027	22,492	0.0469	0.0843	1	ABS	400	70.00				
IP3-174	P2122.4	IP3-177	2,766	25,785	0.0537	0.0967	1	ABS	400	570.00				
			0											
IP3-175	P2121.3A		1,994	1,994	0.0042	0.0075	1	ABS	150	500.00				
IP3-176	P2121.10A		5,732	7,726	0.0161	0.0290	1	ABS	250	280.00				
IP3-177		IP3-179	0	33,511	0.0698	0.1257	1	ABS	450	90.00				
			0											
IP3-178	P21212.2		2,937	2,937	0.0061	0.0110	1	ABS	200	460.00				
IP3-179			0	36,448	0.0759	0.1367	1	ABS	500	130.00				
IP3-180	P21212.1	IP3-182	2,673	39,121	0.0815	0.1467	1	ABS	500	210.00				
			0											
IP3-181	P21211.2U		2,776	2,776	0.0058	0.0104	1	ABS	200	100.00				
IP3-182			0	41,897	0.0873	0.1571	1	ABS	500	110.00				
IP3-183	P21211.3U		2,464	304,926	0.6353	1.1435	1	ABS	1000	450.00				
IP3-184	P21211.1U	IP3-187	3,642	308,568	0.6429	1.1571	1	ABS	1000	180.00				
			0											
IP3-185	P2121.1		2,810	2,810	0.0059	0.0105	1	ABS	200	50.00				
IP3-186	P2121.2		403	3,213	0.0067	0.0120	1	ABS	200	350.00				
IP3-187		IP3-213	0	311,781	0.6495	1.1692	1	ABS	1000	710.00				
			0											
IP3-188	P211.10	IP3-190	7,385	7,385	0.0154	0.0277	1	ABS	250	190.00				
			0											
IP3-189	P211.9		1,877	1,877	0.0039	0.0070	1	ABS	150	50.00				
IP3-190			0	9,262	0.0193	0.0347	2	ABS	200	280.00	1			MP66
IP3-191		IP3-213	0	9,262	0.0193	0.0347	1	ABS	300	520.00				
			0											
from Pb2 district			27,814	27,814	0.0579	0.1043	1	ABS	450	0.00				
IP3-192	P2.2U	IP3-196	4,236	32,050	0.0668	0.1202	1	ABS	450	480.00				
			0											
IP3-193	P212.2A		4,278	4,278	0.0089	0.0160	1	ABS	200	280.00				
IP3-194	P212.1A		1,751	6,029	0.0126	0.0226	1	ABS	250	320.00				
IP3-195	P21.1		4,413	10,442	0.0218	0.0392	2	ABS	200	270.00	1			MP67
IP3-196			0	42,492	0.0885	0.1593	1	ABS	500	170.00				

Interceptor Pipes Calculation

Case No. 5 and 8

District ID Pb1

< Note >

Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:interceptor	Outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP5-1	P221121.2A		1,228	1,228	0.0026	0.0046	1	ABS	150	200.00				
IP5-2	P221121.2	IP5-13	3,537	4,765	0.0099	0.0179	1	ABS	250	420.00				
			0											
IP5-3	P22112.3A		2,145	2,145	0.0045	0.0080	1	ABS	150	350.00				
IP5-4	P221122.2	IP5-8	1,471	3,616	0.0075	0.0136	1	ABS	200	60.00				
			0											
IP5-5	P22112.5A		2,593	2,593	0.0054	0.0097	1	ABS	200	90.00				
IP5-6	P22112.6A		552	3,145	0.0066	0.0118	1	ABS	200	150.00				
IP5-7	P22112.4A		9,700	12,845	0.0268	0.0482	1	ABS	300	480.00				
IP5-8			0	16,461	0.0343	0.0617	1		350	100.00				
IP5-9	P221122.1		1,553	18,014	0.0375	0.0676	1	ABS	350	50.00				
IP5-10	P221121.1A		3,458	21,472	0.0447	0.0805	1	ABS	400	200.00				
IP5-11	P221121.2A	IP5-13	1,638	23,110	0.0481	0.0867	1	ABS	400	110.00				
			0											
IP5-12	P2211211.1A		7,706	7,706	0.0161	0.0289	1	ABS	250	460.00				
ICP13		IP5-16	0	35,581	0.0741	0.1334	1		500	170.00				
			0											
IP5-14	P221112.4A		883	883	0.0018	0.0033	1	ABS	150	80.00				
IP5-15	P221112.3		1,626	2,509	0.0052	0.0094	1	ABS	200	210.00				
ICP16			0	38,090	0.0794	0.1428	1		500	340.00				
IP5-17	P221112.1	IP5-26	451	38,541	0.0803	0.1445	1	ABS	500	180.00				
			0											
IP5-18	P221112.7A		6,802	6,802	0.0142	0.0255	1	ABS	250	350.00				
IP5-19	P221112.6A		1,342	8,144	0.0170	0.0305	1	ABS	300	320.00				
IP5-20	P221112.5A	IP5-22	3,354	11,498	0.0240	0.0431	1	ABS	300	530.00				
			0											
IP5-21	P221112.2		629	629	0.0013	0.0024	1	ABS	150	180.00				
ICP22		IP5-26	0	12,127	0.0253	0.0455	1		300	100.00				
			0											
IP5-23	P221111.4A	IP5-25	1,896	1,896	0.0040	0.0071	1	ABS	150	150.00				
			0											
IP5-24	P221111.2A		672	672	0.0014	0.0025	1	ABS	150	70.00				
ICP25			0	2,568	0.0054	0.0096	1		200	80.00				
ICP26		IP5-30	0	53,236	0.1109	0.1996	1		600	190.00				
			0											
IP5-27	P221111.3A	IP5-29	224	224	0.0005	0.0008	1	ABS	150	260.00				
			0											
IP5-28	P221111.5A		960	960	0.0020	0.0036	1	ABS	150	50.00				
ICP29			0	1,184	0.0025	0.0044	1		150	570.00				
IP5-30	P221111.1A	IP5-36	1,414	55,834	0.1163	0.2094	1	ABS	600	320.00				
			0											
IP5-31	P221121.1	IP5-33	831	831	0.0017	0.0031	1	ABS	150	130.00				
			0											
IP5-32	P22112.1A		639	639	0.0013	0.0024	1	ABS	150	60.00				
ICP33			0	1,470	0.0031	0.0055	1		150	260.00				
IP5-34	P22111.1		1,209	2,679	0.0056	0.0100	1	ABS	200	150.00				
ICP35	P22111.2		4,564	7,243	0.0151	0.0272	1	ABS	250	50.00				
IP5-36		IP5-47	0	63,077	0.1314	0.2365	1		600	700.00				
			0											
IP5-37	P2211.5U	IP5-43	3,297	3,297	0.0069	0.0124	1	ABS	200	50.00				
			0											
IP5-38	P2212.12A		4,146	4,146	0.0086	0.0155	1	ABS	200	580.00				
IP5-39	P2212.10A	IP5-42	2,011	6,157	0.0128	0.0231	1	ABS	250	360.00				
			0											
IP5-40	P2212.11A		1,619	1,619	0.0034	0.0061	1	ABS	150	410.00				
IP5-41	P2212.8A		769	2,388	0.0050	0.0090	1	ABS	150	140.00				
IP5-42	P2212.9A		1,491	10,036	0.0209	0.0376	1	ABS	300	500.00				
IP5-43	P2211.4	IP5-45	1,141	14,474	0.0302	0.0543	1	ABS	350	50.00				
			0											
IP5-44	P2212.7A		872	872	0.0018	0.0033	1	ABS	150	410.00				
IP5-45	P2211.3		610	15,956	0.0332	0.0598	1	ABS	350	230.00				
IP5-46	P2211.2		1,104	17,060	0.0355	0.0640	2	ABS	250	210.00	1			MP70
IP5-47		IP5-49	0	80,137	0.1670	0.3005	1		700	320.00				
			0											
IP5-48	P2211.1		1,171	1,171	0.0024	0.0044	1	ABS	150	380.00				
ICP49		IP5-89	0	81,308	0.1694	0.3049	1		700	1,200.00				
			0											
IP5-50	P222.12	IP5-53	3,147	3,147	0.0066	0.0118	1	ABS	200	330.00				
			0											
IP5-51	P222.17A		4,871	4,871	0.0101	0.0183	1	ABS	250	550.00				
IP5-52	P222.16A		2,383	7,254	0.0151	0.0272	1	ABS	250	100.00				
IP5-53	P222.11		27,115	37,516	0.0782	0.1407	1	ABS	500	170.00				From PASAY
IP5-54	P222.10	IP5-57	0	37,516	0.0782	0.1407	1	ABS	500	1,700.00				PASAY
			0											
IP5-55	P222.9U		5,149	5,149	0.0107	0.0193	1	ABS	250	530.00				
IP5-56	P222.7U		720	5,869	0.0122	0.0220	1	ABS	250	100.00				
IP5-57	P222.8	IP5-59	0	43,385	0.0904	0.1627	1	ABS	500	700.00				PASAY
			0											
IP5-58	P222.5		368	368	0.0008	0.0014	1	ABS	150	50.00				
ICP59		IP5-61	0	43,753	0.0912	0.1641	1		500	30.00				
			0											
IP5-60	P222.3		278	278	0.0006	0.0010	1	ABS	150	50.00				
IP5-61	P222.4		0	44,031	0.0917	0.1651	1	ABS	500	60.00				PASAY
IP5-62	P222.2		0	44,031	0.0917	0.1651	1	ABS	500	110.00				PASAY
IP5-63	P222.14A	IP5-65	260	44,291	0.0923	0.1661	1	ABS	500	350.00				
			0											
IP5-64	P222.13A		1,364	1,364	0.0028	0.0051	1	ABS	150	230.00				
ICP65		IP5-85	0	45,655	0.0951	0.1712	1		500	140.00				
			0											
IP5-66	P222.15A		1,504	1,504	0.0031	0.0056	1	ABS	150	260.00				

Interceptor Pipes Calculation

Case No. 5 and 8
 District ID Pb1

< Note >
 Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP5-67	P222.6	IP5-82	3,036	4,540	0.0095	0.0170	1	ABS	200	800.00				
			0											
IP5-68	P2212.5		1,029	1,029	0.0021	0.0039	1	ABS	150	60.00				
IP5-69	P2212.3	IP5-76	148	1,177	0.0025	0.0044	1	ABS	150	20.00				
			0											
IP5-70	P2212.2	IP5-75	83	83	0.0002	0.0003	1	ABS	150	50.00				
			0											
IP5-71	P2212.6A	IP5-73	275	275	0.0006	0.0010	1	ABS	150	80.00				
			0											
IP5-72	P2211.6A		691	691	0.0014	0.0026	1	ABS	150	250.00				
ICP73			0	966	0.0020	0.0036	1		150	120.00				
IP5-74	P2212.4		71	1,037	0.0022	0.0039	1	ABS	150	50.00				
ICP75			0	1,120	0.0023	0.0042	1		150	50.00				
IP5-76			0	2,297	0.0048	0.0086	1		150	50.00				
ICP77	P2212.1	IP5-80	552	2,849	0.0059	0.0107	1	ABS	200	450.00				
			0											
IP5-78	P221.6A	IP5-80	575	575	0.0012	0.0022	1	ABS	150	320.00				
			0											
IP5-79	P221.7A		337	337	0.0007	0.0013	1	ABS	150	200.00				
ICP80		IP5-82	0	3,761	0.0078	0.0141	1		200	410.00				
			0											
IP5-81	P221.5A		1,881	1,881	0.0039	0.0071	1	ABS	150	210.00				
ICP82		IP5-84	0	10,182	0.0212	0.0382	1		300	210.00				
			0											
IP5-83	P221.4A		1,321	1,321	0.0028	0.0050	1	ABS	150	70.00				
ICP84			0	11,503	0.0240	0.0431	1		300	190.00				
IP5-85			0	57,158	0.1191	0.2143	1		600	130.00				
ICP86	P221.3A	IP5-88	682	57,840	0.1205	0.2169	2	ABS	450	70.00	1			MP71
			0											
IP5-87	P221.1		282	282	0.0006	0.0011	1	ABS	150	40.00				
IP5-88	P221.2		10,838	68,960	0.1437	0.2586	1	ABS	600	60.00				
IP5-89		IP5-91	0	150,268	0.3131	0.5635	1		800	300.00				
			0											
IP5-90	P22.6A		2,925	2,925	0.0061	0.0110	1	ABS	200	100.00				
IP5-91			0	153,193	0.3192	0.5745	1		800	200.00				
IP5-92		IP5-95	0	153,193	0.3192	0.5745	1		800	120.00				
			0											
IP5-93	P222.1		2,480	2,480	0.0052	0.0093	1	ABS	200	410.00				
IP5-94	P22.3U		4,578	7,058	0.0147	0.0265	1	ABS	250	150.00				
ICP95		STP	0	160,251	0.3339	0.6009	1		800	1,100.00				
	合計		160,251							24,740.00	2			

Total Table

Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	5,860.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	3,870.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	3,070.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	2,330.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	430.00	2	250	210.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	310.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	3,950.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	1,400.00	2	450	70.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	1,520.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	1,720.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	24,460.00	Total	Force main	280.00
			All Total		24,740.00

Manhole Pump Station
 2 (Places)

Interceptor Pipes Calculation

Case No. 5 and 8
 District ID La1

< Note >
 Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP8-1	L21112.21U		3,178	3,178	0.0066	0.0119	1	ABS	200	20.00				
IP8-2	L21112.22U		6,085	9,263	0.0193	0.0347	2	ABS	200	300.00		1		MP1
IP8-3		IP8-5	0	9,263	0.0193	0.0347	1	ABS	300	1,590.00				
IP8-4	L21112.23A		13,909	13,909	0.0290	0.0522	1	ABS	350	20.00				
IP8-5	L21112.20U		22,330	45,502	0.0948	0.1706	1	ABS	500	1,190.00				
IP8-6	L21112.19U		5,006	50,508	0.1052	0.1894	1	ABS	600	200.00				
IP8-7	L21112.18U	IP8-10	747	51,255	0.1068	0.1922	1	ABS	600	100.00				
IP8-8	L21112.16U	IP8-10	1,287	1,287	0.0027	0.0048	1	ABS	150	50.00				
IP8-9	L21112.15U		590	590	0.0012	0.0022	1	ABS	150	1,500.00				
IP8-10	L21112.17U	IP8-13	1,615	54,747	0.1141	0.2053	2	ABS	450	430.00		1		MP2
IP8-11	L21111.7U		28,084	28,084	0.0585	0.1053	1	ABS	450	1,500.00				
IP8-12	L21111.6U		1,296	29,380	0.0612	0.1102	2	ABS	350	190.00		1		MP3
IP8-13		IP8-15	0	84,127	0.1753	0.3155	1	ABS	700	300.00				
IP8-14	L21112.14U		382	382	0.0008	0.0014	2	ABS	75	320.00		1		MP4
IP8-15		IP8-18	0	84,509	0.1761	0.3169	1	ABS	700	300.00				
IP8-16	L21111.5U	IP8-18	1,474	1,474	0.0031	0.0055	2	ABS	75	190.00		1		MP5
IP8-17	L21112.12U		709	709	0.0015	0.0027	1	ABS	150	240.00				
IP8-18		IP8-20	0	86,692	0.1806	0.3251	1	ABS	700	300.00				
IP8-19	L21112.8U		434	434	0.0009	0.0016	1	ABS	150	570.00				
IP8-20			0	87,126	0.1815	0.3267	1	ABS	700	300.00				
IP8-21	L21111.4U	IP8-23	1,237	88,363	0.1841	0.3314	1	ABS	700	630.00				
IP8-22	L2111.3U		313	313	0.0007	0.0012	1	ABS	150	650.00				
IP8-23		IP8-27	0	88,676	0.1847	0.3325	2	ABS	600	650.00				PS3
IP8-24	L21112.13U		318	318	0.0007	0.0012	1	ABS	150	440.00				
IP8-25	L21112.11U	IP8-28	552	870	0.0018	0.0033	1	ABS	150	400.00				
IP8-26	L21112.10U	IP8-27	843	843	0.0018	0.0032	1	ABS	150	300.00				
IP8-27	L21112.9U		735	90,254	0.1880	0.3385	1	ABS	700	450.00				
IP8-28		IP8-31	0	91,124	0.1898	0.3417	1	ABS	700	450.00				
IP8-29	L21112.4U		370	370	0.0008	0.0014	1	ABS	150	100.00				
IP8-30	L21112.6U		878	1,248	0.0026	0.0047	1	ABS	150	100.00				
IP8-31		IP8-43	0	92,372	0.1924	0.3464	1	ABS	700	300.00				
IP8-32	L21112.7U		370	370	0.0008	0.0014	1	ABS	150	130.00				
IP8-33	L21112.5U		73	443	0.0009	0.0017	1	ABS	150	130.00				
IP8-34	L21112.3U	IP8-37	513	956	0.0020	0.0036	1	ABS	150	130.00				
IP8-35	L21111.2U		1,366	1,366	0.0028	0.0051	1	ABS	150	100.00				
IP8-36	L21111.1U		777	2,143	0.0045	0.0080	1	ABS	150	100.00				
IP8-37	L21112.2U		567	3,666	0.0076	0.0137	1	ABS	200	160.00				
IP8-38	L21112.1U		2,938	6,604	0.0138	0.0248	1	ABS	250	300.00				
IP8-39	L2111.8U		1,670	8,274	0.0172	0.0310	1	ABS	300	380.00				
IP8-40	L2111.7U	IP8-42	2,971	11,245	0.0234	0.0422	1	ABS	300	500.00				
IP8-41	L2111.6U		9,480	9,480	0.0198	0.0356	1	ABS	300	150.00				
IP8-42			0	20,725	0.0432	0.0777	2	ABS	300	150.00		1		MP6
IP8-43		IP8-45	0	113,097	0.2356	0.4241	1	ABS	700	300.00				
IP8-44	L2111.4U		263	263	0.0005	0.0010	1	ABS	150	230.00				
IP8-45			0	113,360	0.2362	0.4251	1	ABS	700	100.00				
IP8-46	L2111.5U	IP8-48	1,208	114,568	0.2387	0.4296	2	ABS	-	800.00				PS2
IP8-47	L2112.4U		4,178	4,178	0.0087	0.0157	1	ABS	200	400.00				
IP8-48		IP8-52	0	118,746	0.2474	0.4453	1	ABS	700	400.00				
IP8-49	L2111.3		3,066	3,066	0.0064	0.0115	1	ABS	200	300.00				
IP8-50	L2111.2U		489	3,555	0.0074	0.0133	1	ABS	200	300.00				
IP8-51	L2111.1		4,378	7,933	0.0165	0.0297	1	ABS	250	300.00				
IP8-52			0	126,679	0.2639	0.4750	1	ABS	700	300.00				
IP8-53	L2112.5A	IP8-57	1,325	128,004	0.2667	0.4800	1	ABS	700	600.00				
IP8-54	L2112.3		181	181	0.0004	0.0007	1	ABS	150	200.00				
IP8-55	L2112.2		250	431	0.0009	0.0016	1	ABS	150	200.00				
IP8-56	L2112.1		140	571	0.0012	0.0021	1	ABS	150	200.00				
IP8-57		IP8-59	0	128,575	0.2679	0.4822	1	ABS	700	300.00				
IP8-58	L211.8		11,098	11,098	0.0231	0.0416	1	ABS	300	90.00				
IP8-59		IP8-63	0	139,673	0.2910	0.5238	1	ABS	700	500.00				
			0											

Interceptor Pipes Calculation

Case No. 5 and 8
 District ID La1

< Note >
 Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP8-60	L211.7U		461	461	0.0010	0.0017	1	ABS	150	250.00				
IP8-61	L211.6		3,376	3,837	0.0080	0.0144	2	ABS	150	440.00	1			MP7
IP8-62			0	3,837	0.0080	0.0144	1	ABS	200	50.00				
IP8-63		IP8-66	0	143,510	0.2990	0.5382	1	ABS	700	300.00				
IP8-64	L211.4U	IP8-66	1,990	1,990	0.0041	0.0075	2	ABS	100	400.00	1			MP8
IP8-65	L211.5U		846	846	0.0018	0.0032	2	ABS	75	300.00	1			MP9
IP8-66			0	2,836	0.0059	0.0106	1	ABS	200	300.00				
IP8-67		IP8-73	0	146,346	0.3049	0.5488	1	ABS	800	500.00				
IP8-68	L211.3U	IP8-70	14,293	14,293	0.0298	0.0536	1	ABS	350	300.00				
IP8-69	L211.1		784	784	0.0016	0.0029	1	ABS	150	250.00				
IP8-70	L211.2		1,856	16,933	0.0353	0.0635	2	ABS	250	250.00	1			MP10
IP8-71			0	16,933	0.0353	0.0635	1	ABS	350	250.00				
IP8-72	L212.1U		917	17,850	0.0372	0.0669	2	ABS	250	300.00	1			MP11
IP8-73		STP	0	164,196	0.3421	0.6157	1	ABS	800	300.00				
IP8-74	L212.2A	STP	7,196	7,196	0.0150	0.0270	1	ABS	250	200.00				
	STP		0	171,392	0.3571	0.6427	1		800	100.00				
Total			171,392							26,320.00	11			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	6,270.00	2	75	810.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	1,530.00	2	100	400.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	800.00	2	150	440.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	2,710.00	2	200	300.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	570.00	2	250	550.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	150.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	1,500.00	2	350	190.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	1,190.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	300.00	2	450	430.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	5,830.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	900.00	2	600	650.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	21,600.00	Total	Force main	3,920.00
All Total					25,520.00

Manhole Pump Station
 11 (Places)

Interceptor Pipes Calculation

Case No. 5 and 8
 District ID Lb2

< Note >
 Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP10-1	L111222.9U		2,300	2,300	0.0048	0.0086	1	ABS	150	100.00				
IP10-2	L111222.7U	IP10-4-1	1,233	3,533	0.0074	0.0132	2	ABS	150	100.00		1		MP22
			0											
IP10-3	L111222.8U		990	990	0.0021	0.0037	1	ABS	150	60.00				
IP10-4-1	L111222.6U		106	4,629	0.0096	0.0174	1	ABS	250	100.00				
IP10-4-2	ICP9	IP10-11-3	0	4,629	0.0096	0.0174	1	ABS	250	250.00				
			0											
IP10-5	L111222.1U	IP10-7	609	609	0.0013	0.0023	1	ABS	150	250.00				
			0											
IP10-6	L111222.5U		1,522	1,522	0.0032	0.0057	1	ABS	150	60.00				
IP10-7	L111222.3U	IP10-9	428	2,559	0.0053	0.0096	2	ABS	100	150.00		1		MP23
			0											
IP10-8	L111222.4U		408	408	0.0009	0.0015	1	ABS	150	50.00				
IP10-9	L111222.2U	IP10-11-3	254	3,221	0.0067	0.0121	1	ABS	200	150.00				
			0											
IP10-10	L11122.18U	IP10-11-2	709	709	0.0015	0.0027	1	ABS	150	520.00				
			0											
IP10-11-1	L11122.19U		2,562	2,562	0.0053	0.0096	1	ABS	200	300.00				
IP10-11-2			0	3,271	0.0068	0.0123	1		200	200.00				
IP10-11-3		IP10-13-2	0	11,121	0.0232	0.0417	1		300	200.00				
			0											
IP10-12	L11122.23U	IP10-13-2	1,383	1,383	0.0029	0.0052	1	ABS	150	50.00				
			0											
IP10-13-1	L11122.20U		288	288	0.0006	0.0011	2	ABS	75	100.00		1		MP24
IP10-13-2		IP10-18-2	0	12,792	0.0267	0.0480	1		300	250.00				
			0											
IP10-14	L111221.6A		774	774	0.0016	0.0029	1	ABS	150	100.00				
IP10-15	L111221.1U		1,421	2,195	0.0046	0.0082	1	ABS	150	100.00				
IP10-16	L11122.24U		575	2,770	0.0058	0.0104	1	ABS	200	100.00				
IP10-17	L11122.22U	IP10-18-2	384	3,154	0.0066	0.0118	1	ABS	200	200.00				
			0											
IP10-18-1	L11122.21U		324	324	0.0007	0.0012	1	ABS	150	50.00				
IP10-18-2		IP10-22-2	0	16,270	0.0339	0.0610	1		350	200.00				
			0											
IP10-19	L11122.17U	IP10-22-1	1,451	1,451	0.0030	0.0054	1	ABS	150	150.00				
			0											
IP10-20	L11122.16U		994	994	0.0021	0.0037	1	ABS	150	20.00				
IP10-21	L11122.15U		320	1,314	0.0027	0.0049	1	ABS	150	40.00				
IP10-22-1	L11122.14U		928	3,693	0.0077	0.0138	2	ABS	150	300.00		1		MP25
IP10-22-2		IP10-38-2	0	19,963	0.0416	0.0749	1		400	360.00				
			0											
IP10-23	L1112212.4U	IP10-25	1,629	1,629	0.0034	0.0061	1	ABS	150	300.00				
			0											
IP10-24	L1112211.1U		7,920	7,920	0.0165	0.0297	1	ABS	250	300.00				
IP10-25	L1112212.2U	IP10-27	1,459	11,008	0.0229	0.0413	2	ABS	200	100.00		1		MP26
			0											
IP10-26	L1112212.3U		2,741	2,741	0.0057	0.0103	1	ABS	200	100.00				
IP10-27	L1112212.1		732	14,481	0.0302	0.0543	1	ABS	350	250.00				
IP10-28	L111221.4U		1,325	15,806	0.0329	0.0593	1	ABS	350	250.00				
IP10-29	L111221.2U		1,830	17,636	0.0367	0.0661	2	ABS	250	50.00		1		MP27
IP10-30	L111221.3U		571	18,207	0.0379	0.0683	1	ABS	350	250.00				
IP10-31	L111221.5U	IP10-34-2	336	18,543	0.0386	0.0695	1	ABS	350	250.00				
			0											
IP10-32	L11121.13U	IP10-34-1	1,289	1,289	0.0027	0.0048	1	ABS	150	200.00				
			0											
IP10-33	L11121.12U		504	504	0.0011	0.0019	1	ABS	150	100.00				
IP10-34-1	L11121.14U		6,204	7,997	0.0167	0.0300	1	ABS	250	100.00				
IP10-34-2		IP10-38-2	0	26,540	0.0553	0.0995	1		400	500.00				
			0											
IP10-35	L11121.8U	IP10-38-1	1,414	1,414	0.0029	0.0053	1	ABS	150	100.00				
			0											
IP10-36	L11121.9U	IP10-38-1	932	932	0.0019	0.0035	2	ABS	75	100.00		1		MP28
			0											
IP10-37	L11121.11U		1,680	1,680	0.0035	0.0063	1	ABS	150	100.00				
IP10-38-1	L11121.10U		803	4,829	0.0101	0.0181	2	ABS	150	550.00		1		MP29
IP10-38-2		IP10-40-2	0	51,332	0.1069	0.1925	1		600	150.00				
			0											
IP10-39	L11122.13U		896	896	0.0019	0.0034	1	ABS	150	100.00				
IP10-40-1	L11122.12U		643	1,539	0.0032	0.0058	2	ABS	75	560.00		1		MP30
IP10-40-2			0	52,871	0.1101	0.1983	1		600	660.00				
IP10-41	L11122.6U	IP10-50	1,577	54,448	0.1134	0.2042	1	ABS	600	100.00				
			0											
IP10-42	L11121.6U	IP10-48-2	1,310	1,310	0.0027	0.0049	1	ABS	150	200.00				
			0											
IP10-43	L11121.1U	IP10-47	871	871	0.0018	0.0033	1	ABS	150	300.00				
			0											
IP10-44	L11121.7U		1,556	1,556	0.0032	0.0058	1	ABS	150	100.00				
IP10-45	L11121.5U		580	2,136	0.0045	0.0080	1	ABS	150	150.00				
IP10-46	L11121.4U		446	2,582	0.0054	0.0097	1	ABS	200	100.00				
IP10-47	L11121.2U		295	3,748	0.0078	0.0141	1	ABS	200	100.00				
IP10-48-1	L11121.3U		801	4,549	0.0095	0.0171	2	ABS	150	100.00		1		MP31
IP10-48-2			0	5,859	0.0122	0.0220	1		250	400.00				
IP10-49	L11122.2U		525	6,384	0.0133	0.0239	1	ABS	250	200.00				
IP10-50	L11122.4U		1,248	62,080	0.1293	0.2328	1	ABS	600	100.00		1		MP77
IP10-51	L11122.3U	IP10-57	465	62,545	0.1303	0.2345	1	ABS	600	200.00				
			0											
IP10-52	L11122.11U		1,010	1,010	0.0021	0.0038	1	ABS	150	150.00				
IP10-53	L11122.10U		5,204	6,214	0.0129	0.0233	1	ABS	250	150.00				
IP10-54	L11122.9U		903	7,117	0.0148	0.0267	1	ABS	250	150.00				
IP10-55	L11122.8U		4,044	11,161	0.0233	0.0419	1	ABS	300	100.00				
IP10-56	L11122.7U		504	11,665	0.0243	0.0437	1	ABS	300	150.00				

Interceptor Pipes Calculation

Case No. 5 and 8

District ID Lb2

< Note >

Interceptor pipes for case 5 and 8 are similar, because the difference is only a location of Pc-STP.

IP ID IP:Interceptor	Flow in outfall ID	Flow out IP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m ³)	Output (kw)	
IP10-57	L11122.5U	IP10-59-2	551	74,761	0.1558	0.2804	1	ABS	700	230.00				
			0											
IP10-58	L11122.1U		397	397	0.0008	0.0015	1	ABS	150	150.00				
IP10-59-1	L1112.12U		1,590	1,987	0.0041	0.0075	1	ABS	150	150.00				
IP10-59-2		IP10-62-3	0	76,748	0.1599	0.2878	1		700	650.00				
			0											
IP10-60	L1122.12U	IP10-62-2	4,017	4,017	0.0084	0.0151	1	ABS	200	1,200.00				
			0											
IP10-61	L1122.11U		5,008	5,008	0.0104	0.0188	1	ABS	250	590.00				
IP10-62-1	L1122.10U		5,537	10,545	0.0220	0.0395	1	ABS	300	600.00				
IP10-62-2			0	14,562	0.0303	0.0546	2		250	1,300.00	1			MP32
IP10-62-3		IP10-70-2	0	91,310	0.1902	0.3424	1		700	430.00				
			0											
IP10-63	L1121.16U		21,713	21,713	0.0452	0.0814	1	ABS	400	130.00				
IP10-64	L1121.15U		564	22,277	0.0464	0.0835	1	ABS	400	150.00				
IP10-65	L1121.14U	IP10-70-1	438	22,715	0.0473	0.0852	1	ABS	400	150.00				
			0											
IP10-66	L1121.8U		764	764	0.0016	0.0029	1	ABS	150	130.00				
IP10-67	L1121.9U		1,394	2,158	0.0045	0.0081	1	ABS	150	100.00				
IP10-68	L1121.10		503	2,661	0.0055	0.0100	1	ABS	200	100.00				
IP10-69	L1121.12U		1,410	4,071	0.0085	0.0153	1	ABS	200	100.00				
IP10-70-1	L1121.13U		1,858	28,644	0.0597	0.1074	1	ABS	450	100.00				
IP10-70-2		IP10-76-2	0	119,954	0.2499	0.4498	1		700	430.00				
			0											
IP10-71	L11.5	IP10-76-1	4,135	4,135	0.0086	0.0155	2	ABS	150	350.00	1			MP33
			0											
IP10-72	L111.1U		1,677	1,677	0.0035	0.0063	1	ABS	150	100.00				
IP10-73	L111.2		621	2,298	0.0048	0.0086	1	ABS	150	100.00				
IP10-74	L111.3	IP10-76-1	980	3,278	0.0068	0.0123	1	ABS	200	100.00				
			0											
IP10-75	L111.5U		1,585	1,585	0.0033	0.0059	1	ABS	150	300.00				
IP10-76-1	L111.4U		889	9,887	0.0206	0.0371	2	ABS	200	700.00	1			MP34
IP10-76-2		IP10-77-2	0	129,841	0.2705	0.4869	1		700	150.00				
			0											
IP10-77-1	L111.13U		2,732	2,732	0.0057	0.0102	1	ABS	200	300.00				
IP10-77-2		IP10-79	0	132,573	0.2762	0.4971	1		700	220.00				
			0											
IP10-78	L111.10U		612	612	0.0013	0.0023	1	ABS	150	100.00				
IP10-79	L111.12U	IP10-81-2	583	133,768	0.2787	0.5016	1	ABS	700	100.00				
			0											
IP10-80	L111.9U		197	197	0.0004	0.0007	1	ABS	150	50.00				
IP10-81-1	L111.11U		2,551	2,748	0.0057	0.0103	1	ABS	200	50.00				
IP10-81-2		IP10-82-3	0	136,516	0.2844	0.5119	1		700	150.00				
			0											
IP10-82-2	L111.8U		751	751	0.0016	0.0028	1	ABS	150	150.00				
IP10-82-3		IP10-114	0	137,267	0.2860	0.5148	1		700	300.00				
			0											
IP10-83	L111.6U	IP10-84-2	785	785	0.0016	0.0029	1	ABS	150	200.00				
			0											
IP10-84-1	L111.7U		670	670	0.0014	0.0025	1	ABS	150	100.00				
IP10-84-2		IP10-114	0	1,455	0.0030	0.0055	1		150	100.00				
			0											
IP10-85	L1111.9U		171	171	0.0004	0.0006	1	ABS	150	100.00				
IP10-86	L1111.8U	IP10-92	232	403	0.0008	0.0015	1	ABS	150	100.00				
			0											
IP10-87	L1111.11U		3,784	3,784	0.0079	0.0142	1	ABS	200	100.00				
IP10-88	L1111.10U		569	4,353	0.0091	0.0163	1	ABS	200	100.00				
IP10-89	L1111.7U		277	4,630	0.0096	0.0174	1	ABS	250	100.00				
IP10-90	L1111.6U		202	4,832	0.0101	0.0181	1	ABS	250	100.00				
IP10-91	L1111.5U		2,448	7,280	0.0152	0.0273	1	ABS	250	100.00				
IP10-92	L1111.4U	IP10-99-2	654	8,337	0.0174	0.0313	2	ABS	200	200.00	1			MP35
			0											
IP10-93	L1112.11U	IP10-95	267	267	0.0006	0.0010	1	ABS	150	200.00				
			0											
IP10-94	L1112.9U		3,314	3,314	0.0069	0.0124	1	ABS	200	100.00				
IP10-95	L1112.10U		1,108	4,689	0.0098	0.0176	1	ABS	250	100.00				
IP10-96	L1112.8U		604	5,293	0.0110	0.0198	1	ABS	250	100.00				
IP10-97	L1112.6U		855	6,148	0.0128	0.0231	1	ABS	250	100.00				
IP10-98	L1112.5U		269	6,417	0.0134	0.0241	1	ABS	250	100.00				
IP10-99-1	L1112.4U		237	6,654	0.0139	0.0250	1	ABS	250	200.00				
IP10-99-2		IP10-103	0	14,991	0.0312	0.0562	1		350	150.00				
			0											
IP10-100	L1112.7U		512	512	0.0011	0.0019	1	ABS	150	100.00				
IP10-101	L1112.3U		1,857	2,369	0.0049	0.0089	1	ABS	150	100.00				
IP10-102	L1112.2U		318	2,687	0.0056	0.0101	1	ABS	200	200.00				
IP10-103	L1112.1U	IP10-105	446	18,124	0.0378	0.0680	1	ABS	350	100.00				
			0											
IP10-104	L1111.3U		970	970	0.0020	0.0036	1	ABS	150	100.00				
IP10-105	L1111.1U	IP10-107	79	19,173	0.0399	0.0719	1	ABS	400	100.00				
			0											
IP10-106	L1111.2U		1,002	1,002	0.0021	0.0038	1	ABS	150	100.00				
IP10-107	L111.18U		240	20,415	0.0425	0.0766	1	ABS	400	100.00				
IP10-108	L111.17U		487	20,902	0.0435	0.0784	1	ABS	400	100.00				
IP10-109	L111.16U	IP10-111	220	21,122	0.0440	0.0792	1	ABS	400	100.00				
			0											
IP10-110	L111.15U		1,560	1,560	0.0033	0.0059	1	ABS	150	100.00				
IP10-111		IP10-113	0	22,682	0.0473	0.0851	1		400	100.00				
			0											
IP10-112	L111.14U		286	286	0.0006	0.0011	1	ABS	150	100.00				
IP10-113			0	22,968	0.0479	0.0861	1		400	470.00				
IP10-114		IP10-118	0	161,690	0.3369	0.6063	1		800	460.00				

AP-411

Total length table for Case 6

Gravity Flow

Diameter	Pa (m)	Pb2 (m)	Pb1 (m)	Pb2+Pb1 (m)	Pc (m)	Pd (m)	La1 (m)	La2 (m)	Lb (m)	La2+Lb (m)	Total
150	11,190.00	550.00	5,860.00	6,410.00	2,120.00	1,010.00	6,590.00	400.00	7,950.00	8,350.00	35,670.00
200	12,410.00	0.00	3,070.00	3,070.00	1,790.00	250.00	1,210.00	100.00	4,640.00	4,740.00	23,470.00
250	5,830.00	0.00	3,870.00	3,870.00	1,470.00	380.00	3,010.00	450.00	4,690.00	5,140.00	19,700.00
300	6,760.00	1,680.00	1,850.00	3,530.00	930.00	0.00	1,070.00	1,000.00	4,160.00	5,160.00	17,450.00
350	2,880.00	440.00	910.00	1,350.00	300.00	0.00	0.00	200.00	1,610.00	1,810.00	6,340.00
400	1,990.00	0.00	310.00	310.00	1,300.00	0.00	1,500.00	0.00	2,560.00	2,560.00	7,660.00
450	3,230.00	0.00	0.00	0.00	1,200.00	0.00	1,390.00	100.00	1,900.00	2,000.00	7,820.00
500	3,090.00	0.00	3,950.00	3,950.00	870.00	100.00	100.00	100.00	1,390.00	1,490.00	9,600.00
600	2,630.00	0.00	1,400.00	1,400.00	1,540.00	0.00	3,030.00	700.00	450.00	1,150.00	9,750.00
700	2,850.00	0.00	1,520.00	1,520.00	1,420.00	3,430.00	3,700.00	0.00	2,820.00	2,820.00	15,740.00
800	1,540.00	0.00	1,720.00	1,720.00	0.00	0.00	0.00	0.00	1,710.00	1,710.00	4,970.00
900	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,350.00	1,350.00	1,350.00
1000	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	680.00	680.00	780.00
1100	2,660.00			0.00					1,800.00	1,800.00	4,460.00
1200	420.00			0.00					200.00	200.00	620.00
1350				0.00						0.00	0.00
1500				0.00						0.00	0.00
1650				0.00						0.00	0.00
1800				0.00						0.00	0.00
Total	57,580.00	2,670.00	24,460.00	27,130.00	12,940.00	5,170.00	21,600.00	3,050.00	37,910.00	40,960.00	165,380.00

Force main Flow

Diameter	Pa (m)	Pb2 (m)	Pb1 (m)	Pb2+Pb1 (m)	Pc (m)	Pd (m)	La1 (m)	La2 (m)	Lb (m)	La2+Lb (m)	Total
75	560.00	0.00	0.00	0.00	0.00	0.00	810.00	0.00	1,670.00	1,670.00	3,040.00
100	440.00	0.00	0.00	0.00	0.00	0.00	840.00	0.00	150.00	150.00	1,430.00
150	3,140.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	2,010.00	2,010.00	5,450.00
200	1,850.00	0.00	0.00	0.00	0.00	0.00	250.00	0.00	1,250.00	1,250.00	3,350.00
250	1,380.00	120.00	210.00	330.00	0.00	0.00	450.00	0.00	100.00	100.00	2,260.00
300	210.00	1,000.00	0.00	1,000.00	50.00	0.00	190.00	0.00	1,500.00	1,500.00	2,950.00
350	1,580.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,580.00
400	220.00	0.00	0.00	0.00	0.00	0.00	430.00	0.00	150.00	150.00	800.00
450	0.00	0.00	70.00	70.00	60.00	0.00	0.00	0.00	0.00	0.00	130.00
500	0.00	0.00	0.00	0.00	0.00	0.00	650.00	0.00	150.00	150.00	800.00
600	0.00	0.00	0.00	0.00	0.00	0.00	800.00	0.00	0.00	0.00	800.00
700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
800	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900	0.00			0.00					0.00	0.00	0.00
1000	0.00			0.00					0.00	0.00	0.00
1100				0.00						0.00	0.00
1200				0.00						0.00	0.00
Total	9,380.00	1,120.00	280.00	1,400.00	110.00	0.00	4,720.00	0.00	6,980.00	6,980.00	22,590.00

Gravity + Force main = 187,970.00

Interceptor Pipes Calculation

Case No. 6
 District ID Pa

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-1	P2121112.19U		3,273	3,273	0.0068	0.0123	1	ABS	200	560.00				
IP1-2	P2121112.17U		1,870	5,143	0.0107	0.0193	1	ABS	250	380.00				
IP1-3	P2121112.16U	IP1-8	2,265	7,408	0.0154	0.0278	1	ABS	250	480.00				
IP1-4	P2121112.24A		2,578	2,578	0.0054	0.0097	1	ABS	200	230.00				
IP1-5	P2121112.18U		458	3,036	0.0063	0.0114	1	ABS	200	1,150.00				
IP1-6	P2121112.15U		5,765	8,801	0.0183	0.0330	2	ABS	200	150.00	1			MP40
IP1-7	P2121112.14U		2,350	11,151	0.0232	0.0418	1	ABS	300	160.00				
IP1-8			0	18,559	0.0387	0.0696	1		350	340.00				
IP1-9	P2121112.13U	IP1-11	7,275	25,834	0.0538	0.0969	1	ABS	400	70.00				
IP1-10	P2121112.11U		611	611	0.0013	0.0023	1	ABS	150	420.00				
IP1-11	P2121112.12U		2,973	29,418	0.0613	0.1103	2	ABS	350	590.00	1			MP41
IP1-12		IP1-15	0	29,418	0.0613	0.1103	1		450	900.00				
IP1-13	P2121112.10U		1,161	1,161	0.0024	0.0044	2	ABS	75	150.00	1			MP42
IP1-14			0	1,161	0.0024	0.0044	1		150	620.00				
IP1-15		IP1-20	0	30,579	0.0637	0.1147	1		450	330.00				
IP1-16	P2121112.9U		140	140	0.0003	0.0005	1	ABS	150	180.00				
IP1-17	P2121112.8U	IP1-19	528	668	0.0014	0.0025	1	ABS	150	140.00				
IP1-18	P2121112.7U		1,207	1,207	0.0025	0.0045	1	ABS	150	70.00				
IP1-19			0	1,875	0.0039	0.0070	2		75	410.00	1			MP43
IP1-20			0	32,454	0.0676	0.1217	1		450	730.00				
IP1-21	P2121112.22A	IP1-49	10,680	43,134	0.0899	0.1618	1	ABS	500	550.00				
IP1-22	P21212111.3	IP1-26	3,876	3,876	0.0081	0.0145	2	ABS	150	250.00	1			MP44
IP1-23	P21212111.5A	IP1-25	2,676	2,676	0.0056	0.0100	1	ABS	200	310.00				
IP1-24	P21212111.4A		1,844	1,844	0.0038	0.0069	1	ABS	150	70.00				
IP1-25			0	4,520	0.0094	0.0170	1		200	160.00				
IP1-26		IP1-49	0	8,396	0.0175	0.0315	1		300	630.00				
IP1-27	P212121212.11A		3,207	3,207	0.0067	0.0120	1	ABS	200	540.00				
IP1-28	P212121212.10A		786	3,993	0.0083	0.0150	1	ABS	200	150.00				
IP1-29	P212121212.8A	IP1-31	411	4,404	0.0092	0.0165	1	ABS	200	250.00				
IP1-30	P212121212.5		89	89	0.0002	0.0003	1	ABS	150	60.00				
IP1-31	P212121212.4		106	4,599	0.0096	0.0172	1	ABS	250	60.00				
IP1-32	P212121212.3	IP1-36	3,485	8,084	0.0168	0.0303	1	ABS	300	60.00				
IP1-33	P212121212.7A	IP1-35	4,608	4,608	0.0096	0.0173	1	ABS	250	320.00				
IP1-34	P212121212.1		1,007	1,007	0.0021	0.0038	1	ABS	150	70.00				
IP1-35	P212121212.2		741	6,356	0.0132	0.0238	1	ABS	250	110.00				
IP1-36		IP1-45	0	14,440	0.0301	0.0542	1		350	60.00				
IP1-37	M.1A	IP1-39	9,341	9,341	0.0195	0.0350	1	ABS	300	1,340.00				
IP1-38	M.2A		5,128	5,128	0.0107	0.0192	1	ABS	250	350.00				
IP1-39		IP1-41	0	14,469	0.0301	0.0543	1		350	70.00				
IP1-40	M.3A		3,560	3,560	0.0074	0.0134	1	ABS	200	680.00				
IP1-41		IP1-43	0	18,029	0.0376	0.0676	1		350	380.00				
IP1-42	P212121212.9A		1,314	1,314	0.0027	0.0049	1	ABS	150	200.00				
IP1-43		IP1-45	0	19,343	0.0403	0.0725	1		400	640.00				
IP1-44	P212121212.6A		816	816	0.0017	0.0031	1	ABS	150	80.00				
IP1-45			0	34,599	0.0721	0.1297	2		350	270.00	1			MP45
IP1-46			0	34,599	0.0721	0.1297	1		450	270.00				
IP1-47	P212121211.1		953	35,552	0.0741	0.1333	1	ABS	500	90.00				
IP1-48	P212121211.2		1,673	37,225	0.0776	0.1396	2	ABS	350	720.00	1			MP46
IP1-49		IP1-52	0	88,755	0.1849	0.3328	1		700	980.00				
IP1-50	P2121112.5A		1,411	1,411	0.0029	0.0053	1	ABS	150	70.00				
IP1-51	P2121112.4A		9,075	10,486	0.0218	0.0393	1	ABS	300	230.00				
IP1-52		IP1-55	0	99,241	0.2068	0.3722	1		700	490.00				
IP1-53	P2121112.21A		2,606	2,606	0.0054	0.0098	1	ABS	200	440.00				
IP1-54	P2121112.20A		1,759	4,365	0.0091	0.0164	1	ABS	200	400.00				
IP1-55	P2121111.8A		1,869	105,475	0.2197	0.3955	1	ABS	700	100.00				
IP1-56	P2121111.7A	IP1-86	3,869	109,344	0.2278	0.4100	1	ABS	700	310.00				
IP1-57	P2121112.23A		4,812	4,812	0.0100	0.0180	1	ABS	250	80.00				
IP1-58	P2121112.6U		1,815	6,627	0.0138	0.0249	1	ABS	250	240.00				
IP1-59	P2121112.5U		1,521	8,148	0.0170	0.0306	1	ABS	300	290.00				
IP1-60	P2121112.4U	IP1-62	3,426	11,574	0.0241	0.0434	1	ABS	300	430.00				
IP1-61	Add SB4-25-2		12,400	12,400	0.0258	0.0465	1	ABS	300	320.00				
IP1-62		IP1-67	0	23,974	0.0499	0.0899	1		400	260.00				
IP1-63	P2121112.3U		467	467	0.0010	0.0018	1	ABS	150	70.00				
IP1-64	P2121112.2U		232	699	0.0015	0.0026	1	ABS	150	220.00				
IP1-65	P2121112.1U		4,479	5,178	0.0108	0.0194	1	ABS	250	80.00				
IP1-66			0	5,178	0.0108	0.0194	2		150	320.00	1			MP47
IP1-67		IP1-73	0	29,152	0.0607	0.1093	1		450	370.00				
IP1-68	P21211111.4	IP1-72	1,654	1,654	0.0034	0.0062	1	ABS	150	120.00				

Interceptor Pipes Calculation

Case No. 6
 District ID Pa

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-69	Add SB4-25-1	IP1-71	3,838	3,838	0.0080	0.0144	1	ABS	200	330.00				
IP1-70	P21211111.6		4,262	4,262	0.0089	0.0160	1	ABS	200	60.00				
IP1-71	P21211111.5		3,566	11,666	0.0243	0.0437	1	ABS	300	230.00				
IP1-72			0	13,320	0.0278	0.0500	1		350	390.00				
IP1-73			0	42,472	0.0885	0.1593	1		500	350.00				
IP1-74			0	42,472	0.0885	0.1593	1		500	220.00				
IP1-75		IP1-78	0	42,472	0.0885	0.1593	1		500	390.00				
IP1-76	P21211111.2		1,589	1,589	0.0033	0.0060	1	ABS	150	120.00				
IP1-77	P21211111.3		15,104	16,693	0.0348	0.0626	2	ABS	250	320.00	1			MP49
IP1-78		IP1-80	0	59,165	0.1233	0.2219	1		600	50.00				
IP1-79	P21211111.1		163	163	0.0003	0.0006	1	ABS	150	300.00				
IP1-80		IP1-86	0	59,328	0.1236	0.2225	1		600	230.00				
IP1-81	P2121111.2	IP1-84	1,073	1,073	0.0022	0.0040	1		150	80.00				
IP1-82	P2121111.3A		835	835	0.0017	0.0031	1	ABS	150	320.00				
IP1-83	P2121111.5A		654	1,489	0.0031	0.0056	1	ABS	150	380.00				
IP1-84	P2121111.1		1,369	3,931	0.0082	0.0147	1	ABS	200	50.00				
IP1-85			0	3,931	0.0082	0.0147	2		150	420.00	1			MP50
IP1-86		IP1-90	0	172,603	0.3596	0.6473	1		800	350.00				
IP1-87	P2121111.6A	IP1-89	439	439	0.0009	0.0016	1	ABS	150	310.00				
IP1-88	P2121111.4A		2,373	2,373	0.0049	0.0089	1	ABS	150	530.00				
IP1-89			0	2,812	0.0059	0.0105	1		200	50.00				
IP1-90		IP1-96	0	175,415	0.3654	0.6578	1		800	460.00				
IP1-91	P2121111.1A	IP1-96	2,165	2,165	0.0045	0.0081	1	ABS	150	260.00				
IP1-92	P2121112.2A		3,116	3,116	0.0065	0.0117	1	ABS	200	80.00				
IP1-93	P2121112.3A		977	4,093	0.0085	0.0153	1	ABS	200	350.00				
IP1-94	P2121112.1		679	4,772	0.0099	0.0179	1	ABS	250	30.00				
IP1-95			0	4,772	0.0099	0.0179	2		150	410.00	1			MP51
IP1-96			0	182,352	0.3799	0.6838	1		800	410.00				
IP1-97	P2121112U	IP1-99	1,692	184,044	0.3834	0.6902	1	ABS	800	90.00				
IP1-98	P212111.10U		1,643	1,643	0.0034	0.0062	1	ABS	150	220.00				
IP1-99		IP1-93	0	185,687	0.3868	0.6963	1		800	230.00				
IP1-100	P2121222.10A		3,168	3,168	0.0066	0.0119	1	ABS	200	720.00				
IP1-101	P2121222.9A	IP1-104	3,018	6,186	0.0129	0.0232	1	ABS	250	320.00				
IP1-102	P2121222.2U		1,200	1,200	0.0025	0.0045	1	ABS	150	120.00				
IP1-103	P2121222.3U		1,967	3,167	0.0066	0.0119	1	ABS	200	50.00				
IP1-104			0	9,353	0.0195	0.0351	2		200	510.00	1			MP52
IP1-105		IP1-108	0	9,353	0.0195	0.0351	1		300	820.00				
IP1-106	P2121221.8U		5,032	5,032	0.0105	0.0189	1	ABS	250	50.00				
IP1-107	P2121221.11A		1,904	1,904	0.0040	0.0071	1	ABS	150					
IP1-108	P2121221.7U		103	16,392	0.0342	0.0615	1	ABS	350	60.00				
IP1-109			0	16,392	0.0342	0.0615	2		250	230.00	1			MP53
IP1-110			0	16,392	0.0342	0.0615	1		350	70.00				
IP1-111	P2121221.5U		2,503	18,895	0.0394	0.0709	1	ABS	350	50.00				
IP1-112	P2121221.6U	IP1-114	3,957	22,852	0.0476	0.0857	1	ABS	400	110.00				
IP1-113	P2121221.10A		12,524	12,524	0.0261	0.0470	1	ABS	300	300.00				
IP1-114		IP1-116	0	35,376	0.0737	0.1327	1		500	360.00				
IP1-115	P2121221.9A		2,092	2,092	0.0044	0.0078	1	ABS	150	200.00				
IP1-116		IP1-122	0	37,468	0.0781	0.1405	1		500	260.00				
IP1-117	P2121221.4U	IP1-121	3,727	3,727	0.0078	0.0140	1	ABS	200	70.00				
IP1-118	P2121221.1U		477	477	0.0010	0.0018	1	ABS	150	90.00				
IP1-119	P2121221.3U		613	1,090	0.0023	0.0041	1	ABS	150	70.00				
IP1-120	P2121221.2U		2,820	3,910	0.0081	0.0147	1	ABS	200	60.00				
IP1-121			0	7,637	0.0159	0.0286	2		200	480.00	1			MP54
IP1-122		IP1-147	0	45,105	0.0940	0.1691	1		500	420.00				
IP1-123	P21211212.7A	IP1-125	2,114	2,114	0.0044	0.0079	1	ABS	150	120.00				
IP1-124	P21211212.6A		481	481	0.0010	0.0018	1	ABS	150	90.00				
IP1-125	P21211212.5A		571	3,166	0.0066	0.0119	1	ABS	200	200.00				
IP1-126	P21211212.4A		670	3,836	0.0080	0.0144	1	ABS	200	320.00				
IP1-127	P21211212.3A	IP1-130	842	4,678	0.0097	0.0175	1	ABS	250	80.00				
IP1-128	P21211211.1A		1,096	1,096	0.0023	0.0041	1	ABS	150	80.00				
IP1-129	P21211211.2A		640	1,736	0.0036	0.0065	1	ABS	150	350.00				
IP1-130		IP1-132	0	6,414	0.0134	0.0241	1		250	100.00				
IP1-131	P21211212.1		202	202	0.0004	0.0008	1	ABS	150	60.00				
IP1-132	P21211212.2	IP1-145	1,757	8,373	0.0174	0.0314	1	ABS	300	380.00				
IP1-133	P212112.5	IP1-135	1,478	1,478	0.0031	0.0055	1	ABS	150	90.00				
IP1-134	P212112.3U		287	287	0.0006	0.0011	1	ABS	150	70.00				

Interceptor Pipes Calculation

Case No. 6
 District ID Pa

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-135	P212112.4	IP1-137	729	2,494	0.0052	0.0094	1	ABS	200	100.00				
IP1-136	P212115.12A		777	777	0.0016	0.0029	1	ABS	150	70.00				
IP1-137		IP1-140	0	3,271	0.0068	0.0123	1		200	90.00				
IP1-138	P2121121.2		1,976	1,976	0.0041	0.0074	1	ABS	150	50.00				
IP1-139	P2121121.1		367	2,343	0.0049	0.0088	1	ABS	150	190.00				
IP1-140		IP1-144	0	5,614	0.0117	0.0211	2		150	530.00	1			MP55
IP1-141	P2121122.1A	IP1-143	715	715	0.0015	0.0027	1	ABS	150	260.00				
IP1-142	P2121121.3A		1,512	1,512	0.0032	0.0057	1	ABS	150	220.00				
IP1-143			0	2,227	0.0046	0.0084	1		150	100.00				
IP1-144			0	7,841	0.0163	0.0294	1		250	90.00				
IP1-145			0	16,214	0.0338	0.0608	1		350	250.00				
IP1-146	P2121122.2A		4,377	20,591	0.0429	0.0772	1	ABS	400	160.00				
IP1-147		IP1-75	0	65,696	0.1369	0.2464	1		600	670.00				
IP1-148	P2121222.1	IP1-152	1,144	1,144	0.0024	0.0043	1	ABS	150	50.00				
IP1-149	P2121222.8A		1,586	1,586	0.0033	0.0059	1	ABS	150	170.00				
IP1-150	P2121222.7A		1,516	3,102	0.0065	0.0116	1	ABS	200	180.00				
IP1-151	P2121222.6A		7,407	10,509	0.0219	0.0394	1	ABS	300	380.00				
IP1-152			0	11,653	0.0243	0.0437	1		300	190.00				
IP1-153		IP1-156	0	11,653	0.0243	0.0437	2		200	160.00	1			MP56
IP1-154	P2121222.5A	IP1-156	4,249	4,249	0.0089	0.0159	1	ABS	200	50.00				
IP1-155	P2121222.4A		1,853	1,853	0.0039	0.0069	1	ABS	150	170.00				
IP1-156		IP1-160	0	17,755	0.0370	0.0666	1		350	270.00				
IP1-157	P212122.10A		4,984	4,984	0.0104	0.0187	1	ABS	250	100.00				
IP1-158	P212122.11A		739	5,723	0.0119	0.0215	1	ABS	250	150.00				
IP1-159	P212122.9A		854	6,577	0.0137	0.0247	1	ABS	250	270.00				
IP1-160	P212122.8		3,196	27,528	0.0574	0.1032	1	ABS	450	290.00				
IP1-161	P212122.6		2,122	29,650	0.0618	0.1112	1	ABS	450	40.00				
IP1-162	P212122.7	IP1-65	4,287	33,937	0.0707	0.1273	1	ABS	450	160.00				
IP1-63	P212122.4		4,233	4,233	0.0088	0.0159	2	ABS	150	160.00	1			MP57
IP1-64	P212122.5		1,860	6,093	0.0127	0.0228	1	ABS	250	180.00				
IP1-65		IP1-74	0	40,030	0.0834	0.1501	2		400	220.00	1			MP58
IP1-66	P212122.1		121	121	0.0003	0.0005	1	ABS	150	280.00				
IP1-67	P212122.2	IP1-69	2,450	2,571	0.0054	0.0096	1	ABS	200	50.00				
IP1-68	P212121.1U		4,622	4,622	0.0096	0.0173	1	ABS	250	60.00				
IP1-69		IP1-71	0	7,193	0.0150	0.0270	1		250	120.00				
IP1-70	P212121.2U		10,050	10,050	0.0209	0.0377	1	ABS	300	180.00				
IP1-71		IP1-73	0	17,243	0.0359	0.0647	1		350	150.00				
IP1-72	P212122.3		1,514	1,514	0.0032	0.0057	1	ABS	150	50.00				
IP1-73			0	18,757	0.0391	0.0703	2		250	330.00	1			MP59
IP1-74			0	58,787	0.1225	0.2205	1		600	680.00				
IP1-75		IP1-85	0	124,483	0.2593	0.4668	1		700	270.00				
IP1-76	P212115.6A		517	517	0.0011	0.0019	1	ABS	150	420.00				
IP1-77	P212115.10A	IP1-79	706	1,223	0.0025	0.0046	1	ABS	150	100.00				
IP1-78	P212115.11A		440	440	0.0009	0.0017	1	ABS	150	360.00				
IP1-79	P212115.9A	IP1-83	3,039	4,702	0.0098	0.0176	1	ABS	250	80.00				
IP1-80	P212115.7A		537	537	0.0011	0.0020	1	ABS	150	90.00				
IP1-81	P212115.8A		496	1,033	0.0022	0.0039	1	ABS	150	200.00				
IP1-82	P212112.2U		496	1,529	0.0032	0.0057	1	ABS	150	60.00				
IP1-83			0	6,231	0.0130	0.0234	2		150	440.00	1			MP60
IP1-84			0	6,231	0.0130	0.0234	1		250	290.00				
IP1-85		IP1-88	0	130,714	0.2723	0.4902	1		700	290.00				
IP1-86	P212112.1		5,082	5,082	0.0106	0.0191	1	ABS	250	50.00				
IP1-87			0	5,082	0.0106	0.0191	2		150	360.00	1			MP61
IP1-88		IP1-93	0	135,796	0.2829	0.5092	1		700	410.00				
IP1-89	P21212.8		3,401	3,401	0.0071	0.0128	1	ABS	200	50.00				
IP1-90	P21212.9		1,689	5,090	0.0106	0.0191	1	ABS	250	50.00				
IP1-91			0	5,090	0.0106	0.0191	2		150	250.00	1			MP62
IP1-92			0	5,090	0.0106	0.0191	1		250	270.00				
IP1-93		IP1-95	0	326,573	0.6804	1.2246	1		1000	100.00				
IP1-94	P21211.11U		3,685	3,685	0.0077	0.0138	1	ABS	200	130.00				
IP1-95		IP1-105	0	330,258	0.6880	1.2385	1		1100	410.00				
IP1-96	P21212.7	IP1-98	1,039	1,039	0.0022	0.0039	1	ABS	150	260.00				
IP1-97	P21212.6		2,602	2,602	0.0054	0.0098	1	ABS	200	120.00				
IP1-98		IP1-101	0	3,641	0.0076	0.0137	1		200	510.00				
IP1-99	P21212.4		3,541	3,541	0.0074	0.0133	1	ABS	200	150.00				
IP1-100	P21212.5		6,206	9,747	0.0203	0.0366	1	ABS	300	50.00				
IP1-101		IP1-105	0	13,388	0.0279	0.0502	2		250	310.00	1			MP63

Interceptor Pipes Calculation

Case No.	6
District ID	Pa

ICP ID	Flow in outfall ID	Flow out ICP ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP1-102	P21211.7U		2,283	2,283	0.0048	0.0086	1	ABS	150	170.00				
IP1-103	P21211.9U		1,193	3,476	0.0072	0.0130	1	ABS	200	60.00				
IP1-104	P21211.8U		1,583	5,059	0.0105	0.0190	1	ABS	250	150.00				
IP1-105		IP1-108	0	348,705	0.7265	1.3076	1		1100	350.00				
IP1-106	P21212.3		2,481	2,481	0.0052	0.0093	1	ABS	200	50.00				
IP1-107			0	2,481	0.0052	0.0093	2		100	440.00	1			MP64
IP1-108		IP1-111	0	351,186	0.7316	1.3169	1		1100	280.00				
IP1-109	P21211.6U		773	773	0.0016	0.0029	1	ABS	150	110.00				
IP1-110	P21211.5U		916	1,689	0.0035	0.0063	1	ABS	150	80.00				
IP1-111	P21211.4U	IP1-128	602	353,477	0.7364	1.3255	1	ABS	1100	280.00				
IP1-112	P2122.2		502	502	0.0010	0.0019	1	ABS	150	70.00				
IP1-113	P2122.3	IP1-119	25	527	0.0011	0.0020	1	ABS	150	50.00				
IP1-114	P2122.6U	IP1-118	15,610	15,610	0.0325	0.0585	2	ABS	250	190.00	1			MP65
IP1-115	P2122.9A		1,054	1,054	0.0022	0.0040	1	ABS	150	630.00				
IP1-116	P2122.8A		2,306	3,360	0.0070	0.0126	1	ABS	200	500.00				
IP1-117	P2122.7A		1,567	4,927	0.0103	0.0185	1	ABS	250	500.00				
IP1-118	P2122.5		1,027	21,564	0.0449	0.0809	1	ABS	400	70.00				
IP1-119	P2122.4	IP1-122	2,630	24,721	0.0515	0.0927	1	ABS	400	570.00				
IP1-120	P2121.3A		1,994	1,994	0.0042	0.0075	1	ABS	150	500.00				
IP1-121	P2121.10A		5,450	7,444	0.0155	0.0279	1	ABS	250	280.00				
IP1-122		IP1-124	0	32,165	0.0670	0.1206	1		450	90.00				
IP1-123	P21212.2		2,792	2,792	0.0058	0.0105	1	ABS	200	460.00				
IP1-124			0	34,957	0.0728	0.1311	1		500	130.00				
IP1-125	P21212.1	IP1-127	2,541	37,498	0.0781	0.1406	1	ABS	500	210.00				
IP1-126	P21211.2U		2,639	2,639	0.0055	0.0099	1	ABS	200	100.00				
IP1-127			0	40,137	0.0836	0.1505	1		500	110.00				
IP1-128	P21211.3U		2,343	395,957	0.8249	1.4848	1	ABS	1100	450.00				
IP1-129	P21211.1U	IP1-132	3,463	399,420	0.8321	1.4978	1	ABS	1100	180.00				
IP1-130	P2121.1		2,672	2,672	0.0056	0.0100	1	ABS	200	50.00				
IP1-131	P2121.2		403	3,075	0.0064	0.0115	1	ABS	200	350.00				
IP1-132		IP1-158	0	402,495	0.8385	1.5094	1		1100	710.00				
IP1-133	P211.10	IP1-135	7,021	7,021	0.0146	0.0263	1	ABS	250	190.00				
IP1-134	P211.9		1,877	1,877	0.0039	0.0070	1	ABS	150	50.00				
IP1-135			0	8,898	0.0185	0.0334	2		200	280.00	1			MP66
IP1-136		IP1-158	0	8,898	0.0185	0.0334	1		300	520.00				
IP1-137	P2.2U	IP1-141	4,027	4,027	0.0084	0.0151	1	ABS	200	480.00				
IP1-138	P212.2A		4,067	4,067	0.0085	0.0153	1	ABS	200	280.00				
IP1-139	P212.1A		1,751	5,818	0.0121	0.0218	1	ABS	250	320.00				
IP1-140	P21.1		4,196	10,014	0.0209	0.0376	2	ABS	200	270.00	1			MP67
IP1-141			0	14,041	0.0293	0.0527	1		350	170.00				
IP1-142	P211.1		8,990	23,031	0.0480	0.0864	1	ABS	400	110.00				
IP1-143	P211.2	IP1-149	4,728	27,759	0.0578	0.1041	1	ABS	450	50.00				
IP1-144	P211.8		16,913	16,913	0.0352	0.0634	1	ABS	350	190.00				
IP1-145	P211.5U		490	17,403	0.0363	0.0653	1	ABS	350	50.00				
IP1-146	P211.4U	IP1-148	822	18,225	0.0380	0.0683	1	ABS	350	380.00				
IP1-147	P211.3		2,562	2,562	0.0053	0.0096	1	ABS	200	120.00				
IP1-148			0	20,787	0.0433	0.0780	2		300	210.00	1			MP68
IP1-149		IP1-156	0	48,546	0.1011	0.1820	1		600	450.00				
IP1-150	P211.10		761	761	0.0016	0.0029	1	ABS	150	30.00				
IP1-151	P211.8U		841	1,602	0.0033	0.0060	1	ABS	150	80.00				
IP1-152	P211.7U		367	1,969	0.0041	0.0074	1	ABS	150	30.00				
IP1-153	P211.9	IP1-156	2,220	4,189	0.0087	0.0157	1	ABS	200	990.00				
IP1-154	P211.7		1,018	1,018	0.0021	0.0038	1	ABS	150	40.00				
IP1-155	P211.6		9,690	10,708	0.0223	0.0402	1	ABS	300	70.00				
IP1-156			0	63,443	0.1322	0.2379	1		600	200.00				
IP1-157			0	63,443	0.1322	0.2379	1		600	350.00				
IP1-158		IP1-161	0	474,836	0.9892	1.7806	1		1200	370.00				
IP1-159	P2122.1U	IP1-161	4,009	4,009	0.0084	0.0150	1	ABS	200	330.00				
IP1-160	P212.3A		8,025	8,025	0.0167	0.0301	1	ABS	300	180.00				
IP1-161		STP	0	486,870	1.0143	1.8258	1		1200	50.00				

Interceptor Pipes Calculation

Case No. 6
 District ID Pb2

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP2-1	P22.5A	IP2-3	12,350	12,350	0.0257	0.0463	1	ABS	300	1,580.00				
IP2-2	P22.2U		638	638	0.0013	0.0024	1	ABS	150	550.00				
IP2-3			0	12,988	0.0271	0.0487	1		300	100.00				
IP2-4	P22.1		5,496	18,484	0.0385	0.0693	2	ABS	250	120.00	1			MP72
IP2-5			0	18,484	0.0385	0.0693	1		350	220.00				
IP2-6			0	18,484	0.0385	0.0693	1		350	220.00				
IP2-7	P22.4	to Pb1	7,330	25,814	0.0538	0.0968	2	ABS	300	1,000.00	1			MP6-1
合計				25,814						3,790.00	2			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	550.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	0.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	0.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	1,680.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	440.00	2	250	120.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	1,000.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	0.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	0.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	0.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	2,670.00	Total	Force main	1,120.00
			All Total		3,790.00

Manhole Pump Station
 2 (Places)

Interceptor Pipes Calculation

Case No. 6
 District ID Pb1

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP3-1	Sub-Sub		1,228	1,228	0.0026	0.0046	1	ABS	150	200.00				
IP3-2	P221121.1A	IP2-13	3,640	4,868	0.0101	0.0183	1	ABS	250	420.00				
IP3-3	P22112.4A		2,207	2,207	0.0046	0.0083	1	ABS	150	350.00				
IP3-4	P22112.3A	IP2-8	1,471	3,678	0.0077	0.0138	1	ABS	200	60.00				
IP3-5	P22112.6A		2,668	2,668	0.0056	0.0100	1	ABS	200	90.00				
IP3-6	Sub-Sub		552	3,220	0.0067	0.0121	1	ABS	200	150.00				
IP3-7	P22112.5A		9,981	13,201	0.0275	0.0495	1	ABS	350	480.00				
IP3-8			0	16,879	0.0352	0.0633	1		350	100.00				
IP3-9	P221122.2		1,553	18,432	0.0384	0.0691	1	ABS	350	50.00				
IP3-10	P221121.2A		3,558	21,990	0.0458	0.0825	1	ABS	400	200.00				
IP3-11	P2211211.1A	IP2-13	1,638	23,628	0.0492	0.0886	1	ABS	400	110.00				
IP3-12	P2211212.2A		7,930	7,930	0.0165	0.0297	1	ABS	250	460.00				
IP3-13		IP2-16	0	36,426	0.0759	0.1366	1		500	170.00				
IP3-14	P22112.5A		883	883	0.0018	0.0033	1	ABS	150	80.00				
IP3-15	P22112.4A		1,626	2,509	0.0052	0.0094	1	ABS	200	210.00				
IP3-16			0	38,935	0.0811	0.1460	1		500	340.00				
IP3-17	P22112.2	IP2-26	451	39,386	0.0821	0.1477	1	ABS	500	180.00				
IP3-18	Sub-Sub		6,999	6,999	0.0146	0.0262	1	ABS	250	350.00				
IP3-19	P22112.7A		1,342	8,341	0.0174	0.0313	1	ABS	300	320.00				
IP3-20	P22112.6A	IP2-22	3,451	11,792	0.0246	0.0442	1	ABS	300	530.00				
IP3-21	P22112.3		629	629	0.0013	0.0024	1	ABS	150	180.00				
IP3-22		IP2-26	0	12,421	0.0259	0.0466	1		300	100.00				
IP3-23	P22111.5A	IP2-25	1,896	1,896	0.0040	0.0071	1	ABS	150	150.00				
IP3-24	P22111.3A		672	672	0.0014	0.0025	1	ABS	150	70.00				
IP3-25			0	2,568	0.0054	0.0096	1		200	80.00				
IP3-26		IP3-30	0	54,375	0.1133	0.2039	1		600	190.00				
IP3-27	P22111.4A	IP2-29	224	224	0.0005	0.0008	1	ABS	150	260.00				
IP3-28	Sub-Sub		960	960	0.0020	0.0036	1	ABS	150	50.00				
IP3-29			0	1,184	0.0025	0.0044	1		150	570.00				
IP3-30	P22111.2A	IP2-36	1,414	56,973	0.1187	0.2136	1	ABS	600	320.00				
IP3-31	P2211.6A	IP2-33	831	831	0.0017	0.0031	1	ABS	150	130.00				
IP3-32	Sub-Sub		639	639	0.0013	0.0024	1	ABS	150	60.00				
IP3-33			0	1,470	0.0031	0.0055	1		150	260.00				
IP3-34	P2211.2		1,209	2,679	0.0056	0.0100	1	ABS	200	150.00				
IP3-35	P221121.1		4,696	7,375	0.0154	0.0277	1	ABS	250	50.00				
IP3-36		IP2-47	0	64,348	0.1341	0.2413	1		600	700.00				
IP3-37	P2211.1	IP3-43	3,393	3,393	0.0071	0.0127	1	ABS	200	50.00				
IP3-38	Sub-Sub		4,266	4,266	0.0089	0.0160	1	ABS	200	580.00				
IP3-39	P2212.11A	IP3-42	2,069	6,335	0.0132	0.0238	1	ABS	250	360.00				
IP3-40	P2212.12A		1,619	1,619	0.0034	0.0061	1	ABS	150	410.00				
IP3-41	P2212.9A		769	2,388	0.0050	0.0090	1	ABS	150	140.00				
IP3-42	P2212.10A		1,491	10,214	0.0213	0.0383	1	ABS	300	500.00				
IP3-43	P2211.5U	IP3-45	1,141	14,748	0.0307	0.0553	1	ABS	350	50.00				
IP3-44	P2212.8A		872	872	0.0018	0.0033	1	ABS	150	410.00				
IP3-45	P2211.4		610	16,230	0.0338	0.0609	1	ABS	350	230.00				
IP3-46	P2211.3		1,104	17,334	0.0361	0.0650	2	ABS	250	210.00	1			MP70
IP3-47		IP2-49	0	81,682	0.1702	0.3063	1		700	320.00				
IP3-48	P2211.2		1,171	1,171	0.0024	0.0044	1	ABS	150	380.00				
IP3-49			0	82,853	0.1726	0.3107	1		700	1,200.00				
IP3-50	P222.13A		3,238	3,238	0.0067	0.0121	1	ABS	200	330.00				
IP3-51	Sub-Sub		5,012	5,012	0.0104	0.0188	1	ABS	250	550.00				
IP3-52	P222.17A		2,452	7,464	0.0156	0.0280	1	ABS	250	100.00				
IP3-53			27,115	37,817	0.0788	0.1418	1		500	170.00				From PASAY
IP3-54			0	37,817	0.0788	0.1418	1		500	1,700.00				PASAY
IP3-55	P222.12		5,298	5,298	0.0110	0.0199	1	ABS	250	530.00				
IP3-56	P222.9U		720	6,018	0.0125	0.0226	1	ABS	250	100.00				
IP3-57		IP2-59	0	43,835	0.0913	0.1644	1		500	700.00				PASAY
IP3-58	P222.6		368	368	0.0008	0.0014	1	ABS	150	50.00				
IP3-59			0	44,203	0.0921	0.1658	1		500	30.00				
IP3-60	P222.5		278	278	0.0006	0.0010	1	ABS	150	50.00				
IP3-61			0	44,481	0.0927	0.1668	1		500	60.00				PASAY
IP3-62			0	44,481	0.0927	0.1668	1		500	110.00				PASAY
IP3-63	P222.15A	IP2-65	260	44,741	0.0932	0.1678	1	ABS	500	350.00				
IP3-64	P222.14A		1,364	1,364	0.0028	0.0051	1	ABS	150	230.00				
IP3-65		IP2-85	0	46,105	0.0961	0.1729	1		500	140.00				
IP3-66	P222.16A		1,504	1,504	0.0031	0.0056	1	ABS	150	260.00				
IP3-67	P222.7U	IP2-82	3,124	4,628	0.0096	0.0174	1	ABS	250	800.00				

Interceptor Pipes Calculation

Case No. 6
 District ID Pb1

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP3-68	P2212.6A		1,029	1,029	0.0021	0.0039	1	ABS	150	60.00				
IP3-69	P2212.4	IP2-76	148	1,177	0.0025	0.0044	1	ABS	150	20.00				
IP3-70	P2212.3	IP2-75	83	83	0.0002	0.0003	1	ABS	150	50.00				
IP3-71	P2212.7A	IP2-73	275	275	0.0006	0.0010	1	ABS	150	80.00				
IP3-72	P22112.1A		691	691	0.0014	0.0026	1	ABS	150	250.00				
IP3-73			0	966	0.0020	0.0036	1		150	120.00				
IP3-74	P2212.5		71	1,037	0.0022	0.0039	1	ABS	150	50.00				
IP3-75			0	1,120	0.0023	0.0042	1		150	50.00				
IP3-76			0	2,297	0.0048	0.0086	1		150	50.00				
IP3-77	P2212.2	IP2-80	552	2,849	0.0059	0.0107	1	ABS	200	450.00				
IP3-78	P221.7A	IP2-80	575	575	0.0012	0.0022	1	ABS	150	320.00				
IP3-79	P21.1		337	337	0.0007	0.0013	1	ABS	150	200.00				
IP3-80		IP2-82	0	3,761	0.0078	0.0141	1		200	410.00				
IP3-81	P221.6A		1,881	1,881	0.0039	0.0071	1	ABS	150	210.00				
IP3-82		IP2-84	0	10,270	0.0214	0.0385	1		300	210.00				
IP3-83	P221.5A		1,321	1,321	0.0028	0.0050	1	ABS	150	70.00				
IP3-84			0	11,591	0.0241	0.0435	1		300	190.00				
IP3-85			0	57,696	0.1202	0.2164	1		600	130.00				
IP3-86	P221.4A	IP3-88	682	58,378	0.1216	0.2189	2	ABS	450	70.00	1			MP71
IP3-87	P221.2		282	282	0.0006	0.0011	1	ABS	150	40.00				
IP3-88	P22.5A		11,155	69,815	0.1454	0.2618	1	ABS	600	80.00				
IP3-89		IP2-91	0	152,668	0.3181	0.5725	1		800	300.00				
IP3-90	P22.4		3,010	3,010	0.0063	0.0113	1	ABS	200	100.00				
IP3-91			0	155,678	0.3243	0.5838	1		800	200.00				
IP3-92		IP2-95	0	155,678	0.3243	0.5838	1		800	120.00				
IP3-93	P222.3		2,552	2,552	0.0053	0.0096	1	ABS	200	410.00				
IP3-94	P221.1	IP2-95	4,711	7,263	0.0151	0.0272	1	ABS	250	150.00				
from Pb2			25,814	25,814	0.0538	0.0968	2			0.00				
IP3-95		STP	0	188,755	0.3932	0.7078	1		800	1,100.00				
	合計		188,755							24,740.00	2			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	5,860.00	2	75	0.00
1	200	3,070.00	2	100	0.00
1	250	3,870.00	2	150	0.00
1	300	1,850.00	2	200	0.00
1	350	910.00	2	250	210.00
1	400	310.00	2	300	0.00
1	450	0.00	2	350	0.00
1	500	3,950.00	2	400	0.00
1	600	1,400.00	2	450	70.00
1	700	1,520.00	2	500	0.00
1	800	1,720.00	2	600	0.00
1	900	0.00	2	700	0.00
1	1000	0.00	2	800	0.00
Total	Gravity Flow	24,460.00	Total	Force main	280.00
			All Total		24,740.00

Manhole Pump Station
 2 (Places)

Interceptor Pipes Calculation

Case No. 6

District ID Pc

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m ³)	Output (kw)	
IP4-1	P11.10		1,720	1,720	0.0036	0.0065	1	ABS	150	300.00				
IP4-2	P11.9		1,851	3,571	0.0074	0.0134	1	ABS	200	130.00				
IP4-3	P11.8		762	4,333	0.0090	0.0162	1	ABS	200	100.00				
IP4-4			0	0	0.0000	0.0000	1							PASAY
IP4-5	P11.6		885	5,218	0.0109	0.0196	1	ABS	250	540.00				
IP4-6	P11.12A	IP3-8	5,862	11,080	0.0231	0.0416	1	ABS	300	800.00				
IP4-7	P11.4U		13,264	13,264	0.0276	0.0497	1	ABS	350	150.00				
IP4-8		IP3-10	0	24,344	0.0507	0.0913	1		400	150.00				
IP4-9	P11.1U		604	604	0.0013	0.0023	1	ABS	150	150.00				
IP4-10		IP3-12	0	24,948	0.0520	0.0936	1		400	150.00				
IP4-11	P11.11U		2,465	2,465	0.0051	0.0092	1	ABS	200	150.00				
IP4-12		IP3-14	0	27,413	0.0571	0.1028	1		450	700.00				
IP4-13	P1.7A		15,988	15,988	0.0333	0.0600	1	ABS	350	50.00				
IP4-14		IP4-16	0	43,401	0.0904	0.1628	1		500	200.00				
IP4-15	B7		669	669	0.0014	0.0025	1	ABS	150	290.00				
IP4-16	P1.3U	IP4-21	314	44,384	0.0925	0.1664	1	ABS	500	220.00				
IP4-17	B8	IP4-21	2,124	2,124	0.0044	0.0080	1	ABS	150	340.00				
IP4-18	P1		755	755	0.0016	0.0028	1	ABS	150	120.00				
IP4-19	P2U		223	978	0.0020	0.0037	1	ABS	150	40.00				
IP4-20	P3U		118	1,096	0.0023	0.0041	1	ABS	150	280.00				
IP4-21	P1.6A	IP4-23	700	48,304	0.1006	0.1811	1	ABS	600	140.00				
IP4-22	P2.1U		3,789	3,789	0.0079	0.0142	1	ABS	200	220.00				
IP4-23	P1.1	IP3-58	1,615	53,708	0.1119	0.2014	1	ABS	600	190.00				
IP4-24	P121.21		500	500	0.0010	0.0019	1	ABS	150	20.00				Pasay
IP4-25	P121.20		500	1,000	0.0021	0.0038	1	ABS	150	50.00				Pasay
IP4-26	P121.18		500	1,500	0.0031	0.0056	1	ABS	150	20.00				Pasay
IP4-27	P121.14		500	2,000	0.0042	0.0075	1	ABS	150	60.00				Pasay
IP4-28	P121.13		1,000	3,000	0.0063	0.0113	1	ABS	200	20.00				Pasay
IP4-29	P121.11		1,000	4,000	0.0083	0.0150	1	ABS	200	30.00				Pasay
IP4-30	P121.9		1,000	5,000	0.0104	0.0188	1	ABS	250	50.00				Pasay
IP4-31	P121.7		2,000	7,000	0.0146	0.0263	1	ABS	250	330.00				Pasay
IP4-32	P121.3		4,000	11,000	0.0229	0.0413	1	ABS	300	130.00				Pasay
IP4-33	P121.19		246	246	0.0005	0.0009	1	ABS	150	80.00				
IP4-34	P121.17		193	439	0.0009	0.0016	1	ABS	150	30.00				
IP4-35	P121.16		270	709	0.0015	0.0027	1	ABS	150	50.00				
IP4-36	P121.15		137	846	0.0018	0.0032	1	ABS	150	110.00				
IP4-37	P121.12		291	1,137	0.0024	0.0043	1	ABS	150	80.00				
IP4-38	P121.10		230	1,367	0.0028	0.0051	1	ABS	150	60.00				
IP4-39	P121.8		946	2,313	0.0048	0.0087	1	ABS	150	40.00				
IP4-40	P121.6		1,732	4,045	0.0084	0.0152	1	ABS	200	190.00				
IP4-41	P121.5		319	4,364	0.0091	0.0164	1	ABS	200	70.00				
IP4-42	P121.4	IP3-56	0	4,364	0.0091	0.0164	1	ABS	200	190.00				
IP4-43	P11.7U1		16,500	16,500	0.0344	0.0619	1	ABS	350	100.00				Pasay
IP4-44	P11.7U		8,500	25,000	0.0521	0.0938	1	ABS	400	1,000.00				Pasay
IP4-45	MP		0	25,000	0.0521	0.0938	2	ABS	300	50.00	1			Pasay
IP4-46	P11.5.1		2,400	27,400	0.0571	0.1028	1	ABS	450	300.00				Pasay
IP4-47	P11.5		3,450	30,850	0.0643	0.1157	1	ABS	450	100.00				Paranaque: 1250p
IP4-48	P11.3U		2,907	33,757	0.0703	0.1266	1	ABS	450	100.00				Paranaque: 407p
IP4-49	P11.2U		2,428	36,185	0.0754	0.1357	1	ABS	500	250.00				Paranaque: 328p
IP4-50	P12.1		3,836	40,021	0.0834	0.1501	1	ABS	500	50.00				Paranaque: 1536p
IP4-51	P12.2		2,948	42,969	0.0895	0.1611	1	ABS	500	150.00				Paranaque: 998p
IP4-52	P12.3	IP4-53	5,089	48,058	0.1001	0.1802	1	ABS	600	300.00				Paranaque: 1132p
IP4-53	P121.1		4,000	63,058	0.1314	0.2365	2	ABS	450	60.00	1			MP73
IP4-54	P121.2	IP3-56	1,500	64,558	0.1345	0.2421	1	ABS	600	910.00				Pasay
IP4-55	P121.22A		6,264	6,264	0.0131	0.0235	1	ABS	250	230.00				
IP4-56			0	75,186	0.1566	0.2819	1		700	860.00				
IP4-57			0	75,186	0.1566	0.2819	1		700	270.00				
IP4-58		IP3-62	0	128,894	0.2685	0.4834	1		700	240.00				
IP4-59	P1.5U		2,625	2,625	0.0055	0.0098	1	ABS	200	560.00				
IP4-60	P1.4U	IP3-62	3,089	5,714	0.0119	0.0214	1	ABS	250	320.00				
IP4-61	P1.2		3,019	3,019	0.0063	0.0113	1	ABS	200	130.00				
IP4-62		STP	0	137,627	0.2867	0.5161	1		700	50.00				

Interceptor Pipes Calculation

Case No. 6
 District ID Pd

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP5-1	B5	IP5-6	726	726	0.0015	0.0027	1	ABS	150	680.00				
IP5-2	B.9A		1,108	1,108	0.0023	0.0042	1	ABS	150	180.00				
IP5-3	B4U		1,015	2,123	0.0044	0.0080	1	ABS	150	150.00				
IP5-4	B1		1,053	3,176	0.0066	0.0119	1	ABS	200	110.00				
IP5-5	B2		508	3,684	0.0077	0.0138	1	ABS	200	140.00				
IP5-6	B3	IP4-9	2,446	6,856	0.0143	0.0257	1	ABS	250	380.00				
IP5-7	B.7A		43,924	43,924	0.0915	0.1647	1	ABS	500	100.00				
IP5-8	B.8A		41,655	85,579	0.1783	0.3209	1	ABS	700	570.00				
IP5-9		STP	0	92,435	0.1926	0.3466	1		700	2,860.00				
合計			92,435							5,170.00	0			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	1,010.00	2	75	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	250.00	2	100	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	380.00	2	150	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	0.00	2	200	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	0.00	2	300	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	0.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	0.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	3,430.00	2	500	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	5,170.00	Total	Force main	0.00
			All Total		5,170.00

Manhole Pump Station
0 (Places)

Interceptor Pipes Calculation

Case No. 6

District ID La1

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP6-1	L21112.21U		2,182	2,182	0.0045	0.0082	1	ABS	150	20.00				
IP6-2	L21112.22U		4,178	6,360	0.0133	0.0239	2	ABS	150	300.00	1			MP1
IP6-3		IP6-5	0	6,360	0.0133	0.0239	1		250	1,590.00				
IP6-4	L21112.23A		9,550	9,550	0.0199	0.0358	1	ABS	300	20.00				
IP6-5	L21112.20U		15,334	31,244	0.0651	0.1172	1	ABS	450	1,190.00				
IP6-6	L21112.19U		3,437	34,681	0.0723	0.1301	1	ABS	450	200.00				
IP6-7	L21112.18U	IP6-10	747	35,428	0.0738	0.1329	1	ABS	500	100.00				
IP6-8	L21112.16U	IP6-10	1,287	1,287	0.0027	0.0048	1	ABS	150	50.00				
IP6-9	L21112.15U		590	590	0.0012	0.0022	1	ABS	150	1,500.00				
IP6-10	L21112.17U	IP6-13	1,615	38,920	0.0811	0.1460	2	ABS	400	430.00	1			MP2
IP6-11	L21111.7U		19,283	19,283	0.0402	0.0723	1	ABS	400	1,500.00				
IP6-12	L21111.6U		1,296	20,579	0.0429	0.0772	2	ABS	300	190.00	1			MP3
IP6-13		IP6-15	0	59,499	0.1240	0.2231	1		600	300.00				
IP6-14	L21112.14U		382	382	0.0008	0.0014	2	ABS	75	320.00	1			MP4
IP6-15		IP6-18	0	59,881	0.1248	0.2246	1		600	300.00				
IP6-16	L21111.5U	IP6-18	1,474	1,474	0.0031	0.0055	2	ABS	75	190.00	1			MP5
IP6-17	L21112.12U		709	709	0.0015	0.0027	1	ABS	150	240.00				
IP6-18		IP6-20	0	62,064	0.1293	0.2327	1		600	300.00				
IP6-19	L21112.8U		434	434	0.0009	0.0016	1	ABS	150	570.00				
IP6-20			0	62,498	0.1302	0.2344	1		600	300.00				
IP6-21	L21111.4U	IP6-23	1,237	63,735	0.1328	0.2390	1	ABS	600	630.00				
IP6-22	L2111.3U		313	313	0.0007	0.0012	1	ABS	150	650.00				
IP6-23		IP6-27	0	64,048	0.1334	0.2402	2		500	650.00	1			MP73
IP6-24	L21112.13U		318	318	0.0007	0.0012	1	ABS	150	440.00				
IP6-25	L21112.11U	IP6-28	552	870	0.0018	0.0033	1	ABS	150	400.00				
IP6-26	L21112.10U	IP6-27	843	843	0.0018	0.0032	1	ABS	150	300.00				
IP6-27	L21112.9U		735	65,626	0.1367	0.2461	1	ABS	600	450.00				
IP6-28		IP6-31	0	66,496	0.1385	0.2494	1		600	450.00				
IP6-29	L21112.4U		370	370	0.0008	0.0014	1	ABS	150	100.00				
IP6-30	L21112.6U		878	1,248	0.0026	0.0047	1	ABS	150	100.00				
IP6-31		IP6-43	0	67,744	0.1411	0.2540	1		600	300.00				
IP6-32	L21112.7U		370	370	0.0008	0.0014	1	ABS	150	130.00				
IP6-33	L21112.5U		73	443	0.0009	0.0017	1	ABS	150	130.00				
IP6-34	L21112.3U	IP6-37	513	956	0.0020	0.0036	1	ABS	150	130.00				
IP6-35	L21111.2U		1,366	1,366	0.0028	0.0051	1	ABS	150	100.00				
IP6-36	L21111.1U		777	2,143	0.0045	0.0080	1	ABS	150	100.00				
IP6-37	L21112.2U		567	3,666	0.0076	0.0137	1	ABS	200	160.00				
IP6-38	L21112.1U		2,017	5,683	0.0118	0.0213	1	ABS	250	300.00				
IP6-39	L2111.8U		1,670	7,353	0.0153	0.0276	1	ABS	250	380.00				
IP6-40	L2111.7U	IP6-42	2,040	9,393	0.0196	0.0352	1	ABS	300	500.00				
IP6-41	L2111.6U		6,509	6,509	0.0136	0.0244	1	ABS	250	150.00				
IP6-42			0	15,902	0.0331	0.0596	2		250	150.00	1			MP6
IP6-43		IP6-45	0	83,646	0.1743	0.3137	1		700	300.00				
IP6-44	L2111.4U		263	263	0.0005	0.0010	1	ABS	150	230.00				
IP6-45			0	83,909	0.1748	0.3147	1		700	100.00				
IP6-46	L2111.5U	IP6-48	1,208	85,117	0.1773	0.3192	2	ABS	600	800.00				PS6-1
IP6-47	L2112.4U		2,869	2,869	0.0060	0.0108	1	ABS	200	400.00				
IP6-48		IP6-52	0	87,986	0.1833	0.3299	1		700	400.00				
IP6-49	L2111.3		2,105	2,105	0.0044	0.0079	1	ABS	150	300.00				
IP6-50	L2111.2U		489	2,594	0.0054	0.0097	1	ABS	200	300.00				
IP6-51	L2111.1		3,006	5,600	0.0117	0.0210	1	ABS	250	300.00				
IP6-52			0	93,586	0.1950	0.3509	1		700	300.00				
IP6-53	L2112.5A	IP6-57	1,325	94,911	0.1977	0.3559	1	ABS	700	600.00				
IP6-54	L2112.3		181	181	0.0004	0.0007	1	ABS	150	200.00				
IP6-55	L2112.2		250	431	0.0009	0.0016	1	ABS	150	200.00				
IP6-56	L2112.1		140	571	0.0012	0.0021	1	ABS	150	200.00				
IP6-57		IP6-59	0	95,482	0.1989	0.3581	1		700	300.00				
IP6-58	L2111.8		7,620	7,620	0.0159	0.0286	1	ABS	250	90.00				
IP6-59		IP6-63	0	103,102	0.2148	0.3866	1		700	500.00				
IP6-60	L2111.7U		461	461	0.0010	0.0017	1	ABS	150	250.00				
IP6-61	L2111.6		2,318	2,779	0.0058	0.0104	2	ABS	100	440.00	1			MP7
IP6-62			0	2,779	0.0058	0.0104	1		200	50.00				
IP6-63		IP6-66	0	105,881	0.2206	0.3971	1		700	300.00				
IP6-64	L2111.4U	IP6-66	1,990	1,990	0.0041	0.0075	2	ABS	100	400.00	1			MP8
IP6-65	L2111.5U		846	846	0.0018	0.0032	2	ABS	75	300.00	1			MP9
IP6-66			0	2,836	0.0059	0.0106	1		200	300.00				
IP6-67		IP6-73	0	108,717	0.2265	0.4077	1		700	500.00				

AP-425

Interceptor Pipes Calculation

Case No. 6
 District ID La1

ICP ID	Outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Length (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m ³)	Output (kw)	
IP6-68	L211.3U	IP6-70	9,814	9,814	0.0204	0.0368	1	ABS	300	300.00				
IP6-69	L211.1		784	784	0.0016	0.0029	1	ABS	150	250.00				
IP6-70	L211.2		1,856	12,454	0.0259	0.0467	2	ABS	200	250.00	1			MP10
IP6-71			0	12,454	0.0259	0.0467	1		300	250.00				
IP6-72	L212.1U		917	13,371	0.0279	0.0501	2	ABS	250	300.00	1			MP11
IP6-73		STP	0	122,088	0.2544	0.4578	1		700	300.00				
IP6-74	L212.2A	STP	4,941	4,941	0.0103	0.0185	1	ABS	250	200.00				
IP6-75	STP		0	127,029	0.2646	0.4764	1	ABS	700	100.00				
Total			127,029							26,320.00	12			

Total Table

Interceptor Pipes					
Gravity Flow Pipes			Force Main Pipes		
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	150	6,590.00	2	75	810.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	200	1,210.00	2	100	840.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	250	3,010.00	2	150	300.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	300	1,070.00	2	200	250.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	350	0.00	2	250	450.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	400	1,500.00	2	300	190.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	450	1,390.00	2	350	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	500	100.00	2	400	430.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	600	3,030.00	2	450	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	700	3,700.00	2	500	650.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	800	0.00	2	600	800.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	900	0.00	2	700	0.00
Flow type	Diameter	Length(m)	Flow type	Diameter	Length(m)
1	1000	0.00	2	800	0.00
Total	Gravity Flow	21,600.00	Total	Force main	4,720.00
All Total					26,320.00

Manhole Pump Station
 12 (Places)

Interceptor Pipes Calculation

Case No. 6
 District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m ³)	Output (kw)	
IP8-1	L111222.41U		3,526	3,526	0.0073	0.0132	1	ABS	200	150.00				
IP8-2	L111222.40U		3,769	7,295	0.0152	0.0274	2	ABS	200	150.00		1		MP12
IP8-3	L111222.39U		554	7,849	0.0164	0.0294	2	ABS	200	200.00		1		MP13
IP8-4	L111222.38U		1,581	9,430	0.0196	0.0354	1	ABS	300	200.00				
IP8-5	L111222.37U		533	9,963	0.0208	0.0374	1	ABS	300	200.00				
IP8-6	L111222.36U	IP8-8	2,131	12,094	0.0252	0.0454	1	ABS	300	200.00				
IP8-7	L111222.33U		758	758	0.0016	0.0028	1	ABS	150	200.00				
IP8-8		IP8-14	0	12,852	0.0268	0.0482	1		300	200.00				
IP8-9	L111222.35U		2,978	2,978	0.0062	0.0112	1	ABS	200	120.00				
IP8-10	L111222.34U		272	3,250	0.0068	0.0122	1	ABS	200	120.00				
IP8-11	L111222.32U		585	3,835	0.0080	0.0144	1	ABS	200	120.00				
IP8-12	L111222.31U		111	3,946	0.0082	0.0148	1	ABS	200	120.00				
IP8-13	L111222.30U		1,151	5,097	0.0106	0.0191	2	ABS	150	130.00		1		MP14
IP8-14	L111222.29U		553	18,502	0.0385	0.0694	1	ABS	350	360.00				
IP8-15	L111222.25U	IP8-19	1,287	19,789	0.0412	0.0742	2	ABS	300	150.00		1		MP15
IP8-16	L111222.28U		1,205	1,205	0.0025	0.0045	1	ABS	150	130.00				
IP8-17	L111222.27U		721	1,926	0.0040	0.0072	1	ABS	150	130.00				
IP8-18	L111222.26U		1,754	3,680	0.0077	0.0138	1	ABS	200	140.00				
IP8-19	L111222.24U	IP8-21	136	23,605	0.0492	0.0885	1	ABS	400	310.00				
IP8-20	L111222.23U		6,529	6,529	0.0136	0.0245	2	ABS	150	60.00		1		MP16
IP8-21	L111222.22U	IP8-25	1,239	31,373	0.0654	0.1176	1	ABS	450	200.00				
IP8-22	L111222.19U		3,906	3,906	0.0081	0.0146	1	ABS	200	100.00				
IP8-23	L111222.18U		4,841	8,747	0.0182	0.0328	1	ABS	300	100.00				
IP8-24	L111222.20U		1,017	9,764	0.0203	0.0366	1	ABS	300	150.00				
IP8-25			0	41,137	0.0857	0.1543	2		400	150.00		1		MP17
IP8-26	L111222.21U	IP8-44	4,264	45,401	0.0946	0.1703	1	ABS	500	590.00				
IP8-27	L1112212.19U		3,656	3,656	0.0076	0.0137	2	ABS	150	120.00		1		MP18
IP8-28	L1112212.18U	IP8-31	632	4,288	0.0089	0.0161	1	ABS	200	120.00				
IP8-29	L1112212.17U		1,795	1,795	0.0037	0.0067	2	ABS	75	210.00		1		MP19
IP8-30	L1112212.16U		1,070	2,865	0.0060	0.0107	1	ABS	200	500.00				
IP8-31			0	7,153	0.0149	0.0268	1		250	100.00				
IP8-32	L1112212.15U	IP8-35	1,544	8,697	0.0181	0.0326	1	ABS	300	100.00				
IP8-33	L1112212.12U		1,093	1,093	0.0023	0.0041	1	ABS	150	100.00				
IP8-34	L1112212.14U		185	1,278	0.0027	0.0048	2	ABS	75	50.00		1		MP20
IP8-35	L1112212.13U	IP8-37	2,258	12,233	0.0255	0.0459	1	ABS	300	360.00				
IP8-36	L1112212.11U		223	223	0.0005	0.0008	1	ABS	150	110.00				
IP8-37		IP8-42	0	12,456	0.0260	0.0467	1		300	360.00				
IP8-38	L1112212.7U		246	246	0.0005	0.0009	1	ABS	150	100.00				
IP8-39	L1112212.8U		381	627	0.0013	0.0024	1	ABS	150	100.00				
IP8-40	L1112212.9U		4,634	5,261	0.0110	0.0197	1	ABS	250	100.00				
IP8-41	L1112212.10U		4,224	9,485	0.0198	0.0356	1	ABS	300	540.00				
IP8-42		IP8-44	0	21,941	0.0457	0.0823	1		400	200.00				
IP8-43	L1112212.6U		3,001	3,001	0.0063	0.0113	1	ABS	200	300.00				
IP8-44		IP8-46	0	70,343	0.1465	0.2638	1		600	450.00				
IP8-45	L1112212.5U		1,335	1,335	0.0028	0.0050	2	ABS	75	500.00		1		MP21
IP8-46		IP8-49	0	71,678	0.1493	0.2688	1		700	500.00				
IP8-47	L111222.17U		213	213	0.0004	0.0008	1	ABS	150	100.00				
IP8-48	L111222.16U		132	345	0.0007	0.0013	1	ABS	150	50.00				
IP8-49	L111222.15U		1,532	73,555	0.1532	0.2758	2	ABS	500	150.00				PS6-3
IP8-50		IP8-56	0	73,555	0.1532	0.2758	1		700	150.00				
IP8-51	L111222.14U		2,402	2,402	0.0050	0.0090	1	ABS	150	100.00				
IP8-52	L111222.12U	IP8-55	159	2,561	0.0053	0.0096	1	ABS	200	100.00				
IP8-53	L111222.13U		177	177	0.0004	0.0007	1	ABS	150	100.00				
IP8-54	L111222.11U		1,972	2,149	0.0045	0.0081	1	ABS	150	100.00				
IP8-55	L111222.10U		229	4,939	0.0103	0.0185	1	ABS	250	100.00				
IP8-56		IP8-61	0	78,494	0.1635	0.2944	1		700	100.00				
IP8-57	L111222.9U		3,274	3,274	0.0068	0.0123	1	ABS	200	100.00				
IP8-58	L111222.7U	IP8-60	1,233	4,507	0.0094	0.0169	2	ABS	150	100.00		1		MP22
IP8-59	L111222.8U		990	990	0.0021	0.0037	1	ABS	150	60.00				
IP8-60	L111222.6U		106	5,603	0.0117	0.0210	1	ABS	250	100.00				
IP8-61		IP8-70	0	84,097	0.1752	0.3154	1		700	250.00				
IP8-62	L111222.1U	IP8-64	609	609	0.0013	0.0023	1	ABS	150	250.00				
IP8-63	L111222.5U		1,522	1,522	0.0032	0.0057	1	ABS	150	60.00				
IP8-64	L111222.3U	IP8-66	428	2,559	0.0053	0.0096	2	ABS	100	150.00		1		MP23
IP8-65	L111222.4U		408	408	0.0009	0.0015	1	ABS	150	50.00				
IP8-66	L111222.2U	IP8-70	254	3,221	0.0067	0.0121	1	ABS	200	150.00				
IP8-67	L11122.18U	IP8-69	709	709	0.0015	0.0027	1	ABS	150	520.00				
IP8-68	L11122.19U		3,647	3,647	0.0076	0.0137	1	ABS	200	300.00				
IP8-69			0	4,356	0.0091	0.0163	1		200	200.00				

Interceptor Pipes Calculation

Case No. 6

District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m ³)	Output (kw)	
IP8-70		IP8-73	0	91,674	0.1910	0.3438	1		700	200.00				
IP8-71	L11122.23U	IP8-73	1,383	1,383	0.0029	0.0052	1	ABS	150	50.00				
IP8-72	L11122.20U		288	288	0.0006	0.0011	2	ABS	75	100.00	1			MP24
IP8-73		IP8-79	0	93,345	0.1945	0.3500	1		700	250.00				
IP8-74	L111221.6A		774	774	0.0016	0.0029	1	ABS	150	100.00				
IP8-75	L111221.1U		2,023	2,797	0.0058	0.0105	1	ABS	200	100.00				
IP8-76	L11122.24U		575	3,372	0.0070	0.0126	1	ABS	200	100.00				
IP8-77	L11122.22U	IP8-79	384	3,756	0.0078	0.0141	1	ABS	200	200.00				
IP8-78	L11122.21U		324	324	0.0007	0.0012	1	ABS	150	50.00				
IP8-79		IP8-84	0	97,425	0.2030	0.3653	1		700	200.00				
IP8-80	L11122.17U	IP8-83	1,451	1,451	0.0030	0.0054	1	ABS	150	150.00				
IP8-81	L11122.16U		994	994	0.0021	0.0037	1	ABS	150	20.00				
IP8-82	L11122.15U		320	1,314	0.0027	0.0049	1	ABS	150	40.00				
IP8-83	L11122.14U		928	3,693	0.0077	0.0138	2	ABS	150	300.00	1			MP25
IP8-84		IP8-102	0	101,118	0.2107	0.3792	1		700	360.00				
IP8-85	L1112212.4U	IP8-87	1,629	1,629	0.0034	0.0061	1	ABS	150	300.00				
IP8-86	L1112211.1U		11,272	11,272	0.0235	0.0423	1	ABS	300	300.00				
IP8-87	L1112212.2U	IP8-89	2,076	14,977	0.0312	0.0562	2	ABS	250	100.00	1			MP26
IP8-88	L1112212.3U		3,901	3,901	0.0081	0.0146	1	ABS	200	100.00				
IP8-89	L1112212.1		732	19,610	0.0409	0.0735	1	ABS	400	250.00				
IP8-90	L111221.4U		1,325	20,935	0.0436	0.0785	1	ABS	400	250.00				
IP8-91	L111221.2U		2,604	23,539	0.0490	0.0883	2	ABS	300	50.00	1			MP27
IP8-92	L111221.3U		571	24,110	0.0502	0.0904	1	ABS	400	250.00				
IP8-93	L111221.5U	IP8-97	336	24,446	0.0509	0.0917	1	ABS	400	250.00				
IP8-94	L11121.13U	IP8-96	1,289	1,289	0.0027	0.0048	1	ABS	150	200.00				
IP8-95	L11121.12U		504	504	0.0011	0.0019	1	ABS	150	100.00				
IP8-96	L11121.14U		8,830	10,623	0.0221	0.0398	1	ABS	300	100.00				
IP8-97		IP8-102	0	35,069	0.0731	0.1315	1		500	500.00				
IP8-98	L11121.8U	IP8-101	1,414	1,414	0.0029	0.0053	1	ABS	150	100.00				
IP8-99	L11121.9U	IP8-101	932	932	0.0019	0.0035	2	ABS	150	100.00	1			MP28
IP8-100	L11121.11U		1,680	1,680	0.0035	0.0063	1	ABS	150	100.00				
IP8-101	L11121.10U		803	4,829	0.0101	0.0181	2	ABS	150	550.00	1			MP29
IP8-102		IP8-105	0	141,016	0.2938	0.5288	1		700	150.00				
IP8-103	L11122.13U		896	896	0.0019	0.0034	1	ABS	150	100.00				
IP8-104	L11122.12U		643	1,539	0.0032	0.0058	2	ABS	75	560.00	1			MP30
IP8-105			0	142,555	0.2970	0.5346	1		700	660.00				
IP8-106	L11122.6U	IP8-116	2,244	144,799	0.3017	0.5430	1	ABS	800	100.00				
IP8-107	L11121.6U	IP8-114	1,310	1,310	0.0027	0.0049	1	ABS	150	200.00				
IP8-108	L11121.1U	IP8-112	871	871	0.0018	0.0033	1	ABS	150	300.00				
IP8-109	L11121.7U		1,556	1,556	0.0032	0.0058	1	ABS	150	100.00				
IP8-110	L11121.5U		580	2,136	0.0045	0.0080	1	ABS	150	150.00				
IP8-111	L11121.4U		446	2,582	0.0054	0.0097	1	ABS	200	100.00				
IP8-112	L11121.2U		295	3,748	0.0078	0.0141	1	ABS	200	100.00				
IP8-113	L11121.3U		801	4,549	0.0095	0.0171	2	ABS	150	100.00	1			MP31
IP8-114			0	5,859	0.0122	0.0220	1		250	400.00				
IP8-115	L11122.2U		525	6,384	0.0133	0.0239	1	ABS	250	200.00				
IP8-116	L11122.4U		1,248	152,431	0.3176	0.5716	1	ABS	800	100.00				PS6-2
IP8-117	L11122.3U	IP8-123	465	152,896	0.3185	0.5734	1	ABS	800	200.00				
IP8-118	L11122.11U		1,010	1,010	0.0021	0.0038	1	ABS	150	150.00				
IP8-119	L11122.10U		7,406	8,416	0.0175	0.0316	1	ABS	300	150.00				
IP8-120	L11122.9U		903	9,319	0.0194	0.0349	1	ABS	300	150.00				
IP8-121	L11122.8U		5,756	15,075	0.0314	0.0565	1	ABS	350	100.00				
IP8-122	L11122.7U		504	15,579	0.0325	0.0584	1	ABS	350	150.00				
IP8-123	L11122.5U	IP8-126	551	169,026	0.3521	0.6338	1	ABS	800	230.00				
IP8-124	L11122.1U		397	397	0.0008	0.0015	1	ABS	150	150.00				
IP8-125	L1112.12U		1,590	1,987	0.0041	0.0075	1	ABS	150	150.00				
IP8-126		IP8-131	0	171,013	0.3563	0.6413	1		800	650.00				
IP8-127	L1122.12U	IP8-130	5,717	5,717	0.0119	0.0214	1	ABS	250	1,200.00				
IP8-128	L1122.11U		7,128	7,128	0.0149	0.0267	1	ABS	250	590.00				
IP8-129	L1122.10U		7,880	15,008	0.0313	0.0563	1	ABS	350	600.00				
IP8-130			0	20,725	0.0432	0.0777	2		300	1,300.00	1			MP32
IP8-131		IP8-139	0	191,738	0.3995	0.7190	1		800	430.00				
IP8-131	L1121.16U		30,906	30,906	0.0644	0.1159	1	ABS	450	130.00				
IP8-132	L1121.15U		564	31,470	0.0656	0.1180	1	ABS	450	150.00				
IP8-133	L1121.14U	IP8-138	438	31,908	0.0665	0.1197	1	ABS	450	150.00				
IP8-134	L1121.8U		764	764	0.0016	0.0029	1	ABS	150	130.00				
IP8-135	L1121.9U		1,394	2,158	0.0045	0.0081	1	ABS	150	100.00				

AP-429

Interceptor Pipes Calculation

Case No. 6

District ID Lb

ICP ID	Flow in outfall ID	Flow out ID	Population		Flow Rate		Flow type 1 : Gravity 2 : Force main	Pipe Material	Diameter (mm)	Lengh (m)	Manhole Pump Station			Note
			For each (P)	Cumulative total (P)	Average (m ³ /s)	Max (m ³ /s)					Place (Place)	Capacity (m3)	Output (kw)	
IP8-136	L1121.10		503	2,661	0.0055	0.0100	1	ABS	200	100.00				
IP8-137	L1121.12U		1,410	4,071	0.0085	0.0153	1	ABS	200	100.00				
IP8-138	L1121.13U		2,644	38,623	0.0805	0.1448	1	ABS	500	100.00				
IP8-139		IP8-146	0	230,361	0.4799	0.8639	1		900	430.00				
IP8-140	L11.5	IP8-145	5,885	5,885	0.0123	0.0221	2	ABS	150	350.00	1			MP33
IP8-141	L111.1U		1,677	1,677	0.0035	0.0063	1	ABS	150	100.00				
IP8-142	L111.2		621	2,298	0.0048	0.0086	1	ABS	150	100.00				
IP8-143	L111.3	IP8-145	980	3,278	0.0068	0.0123	1	ABS	200	100.00				
IP8-144	L111.5U		2,256	2,256	0.0047	0.0085	1	ABS	150	300.00				
IP8-145	L111.4U		889	12,308	0.0256	0.0462	2	ABS	200	700.00	1			MP34
IP8-146		IP8-148	0	242,669	0.5056	0.9100	1		900	150.00				
IP8-147	L111.13U		3,888	3,888	0.0081	0.0146	1	ABS	200	300.00				
IP8-148		IP8-150	0	246,557	0.5137	0.9246	1		900	220.00				
IP8-149	L111.10U		612	612	0.0013	0.0023	1	ABS	150	100.00				
IP8-150	L111.12U	IP8-153	583	247,752	0.5162	0.9291	1	ABS	900	100.00				
IP8-151	L111.9U		197	197	0.0004	0.0007	1	ABS	150	50.00				
IP8-152	L111.11U		3,630	3,827	0.0080	0.0144	1	ABS	200	50.00				
IP8-153		IP8-155	0	251,579	0.5241	0.9434	1		900	150.00				
IP8-154	L111.8U		751	751	0.0016	0.0028	1	ABS	150	150.00				
IP8-155		IP8-189	0	252,330	0.5257	0.9462	1		900	300.00				
IP8-156	L111.6U	IP8-158	785	785	0.0016	0.0029	1	ABS	150	200.00				
IP8-157	L111.7U		670	670	0.0014	0.0025	1	ABS	150	100.00				
IP8-158		IP8-189	0	1,455	0.0030	0.0055	1		150	100.00				
IP8-159	L1111.9U		171	171	0.0004	0.0006	1	ABS	150	100.00				
IP8-160	L1111.8U	IP8-166	232	403	0.0008	0.0015	1	ABS	150	100.00				
IP8-161	L1111.11U		5,385	5,385	0.0112	0.0202	1	ABS	250	100.00				
IP8-162	L1111.10U		569	5,954	0.0124	0.0223	1	ABS	250	100.00				
IP8-163	L1111.7U		277	6,231	0.0130	0.0234	1	ABS	250	100.00				
IP8-164	L1111.6U		202	6,433	0.0134	0.0241	1	ABS	250	100.00				
IP8-165	L1111.5U		3,484	9,917	0.0207	0.0372	1	ABS	300	100.00				
IP8-166	L1111.4U	IP8-174	654	10,974	0.0229	0.0412	2	ABS	200	200.00	1			MP35
IP8-167	L1112.11U	IP8-169	267	267	0.0006	0.0010	1	ABS	150	200.00				
IP8-168	L1112.9U		4,716	4,716	0.0098	0.0177	1	ABS	250	100.00				
IP8-169	L1112.10U		1,108	6,091	0.0127	0.0228	1	ABS	250	100.00				
IP8-170	L1112.8U		604	6,695	0.0139	0.0251	1	ABS	250	100.00				
IP8-171	L1112.6U		855	7,550	0.0157	0.0283	1	ABS	250	100.00				
IP8-172	L1112.5U		269	7,819	0.0163	0.0293	1	ABS	250	100.00				
IP8-173	L1112.4U		237	8,056	0.0168	0.0302	1	ABS	300	200.00				
IP8-174		178	0	19,030	0.0396	0.0714	1		400	150.00				
IP8-175	L1112.7U		512	512	0.0011	0.0019	1	ABS	150	100.00				
IP8-176	L1112.3U		1,857	2,369	0.0049	0.0089	1	ABS	150	100.00				
IP8-177	L1112.2U		318	2,687	0.0056	0.0101	1	ABS	200	200.00				
IP8-178	L1112.1U	IP8-180	446	22,163	0.0462	0.0831	1	ABS	400	100.00				
IP8-179	L1111.3U		970	970	0.0020	0.0036	1	ABS	150	100.00				
IP8-180	L1111.1U	IP8-182	79	23,212	0.0484	0.0870	1	ABS	400	100.00				
IP8-181	L1111.2U		1,002	1,002	0.0021	0.0038	1	ABS	150	100.00				
IP8-182	L111.18U		240	24,454	0.0509	0.0917	1	ABS	400	100.00				
IP8-183	L111.17U		487	24,941	0.0520	0.0935	1	ABS	400	100.00				
IP8-184	L111.16U	IP8-186	220	25,161	0.0524	0.0944	1	ABS	400	100.00				
IP8-185	L111.15U		1,560	1,560	0.0033	0.0059	1	ABS	150	100.00				
IP8-186		IP8-188	0	26,721	0.0557	0.1002	1		400	100.00				
IP8-187	L111.14U		286	286	0.0006	0.0011	1	ABS	150	100.00				
IP8-188			0	27,007	0.0563	0.1013	1		450	470.00				
IP8-189		IP8-193	0	280,792	0.5850	1.0530	1		1000	460.00				
IP8-190	L122.4U		1,549	1,549	0.0032	0.0058	1	ABS	150	150.00				
IP8-191	L122.3U		9,481	11,030	0.0230	0.0414	1	ABS	300	100.00				
IP8-192	L122.2		272	11,302	0.0235	0.0424	1	ABS	300	100.00				
IP8-193			0	292,094	0.6085	1.0954	1		1000	20.00				
IP8-194	L122.1		593	292,687	0.6098	1.0976	1	ABS	1000	100.00				
IP8-195	L122.U	IP8-196	322	293,009	0.6104	1.0988	1	ABS	1000	100.00				
From La2 district			64,307	64,307	0.1340	0.2412	1		600	0.00				
IP8-196			0	357,316	0.7444	1.3399	1		1100	150.00				
IP8-197	L12.1		494	357,810	0.7454	1.3418	1	ABS	1100	100.00				
IP8-198	L1.1U	IP8-201	982	358,792	0.7475	1.3455	1	ABS	1100	100.00				
IP8-199	SSB		27,897	27,897	0.0581	0.1046	1	ABS	450	600.00				
IP8-200	L11.2		9,322	37,219	0.0775	0.1396	1	ABS	500	200.00				
IP8-201	L11.1U		3,458	399,469	0.8322	1.4980	1	ABS	1100	200.00				
IP8-202	L11.3	IP8-204	4,834	404,303	0.8423	1.5161	1	ABS	1100	200.00				
IP8-203	L11.3		489	489	0.0010	0.0018	1	ABS	150	100.00				

AP-430

Manhole Pump Station Calculation

Classification				Pump Diameter mm	Capacity			Pump Unit Unit	Pump Head $H = h_a + h_f + h_0$														Output			Notes
Case	No	Site	Note		Total m ³ /s	Total m ³ /min	1Unit m ³ /min		Actual head (h_a)				Straight pipe loss (h_f)						Other loss (no) Suction loss Check valve loss, Gate valve loss and Bend loss etc. (m)	Total Head (H) m	Pump Efficiency	Calculation Value k w	Adoption Output k w			
									High Water Level High Point m	High Water Level End Point m	Pump Start Level m	Actual head (ha) m	Pressure Pipe Diameter m	Penstock length to highest point m	Penstock length to end point m	Velocity m/s	Coefficient	ha ₁ = (High Water Level) - (Low Water Level) m						ha ₂ = (High Water Level) - (Low Water Level) m	Straight pipe loss (hf) m	
Case1,2,4,5,6,7,8	1	La1		100	0.035	2.1	1.1	2	5	5	0	5.0	0.20	300	300	1.11	110	2.73	2.73	2.7	2.0	9.7	0.5	3.8	5.5	
Case1,2,4,5,6,7,8	2	La1		150	0.205	12.3	6.2	2	5	5	0	5.0	0.45	430	430	1.29	110	2	2	2.0	2.0	9.0	0.5	20.8	22.0	
Case1,2,4,5,6,7,8	3	La1		150	0.110	6.6	3.3	2	5	5	0	5.0	0.35	190	190	1.14	110	0.94	0.94	0.9	2.0	7.9	0.5	9.8	11.0	
Case1,2,4,5,6,7,8	4	La1		80	0.001	0.4	0.2	2	5	5	0	5.0	0.08	320	320	1.51	110	16.2	16.2	16.2	2.0	23.2	0.5	1.7	2.2	
Case1,2,4,5,6,7,8	5	La1		80	0.006	0.4	0.2	2	5	5	0	5.0	0.08	190	190	1.33	110	7.05	7.05	7.1	2.0	14.1	0.5	1.1	1.5	
Case1,2,4,5,6,7,8	73	La1		150	0.333	20.0	10.0	2	5	5	0	5.0	0.60	650	650	1.18	111	1.8	1.8	1.8	3.0	9.8	0.5	36.8	22.0	
Case1,2,4,5,6,7,8	6	La1		150	0.078	4.7	2.4	2	5	5	0	5.0	0.30	150	150	1.11	110	0.85	0.85	0.9	2.0	7.9	0.5	7.0	7.5	
Case1,2,4,5,6,7,8	7	La1		100	0.014	0.8	0.4	2	5	5	0	5.0	0.15	440	440	0.75	110	2.71	2.71	2.7	2.0	9.7	0.5	1.5	2.2	
Case1,2,4,5,6,7,8	8	La1		80	0.008	0.5	0.3	2	5	5	0	5.0	0.10	400	400	1.06	110	7.52	7.52	7.5	2.0	14.5	0.5	1.4	1.5	
Case1,2,4,5,6,7,8	9	La1		80	0.003	0.2	0.1	2	5	5	0	5.0	0.08	300	300	0.75	110	4.16	4.16	4.2	2.0	11.2	0.5	0.4	1.5	
Case1,2,4,5,6,7,8	10	La1		150	0.064	3.8	1.9	2	5	5	0	5.0	0.25	250	250	1.29	110	2.31	2.31	2.3	2.0	9.3	0.5	6.6	7.5	
Case1,2,4,5,6,7,8	11	La1		150	0.067	4.0	2.0	2	5	5	0	5.0	0.25	300	300	1.36	110	3.06	3.06	3.1	2.0	10.1	0.5	7.6	11.0	
Case1,2,4,5,6,7,8	12	Lb	Lb1	100	0.038	2.3	1.2	2	5	5	0	5.0	0.20	150	150	1.22	110	1.63	1.63	1.6	2.0	8.6	0.5	3.7	5.5	
Case1,2,4,5,6,7,8	13	Lb	Lb1	100	0.040	2.4	1.2	2	5	5	0	5.0	0.20	200	200	1.27	110	2.33	2.33	2.3	2.0	9.3	0.5	4.2	5.5	
Case1,2,4,5,6,7,8	14	Lb	Lb1	100	0.023	1.4	0.7	2	5	5	0	5.0	0.15	130	130	1.32	110	2.28	2.28	2.3	2.0	9.3	0.5	2.4	3.7	
Case1,2,4,5,6,7,8	15	Lb	Lb1	150	0.092	5.5	2.8	2	5	5	0	5.0	0.30	150	150	1.30	110	1.14	1.14	1.1	2.0	8.1	0.5	8.4	11.0	
Case1,2,4,5,6,7,8	16	Lb	Lb1	100	0.034	2.0	1.0	2	5	5	0	5.0	0.20	60	60	1.06	110	0.5	0.5	0.5	2.0	7.5	0.5	2.8	3.7	
Case1,2,4,5,6,7,8	17	Lb	Lb1	150	0.194	11.6	5.8	2	5	5	0	5.0	0.45	150	150	1.22	110	0.63	0.63	0.6	2.0	7.6	0.5	16.6	22.0	
Case1,2,4,5,6,7,8	18	Lb	Lb1	100	0.019	1.1	0.6	2	5	5	0	5.0	0.15	120	120	1.04	110	1.35	1.35	1.4	2.0	8.4	0.5	1.7	2.2	
Case1,2,4,5,6,7,8	19	Lb	Lb1	80	0.007	0.4	0.2	2	5	5	0	5.0	0.08	210	210	1.51	110	10.63	10.63	10.6	2.0	17.6	0.5	1.3	1.5	
Case1,2,4,5,6,7,8	20	Lb	Lb1	80	0.005	0.3	0.2	2	5	5	0	5.0	0.08	50	50	1.13	110	1.48	1.48	1.5	2.0	8.5	0.5	0.5	1.5	
Case1,2,4,5,6,7,8	21	Lb	Lb1	80	0.005	0.3	0.2	2	5	5	0	5.0	0.08	500	500	1.13	110	14.81	14.81	14.8	2.0	21.8	0.5	1.2	1.5	
Case1,2,4,5,6,7,8	22	Lb	Lb2	100	0.013	0.8	0.4	2	5	5	0	5.0	0.15	100	100	0.75	110	0.62	0.62	0.6	2.0	7.6	0.5	1.1	1.5	
Case1,2,4,5,6,7,8	23	Lb	Lb2	100	0.010	0.6	0.3	2	5	5	0	5.0	0.10	150	150	1.27	110	3.94	3.94	3.9	2.0	10.9	0.5	1.2	1.5	
Case1,2,4,5,6,7,8	24	Lb	Lb2	80	0.001	0.4	0.2	2	5	5	0	5.0	0.08	100	100	1.51	110	5.06	5.06	5.1	2.0	12.1	0.5	0.9	1.5	
Case1,2,4,5,6,7,8	25	Lb	Lb2	100	0.014	0.8	0.4	2	5	5	0	5.0	0.15	300	300	0.75	111	1.82	1.82	1.8	3.0	9.8	0.5	1.5	2.2	
Case1,2,4,5,6,7,8	26	Lb	Lb2	100	0.041	2.5	1.3	2	5	5	0	5.0	0.20	100	100	1.33	110	1.27	1.27	1.3	2.0	8.3	0.5	3.9	5.5	
Case1,2,4,5,6,7,8	27	Lb	Lb2	150	0.066	4.0	2.0	2	5	5	0	5.0	0.25	50	50	1.36	110	0.51	0.51	0.5	2.0	7.5	0.5	5.6	7.5	
Case1,2,4,5,6,7,8	28	Lb	Lb2	80	0.004	0.4	0.2	2	5	5	0	5.0	0.08	100	100	1.33	110	3.71	3.71	3.7	2.0	10.7	0.5	0.8	1.5	
Case1,2,4,5,6,7,8	29	Lb	Lb2	100	0.018	1.1	0.6	2	5	5	0	5.0	0.15	550	550	1.04	110	6.21	6.21	6.2	2.0	13.2	0.5	2.7	3.7	
Case1,2,4,5,6,7,8	30	Lb	Lb2	80	0.006	0.4	0.2	2	5	5	0	5.0	0.08	560	560	1.51	110	28.36	28.36	28.4	2.0	35.4	0.5	2.7	3.7	
Case1,2,4,5,6,7,8	31	Lb	Lb2	100	0.017	1.0	0.5	2	5	5	0	5.0	0.15	100	100	0.94	110	0.94	0.94	0.9	2.0	7.9	0.5	1.5	2.2	
Case1,2,4,5,6,7,8	32	Lb	Lb2	150	0.055	3.3	1.7	2	5	5	0	5.0	0.25	1300	1300	1.12	110	9.26	9.26	9.3	2.0	16.3	0.5	10.1	11.0	
Case1,2,4,5,6,7,8	33	Lb	Lb2	100	0.016	1.0	0.5	2	5	5	0	5.0	0.15	350	350	0.94	110	3.28	3.28	3.3	2.0	10.3	0.5	1.9	2.2	
Case1,2,4,5,6,7,8	34	Lb	Lb2	100	0.037	2.2	1.1	2	5	5	0	5.0	0.20	700	700	1.17	110	7.02	7.02	7.0	2.0	14.0	0.5	5.8	7.5	
Case1,2,4,5,6,7,8	35	Lb	Lb2	100	0.031	1.9	1.0	2	5	5	0	5.0	0.20	200	200	1.01	110	1.53	1.53	1.5	2.0	8.5	0.5	3.0	3.7	
Case1,2,4,5,6,7,8	36	Lb	Lb2	100	0.012	0.7	0.4	2	5	5	0	5.0	0.10	100	100	1.49	110	3.53	3.53	3.5	2.0	10.5	0.5	1.4	1.5	
Case1,2,4,5,6,7,8	37	Lb	Lb2	100	0.017	1.0	0.5	2	5	5	0	5.0	0.15	100	100	0.94	110	0.94	0.94	0.9	2.0	7.9	0.5	1.5	2.2	
Case1,2,4,5,6,7,8	38	Lb	Lb2	80	0.005	0.4	0.2	2	5	5	0	5.0	0.08	150	150	1.51	110	7.6	7.6	7.6	2.0	14.6	0.5	1.1	1.5	
Case1,2,4,5,6,7,8	39	Lb	Lb2	80	0.003	0.4	0.2	2	5	5	0	5.0	0.08	100	100	1.51	110	5.06	5.06	5.1	2.0	12.1	0.5	0.9	1.5	
Case1,2,4,5,6,7,8	77	Lb	Lb2	150	0.233	14.0	7.0	2	5	5	0	5.0	0.60	100	100	0.83	111	0.14	0.14	0.1	3.0	8.1	1.5	7.1	7.5	
Case1,2,4,5,6,7,8	40	Pa	Pa1	100	0.038	2.3	1.2	2	5	5	0	5.0	0.20	150	150	1.22	110	1.63	1.63	1.6	2.0	8.6	0.5	3.7	5.5	
Case1,2,4,5,6,7,8	41	Pa	Pa1	150	0.127	7.6	3.8	2	5	5	0	5.0	0.35	590	590	1.32	110	3.84	3.84	3.8	2.0	10.8	0.5	15.4	22.0	
Case1,2,4,5,6,7,8	42	Pa	Pa1	80	0.004	0.2	0.1	2	5	5	0	5.0	0.08	150	150	0.66	110	1.52	1.52	1.5	2.0	8.5	0.5	0.3	1.5	
Case1,2,4,5,6,7,8	43	Pa	Pa1	80	0.007	0.4	0.2	2	5	5	0	5.0	0.08	410	410	1.33	110	15.22	15.22	15.2	2.0	22.2	0.5	1.7	2.2	
Case1,2,4,5,6,7,8	47	Pa	Pa1	100	0.022	1.3	0.7	2	5	5	0	5.0	0.15	320	320	1.23	110	4.93	4.93	4.9	2.0	11.9	0.5	2.9	3.7	
Case1,2,4,5,6,7,8	44	Pa	Pa2	100	0.015	0.9	0.5	2	5	5	0	5.0	0.15	250	250	0.85	110	1.94	1.94	1.9	2.0	8.9	0.5	1.5	2.2	
Case1,2,4,5,6,7,8	45	Pa	Pa2	150	0.135	8.1	4.1	2	5	5	0	5.0	0.35	270	270	1.40	110	1.96	1.96	2.0	2.0	9.0	0.5	13.7	15.0	
Case1,2,4,5,6,7,8	46	Pa	Pa2	150	0.145	8.7	4.4	2	5	5	0	5.0	0.40	720	720	1.15	110	3.11	3.11	3.1	2.0	10.1	0.5	16.5	22.0	
Case1,2,4,6,7	49	Pa		150	0.063	3.8	1.9	2	5	5	0	5.0	0.25	320	320	1.29	110	2.96	2.96	3.0	2.0	10.0	0.5	7.1	7.5	
Case1,2,4,5,6,7,8	50	Pa	Pa2	100	0.015	0.9	0.5	2	5	5	0	5.0	0.15	420	420	0.85	110	3.26	3.26	3.3	2.0	10.3	0.5	1.7	2.2	
Case1,2,4,5,6,7,8	51	Pa	Pa2	100	0.019	1.1	0.6	2	5	5	0	5.0	0.15	410	410	1.04	110	4.63	4.63	4.6	2.0	11.6	0.5	2.4	3.7	
Case1,2,4,5,6,7,8	52	Pa	Pa2	100	0.036	2.2	1.1	2	5	5	0	5.0	0.20	510	510	1.17	110	5.11	5.11	5.1	2.0	12.1	0.5	5.0	5.5	
Case1,2,4,5,6,7,8	53	Pa	Pa2	150	0.064	3.8	1.9	2	5	5	0	5.0	0.25</													

Manhole Pump Station List

Manhole Pump Station																							
La1			Lb			Pa			Pb			Pc			Pd			Sum Total					
Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit
La1	1.5	3	Lb	1.5	10	Pa	1.5	1	Pb	1.5	0	Pc	1.5	0	Pd	1.5	0	-	1.5	14	-	-	-
Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit
La1	2.2	2	Lb	2.2	5	Pa	2.2	5	Pb	2.2	0	Pc	2.2	0	Pd	2.2	0	-	2.2	12	-	-	-
Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit
La1	3.7	0	Lb	3.7	5	Pa	3.7	5	Pb	3.7	0	Pc	3.7	0	Pd	3.7	0	-	3.7	10	-	-	-
Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit
La1	5.5	1	Lb	5.5	3	Pa	5.5	7	Pb	5.5	0	Pc	5.5	0	Pd	5.5	0	-	5.5	11	-	-	-
Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit
La1	7.5	2	Lb	7.5	3	Pa	7.5	4	Pb	7.5	3	Pc	7.5	0	Pd	7.5	0	-	7.5	12	-	-	-
Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit
La1	11	2	Lb	11	2	Pa	11	2	Pb	11	0	Pc	11	1	Pd	11	0	-	11	7	-	-	-
Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit
La1	15	0	Lb	15	0	Pa	15	2	Pb	15	0	Pc	15	0	Pd	15	0	-	15	2	-	-	-
Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit
La1	22	2	Lb	22	1	Pa	22	2	Pb	22	1	Pc	22	1	Pd	22	0	-	22	7	-	-	-
Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit	Site	Output	Unit
Total		12	Total		29	Total		28	Total		4	Total		2	Total		0	Sum Total		75			

Note:

If the case is 1,2,4,6,7, unit of output 15 in Pb district is 1.

If the case is 5,8, unit of output 7.5 in Pa district is 3.

Manhole Pump Station (For Case 5 and 8)																	
Pa1			Pa2			Pb1			Pb2			Lb1		Lb2			
Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit
Pa1	1.5	1	Pa2	1.5	0	Pb1	1.5	0	Pb2	1.5	0	Lb1	1.5	3	Lb2	1.5	7
Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit
Pa1	2.2	1	Pa2	2.2	4	Pb1	2.2	0	Pb2	2.2	0	Lb1	2.2	1	Lb2	2.2	4
Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit
Pa1	3.7	1	Pa2	3.7	4	Pb1	3.7	0	Pb2	3.7	0	Lb1	3.7	2	Lb2	3.7	3
Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit
Pa1	5.5	1	Pa2	5.5	6	Pb1	5.5	0	Pb2	5.5	0	Lb1	5.5	2	Lb2	5.5	1
Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit
Pa1	7.5	0	Pa2	7.5	3	Pb1	7.5	1	Pb2	7.5	2	Lb1	7.5	0	Lb2	7.5	3
Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit
Pa1	11	0	Pa2	11	2	Pb1	11	0	Pb2	11	0	Lb1	11	1	Lb2	11	1
Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit
Pa1	15	0	Pa2	15	2	Pb1	15	0	Pb2	15	0	Lb1	15	0	Lb2	15	0
Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit
Pa1	22	1	Pa2	22	1	Pb1	22	1	Pb2	22	0	Lb1	22	1	Lb2	22	0
Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit	Note	Output	Unit
Total		5	Total		22	Total		2	Total		2	Total		10	Total		19

Force Main Pipe List

Manhole Pump Station																							
La1			Lb			Pa			Pb			Pc			Pd			Sum Total					
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.08	620.00	Lb	0.08	1,670.00	Pa	0.08	0.00	Pb	0.08	0.00	Pc	0.08	0.00	Pd	0.08	0.00	-	0.08	2,290.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.10	400.00	Lb	0.10	250.00	Pa	0.10	440.00	Pb	0.10	0.00	Pc	0.10	0.00	Pd	0.10	0.00	-	0.10	1,090.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.15	440.00	Lb	0.15	1,750.00	Pa	0.15	3,140.00	Pb	0.15	0.00	Pc	0.15	0.00	Pd	0.15	0.00	-	0.15	5,330.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.20	300.00	Lb	0.20	1,410.00	Pa	0.20	1,850.00	Pb	0.20	0.00	Pc	0.20	0.00	Pd	0.20	0.00	-	0.20	3,560.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.25	550.00	Lb	0.25	1,350.00	Pa	0.25	1,380.00	Pb	0.25	210.00	Pc	0.25	0.00	Pd	0.25	0.00	-	0.25	3,490.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.30	150.00	Lb	0.30	150.00	Pa	0.30	210.00	Pb	0.30	120.00	Pc	0.30	50.00	Pd	0.30	0.00	-	0.30	680.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.35	190.00	Lb	0.35	0.00	Pa	0.35	860.00	Pb	0.35	0.00	Pc	0.35	0.00	Pd	0.35	0.00	-	0.35	1,050.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.40	0.00	Lb	0.40	0.00	Pa	0.40	940.00	Pb	0.40	220.00	Pc	0.40	0.00	Pd	0.40	0.00	-	0.40	1,160.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.45	430.00	Lb	0.45	150.00	Pa	0.45	0.00	Pb	0.45	70.00	Pc	0.45	60.00	Pd	0.45	0.00	-	0.45	710.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
La1	0.50	0.00	Lb	0.50	0.00	Pa	0.50	0.00	Pb	0.50	0.00	Pc	0.50	0.00	Pd	0.50	0.00	-	0.50	0.00	-	-	-
Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m	Site	Diameter	m
Total		3,080.00	Total		6,730.00	Total		8,820.00	Total		620.00	Total		110.00	Total		0.00	Sum Total		19,360.00			

Flow Rate & Velocity

n= 0.01

PIPE DIAMETER (mm)	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1350	1500
INCLINE(‰)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)
	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)
0.5	0.251	0.303	0.352	0.398	0.441	0.482	0.521	0.559	0.631	0.700	0.765	0.827	0.887	0.946	1.002	1.084	1.163
	0.004	0.010	0.017	0.028	0.042	0.061	0.083	0.110	0.178	0.269	0.385	0.526	0.697	0.899	1.133	1.552	2.055
0.6	0.274	0.332	0.386	0.436	0.483	0.528	0.571	0.612	0.692	0.766	0.838	0.906	0.972	1.036	1.098	1.187	1.274
	0.005	0.010	0.019	0.031	0.046	0.066	0.091	0.120	0.196	0.295	0.421	0.576	0.763	0.985	1.242	1.699	2.251
0.7	0.296	0.359	0.417	0.471	0.521	0.570	0.617	0.661	0.747	0.828	0.905	0.979	1.050	1.119	1.186	1.283	1.376
	0.005	0.011	0.020	0.033	0.050	0.072	0.098	0.130	0.211	0.319	0.455	0.623	0.825	1.063	1.341	1.836	2.432
0.8	0.317	0.384	0.445	0.503	0.557	0.609	0.659	0.707	0.798	0.885	0.967	1.046	1.122	1.196	1.268	1.371	1.471
	0.006	0.012	0.022	0.036	0.054	0.077	0.105	0.139	0.226	0.341	0.486	0.665	0.881	1.137	1.434	1.962	2.599
0.9	0.336	0.407	0.472	0.534	0.591	0.646	0.699	0.750	0.847	0.939	1.026	1.110	1.191	1.269	1.344	1.454	1.560
	0.006	0.013	0.023	0.038	0.057	0.081	0.111	0.147	0.239	0.361	0.516	0.706	0.935	1.206	1.520	2.081	2.757
1.0	0.354	0.429	0.498	0.562	0.623	0.681	0.737	0.791	0.893	0.989	1.081	1.170	1.255	1.337	1.417	1.533	1.644
	0.006	0.013	0.024	0.040	0.060	0.086	0.117	0.155	0.252	0.381	0.543	0.744	0.986	1.271	1.603	2.194	2.905
1.1	0.372	0.450	0.522	0.590	0.654	0.715	0.773	0.829	0.936	1.038	1.134	1.227	1.316	1.403	1.486	1.608	1.725
	0.007	0.014	0.026	0.042	0.063	0.090	0.123	0.163	0.265	0.399	0.570	0.781	1.034	1.333	1.681	2.302	3.048
1.2	0.388	0.470	0.546	0.616	0.683	0.746	0.807	0.866	0.978	1.084	1.185	1.281	1.375	1.465	1.552	1.679	1.801
	0.007	0.015	0.027	0.044	0.066	0.094	0.128	0.170	0.277	0.417	0.596	0.815	1.080	1.392	1.755	2.403	3.183
1.3	0.404	0.489	0.568	0.641	0.711	0.777	0.840	0.901	1.018	1.128	1.233	1.334	1.431	1.525	1.616	1.748	1.875
	0.007	0.015	0.028	0.045	0.068	0.098	0.134	0.177	0.288	0.434	0.620	0.849	1.124	1.449	1.828	2.502	3.313
1.4	0.419	0.508	0.589	0.665	0.737	0.806	0.872	0.935	1.056	1.171	1.280	1.384	1.485	1.582	1.677	1.814	1.946
	0.007	0.016	0.029	0.047	0.071	0.101	0.139	0.184	0.299	0.451	0.643	0.880	1.166	1.503	1.897	2.597	3.439
1.5	0.434	0.526	0.610	0.689	0.763	0.834	0.903	0.968	1.093	1.212	1.325	1.433	1.537	1.638	1.736	1.877	2.014
	0.008	0.017	0.030	0.049	0.073	0.105	0.144	0.190	0.309	0.466	0.666	0.912	1.207	1.557	1.963	2.687	3.559
1.6	0.448	0.543	0.630	0.711	0.788	0.862	0.932	1.000	1.129	1.251	1.368	1.480	1.587	1.692	1.793	1.939	2.080
	0.008	0.017	0.031	0.050	0.076	0.108	0.148	0.196	0.319	0.481	0.688	0.942	1.246	1.608	2.028	2.775	3.676
1.7	0.462	0.560	0.649	0.733	0.813	0.888	0.961	1.031	1.164	1.290	1.410	1.525	1.636	1.744	1.848	1.999	2.144
	0.008	0.018	0.032	0.052	0.078	0.112	0.153	0.202	0.329	0.496	0.709	0.970	1.285	1.657	2.090	2.861	3.789
1.8	0.475	0.576	0.668	0.755	0.836	0.914	0.989	1.061	1.198	1.327	1.451	1.569	1.684	1.794	1.901	2.057	2.206
	0.008	0.018	0.033	0.053	0.080	0.115	0.157	0.208	0.339	0.511	0.729	0.998	1.323	1.705	2.150	2.944	3.898
1.9	0.488	0.592	0.686	0.775	0.859	0.939	1.016	1.090	1.231	1.364	1.491	1.612	1.730	1.843	1.953	2.113	2.267
	0.009	0.019	0.034	0.055	0.083	0.118	0.162	0.214	0.348	0.525	0.749	1.026	1.359	1.751	2.209	3.025	4.006
2.0	0.501	0.607	0.704	0.795	0.881	0.963	1.042	1.118	1.263	1.399	1.529	1.654	1.775	1.891	2.004	2.168	2.326
	0.009	0.019	0.035	0.056	0.085	0.121	0.166	0.220	0.357	0.538	0.769	1.052	1.394	1.797	2.266	3.103	4.110
2.1	0.513	0.622	0.722	0.815	0.903	0.987	1.068	1.146	1.294	1.434	1.567	1.695	1.819	1.938	2.054	2.221	2.383
	0.009	0.020	0.035	0.058	0.087	0.124	0.170	0.225	0.366	0.552	0.788	1.078	1.429	1.842	2.323	3.179	4.211

Flow Rate & Velocity

n= 0.01

PIPE DIAMETER (mm)	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1350	1500
INCLINE(‰)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)	U:V(m/s)
	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)
2.2	0.525	0.637	0.739	0.834	0.924	1.011	1.093	1.173	1.324	1.467	1.604	1.735	1.861	1.984	2.102	2.274	2.439
	0.009	0.020	0.036	0.059	0.089	0.127	0.174	0.230	0.374	0.565	0.806	1.104	1.462	1.885	2.377	3.255	4.310
2.3	0.537	0.651	0.755	0.853	0.945	1.033	1.118	1.199	1.354	1.500	1.640	1.774	1.903	2.028	2.149	2.325	2.494
	0.009	0.020	0.037	0.060	0.091	0.130	0.178	0.235	0.383	0.577	0.824	1.129	1.495	1.927	2.430	3.328	4.407
2.4	0.549	0.665	0.772	0.871	0.966	1.055	1.142	1.225	1.383	1.533	1.675	1.812	1.944	2.072	2.195	2.375	2.548
	0.010	0.021	0.038	0.062	0.093	0.133	0.182	0.241	0.391	0.590	0.842	1.153	1.527	1.969	2.482	3.400	4.503
2.5	0.560	0.679	0.787	0.889	0.985	1.077	1.165	1.250	1.412	1.564	1.710	1.850	1.984	2.114	2.241	2.424	2.600
	0.010	0.021	0.039	0.063	0.095	0.135	0.185	0.245	0.399	0.602	0.860	1.177	1.558	2.009	2.535	3.470	4.595
2.6	0.571	0.692	0.803	0.907	1.005	1.099	1.188	1.275	1.440	1.595	1.744	1.886	2.024	2.156	2.285	2.472	2.652
	0.010	0.022	0.039	0.064	0.097	0.138	0.189	0.250	0.407	0.614	0.877	1.200	1.590	2.049	2.584	3.538	4.686
2.7	0.582	0.705	0.818	0.924	1.024	1.119	1.211	1.299	1.467	1.626	1.777	1.922	2.062	2.197	2.329	2.519	2.702
	0.010	0.022	0.040	0.065	0.099	0.141	0.193	0.255	0.415	0.626	0.893	1.223	1.619	2.088	2.634	3.606	4.775
2.8	0.593	0.718	0.833	0.941	1.043	1.140	1.233	1.323	1.494	1.656	1.810	1.957	2.100	2.238	2.371	2.565	2.752
	0.010	0.023	0.041	0.067	0.100	0.143	0.196	0.260	0.422	0.637	0.910	1.245	1.649	2.127	2.682	3.672	4.863
2.9	0.603	0.731	0.848	0.958	1.061	1.160	1.255	1.346	1.520	1.685	1.842	1.992	2.137	2.277	2.413	2.610	2.800
	0.011	0.023	0.042	0.068	0.102	0.146	0.200	0.264	0.430	0.648	0.926	1.267	1.678	2.164	2.729	3.736	4.948
3.0	0.614	0.743	0.863	0.974	1.080	1.180	1.276	1.369	1.546	1.714	1.873	2.026	2.174	2.316	2.455	2.655	2.848
	0.011	0.023	0.042	0.069	0.104	0.148	0.203	0.269	0.437	0.660	0.941	1.289	1.707	2.201	2.777	3.800	5.033
3.1	0.624	0.756	0.877	0.990	1.097	1.200	1.298	1.392	1.572	1.742	1.904	2.060	2.210	2.355	2.495	2.699	2.895
	0.011	0.024	0.043	0.070	0.106	0.151	0.206	0.273	0.444	0.670	0.957	1.311	1.736	2.238	2.822	3.863	5.116
3.2	0.634	0.768	0.891	1.006	1.115	1.219	1.318	1.414	1.597	1.770	1.935	2.093	2.245	2.392	2.535	2.742	2.942
	0.011	0.024	0.044	0.071	0.107	0.153	0.210	0.278	0.452	0.681	0.973	1.332	1.763	2.273	2.867	3.925	5.199
3.3	0.644	0.780	0.905	1.022	1.132	1.238	1.339	1.436	1.622	1.797	1.965	2.125	2.280	2.429	2.574	2.785	2.987
	0.011	0.025	0.044	0.072	0.109	0.156	0.213	0.282	0.459	0.692	0.988	1.352	1.791	2.308	2.911	3.986	5.278
3.4	0.653	0.791	0.918	1.037	1.149	1.256	1.359	1.458	1.646	1.824	1.994	2.157	2.314	2.466	2.613	2.827	3.032
	0.012	0.025	0.045	0.073	0.111	0.158	0.216	0.286	0.465	0.702	1.002	1.372	1.817	2.344	2.955	4.047	5.358
3.5	0.663	0.803	0.932	1.052	1.166	1.275	1.379	1.479	1.670	1.851	2.023	2.189	2.348	2.502	2.651	2.868	3.076
	0.012	0.025	0.046	0.074	0.112	0.160	0.219	0.290	0.472	0.712	1.017	1.393	1.844	2.378	2.998	4.105	5.436
3.6	0.672	0.814	0.945	1.067	1.183	1.293	1.398	1.500	1.694	1.877	2.052	2.220	2.381	2.537	2.689	2.908	3.120
	0.012	0.026	0.046	0.075	0.114	0.162	0.222	0.295	0.479	0.722	1.031	1.412	1.870	2.411	3.041	4.162	5.513
3.7	0.681	0.826	0.958	1.082	1.199	1.310	1.418	1.521	1.717	1.903	2.080	2.250	2.414	2.572	2.726	2.949	3.163
	0.012	0.026	0.047	0.076	0.115	0.165	0.226	0.299	0.485	0.732	1.046	1.431	1.896	2.444	3.083	4.221	5.589
3.8	0.691	0.837	0.971	1.096	1.215	1.328	1.437	1.541	1.740	1.929	2.108	2.280	2.446	2.607	2.763	2.988	3.206
	0.012	0.026	0.048	0.077	0.117	0.167	0.229	0.303	0.492	0.742	1.060	1.450	1.921	2.478	3.125	4.277	5.665

Flow Rate & Velocity

n= 0.01

PIPE DIAMETER (mm)	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1350	1500
INCLINE(‰)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)	U:(m/s) D:(m ³ /s)
3.9	0.700 0.012	0.848 0.027	0.984 0.048	1.111 0.079	1.231 0.118	1.345 0.169	1.455 0.231	1.561 0.307	1.763 0.498	1.954 0.752	2.136 1.074	2.310 1.470	2.478 1.946	2.641 2.510	2.799 3.166	3.027 4.333	3.248 5.740
4.0	0.709 0.013	0.858 0.027	0.996 0.049	1.125 0.080	1.247 0.120	1.363 0.171	1.474 0.234	1.581 0.310	1.785 0.505	1.979 0.762	2.163 1.087	2.340 1.489	2.510 1.971	2.675 2.542	2.834 3.205	3.066 4.389	3.289 5.812
4.1	0.717 0.013	0.869 0.027	1.008 0.049	1.139 0.081	1.262 0.121	1.380 0.173	1.492 0.237	1.601 0.314	1.808 0.511	2.003 0.771	2.190 1.101	2.369 1.507	2.541 1.996	2.708 2.573	2.869 3.245	3.104 4.443	3.330 5.885
4.2	0.726 0.013	0.880 0.028	1.021 0.050	1.153 0.082	1.277 0.123	1.396 0.175	1.510 0.240	1.620 0.318	1.830 0.517	2.028 0.780	2.216 1.114	2.397 1.525	2.572 2.020	2.741 2.605	2.904 3.284	3.142 4.497	3.370 5.955
4.3	0.735 0.013	0.890 0.028	1.033 0.051	1.166 0.082	1.292 0.124	1.413 0.178	1.528 0.243	1.639 0.322	1.851 0.523	2.052 0.790	2.243 1.127	2.426 1.543	2.602 2.044	2.773 2.635	2.939 3.324	3.179 4.550	3.410 6.026
4.4	0.743 0.013	0.900 0.028	1.045 0.051	1.180 0.083	1.307 0.126	1.429 0.180	1.546 0.246	1.658 0.326	1.873 0.530	2.075 0.799	2.269 1.141	2.454 1.561	2.632 2.067	2.805 2.666	2.973 3.362	3.215 4.602	3.449 6.095
4.5	0.752 0.013	0.910 0.029	1.056 0.052	1.193 0.084	1.322 0.127	1.445 0.182	1.563 0.249	1.677 0.329	1.894 0.536	2.099 0.808	2.294 1.153	2.482 1.579	2.662 2.091	2.837 2.696	3.006 3.400	3.252 4.655	3.488 6.164
4.6	0.760 0.013	0.921 0.029	1.068 0.052	1.206 0.085	1.337 0.129	1.461 0.184	1.581 0.251	1.696 0.333	1.915 0.541	2.122 0.817	2.320 1.166	2.509 1.596	2.692 2.114	2.868 2.726	3.039 3.437	3.288 4.706	3.527 6.233
4.7	0.768 0.014	0.930 0.029	1.080 0.053	1.219 0.086	1.351 0.130	1.477 0.186	1.598 0.254	1.714 0.337	1.935 0.547	2.145 0.825	2.345 1.179	2.536 1.613	2.721 2.137	2.899 2.755	3.072 3.474	3.323 4.757	3.565 6.300
4.8	0.776 0.014	0.940 0.030	1.091 0.054	1.232 0.087	1.366 0.131	1.493 0.188	1.615 0.257	1.732 0.340	1.956 0.553	2.168 0.834	2.369 1.191	2.563 1.631	2.749 2.159	2.930 2.784	3.105 3.512	3.358 4.807	3.603 6.367
4.9	0.784 0.014	0.950 0.030	1.102 0.054	1.245 0.088	1.380 0.133	1.508 0.190	1.631 0.259	1.750 0.344	1.976 0.559	2.190 0.843	2.394 1.203	2.590 1.648	2.778 2.182	2.960 2.813	3.137 3.548	3.393 4.857	3.640 6.432
5.0	0.792 0.014	0.960 0.030	1.114 0.055	1.258 0.089	1.394 0.134	1.523 0.191	1.648 0.262	1.768 0.347	1.996 0.564	2.212 0.851	2.418 1.215	2.616 1.664	2.806 2.204	2.990 2.841	3.169 3.584	3.428 4.907	3.677 6.498
5.1	0.800 0.014	0.969 0.030	1.125 0.055	1.270 0.090	1.408 0.135	1.539 0.193	1.664 0.265	1.785 0.350	2.016 0.570	2.234 0.860	2.442 1.227	2.642 1.681	2.834 2.226	3.020 2.870	3.200 3.619	3.462 4.955	3.714 6.563
5.2	0.808 0.014	0.979 0.031	1.136 0.056	1.282 0.091	1.421 0.137	1.554 0.195	1.680 0.267	1.803 0.354	2.036 0.576	2.256 0.868	2.466 1.240	2.668 1.697	2.862 2.248	3.049 2.898	3.232 3.655	3.496 5.004	3.750 6.627
5.3	0.816 0.014	0.988 0.031	1.147 0.056	1.295 0.092	1.435 0.138	1.568 0.197	1.697 0.270	1.820 0.357	2.055 0.581	2.278 0.877	2.490 1.252	2.693 1.713	2.889 2.269	3.079 2.926	3.263 3.690	3.529 5.051	3.786 6.690
5.4	0.823 0.015	0.997 0.031	1.157 0.057	1.307 0.092	1.448 0.139	1.583 0.199	1.713 0.272	1.837 0.361	2.075 0.587	2.299 0.885	2.513 1.263	2.718 1.729	2.916 2.290	3.108 2.954	3.293 3.724	3.562 5.099	3.821 6.752
5.5	0.831 0.015	1.007 0.032	1.168 0.057	1.319 0.093	1.462 0.141	1.598 0.201	1.728 0.275	1.854 0.364	2.094 0.592	2.320 0.893	2.536 1.275	2.743 1.745	2.943 2.311	3.136 2.980	3.323 3.758	3.595 5.146	3.857 6.816
5.6	0.838 0.015	1.016 0.032	1.179 0.058	1.331 0.094	1.475 0.142	1.612 0.203	1.744 0.277	1.871 0.367	2.113 0.597	2.341 0.901	2.559 1.286	2.768 1.761	2.970 2.333	3.165 3.008	3.354 3.793	3.628 5.193	3.891 6.876

Flow Rate & Velocity

n= 0.01

PIPE DIAMETER (mm)	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1350	1500
INCLINE(‰)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)	U:(m/s) D:(m3/s)
5.7	0.846 0.015	1.025 0.032	1.189 0.058	1.343 0.095	1.488 0.143	1.627 0.204	1.759 0.280	1.887 0.371	2.131 0.603	2.362 0.909	2.582 1.298	2.793 1.777	2.996 2.353	3.193 3.034	3.383 3.826	3.660 5.239	3.926 6.938
5.8	0.853 0.015	1.034 0.032	1.199 0.059	1.354 0.096	1.501 0.144	1.641 0.206	1.775 0.282	1.904 0.374	2.150 0.608	2.383 0.917	2.605 1.309	2.817 1.792	3.022 2.373	3.221 3.061	3.413 3.860	3.692 5.285	3.960 6.998
5.9	0.861 0.015	1.042 0.033	1.210 0.059	1.366 0.097	1.514 0.146	1.655 0.208	1.790 0.285	1.920 0.377	2.168 0.613	2.403 0.925	2.627 1.320	2.842 1.808	3.048 2.394	3.248 3.087	3.442 3.893	3.723 5.329	3.994 7.058
6.0	0.868 0.015	1.051 0.033	1.220 0.060	1.378 0.097	1.527 0.147	1.669 0.210	1.805 0.287	1.936 0.380	2.187 0.618	2.423 0.932	2.649 1.332	2.865 1.823	3.074 2.414	3.276 3.113	3.471 3.926	3.755 5.375	4.028 7.118
6.1	0.875 0.015	1.060 0.033	1.230 0.060	1.389 0.098	1.539 0.148	1.683 0.211	1.820 0.289	1.953 0.383	2.205 0.623	2.444 0.941	2.671 1.343	2.889 1.838	3.099 2.434	3.303 3.139	3.500 3.958	3.786 5.419	4.061 7.176
6.2	0.882 0.016	1.069 0.034	1.240 0.061	1.400 0.099	1.552 0.149	1.696 0.213	1.835 0.292	1.969 0.387	2.223 0.629	2.464 0.948	2.693 1.354	2.913 1.853	3.125 2.454	3.330 3.165	3.529 3.991	3.817 5.464	4.095 7.236
6.3	0.889 0.016	1.077 0.034	1.250 0.061	1.412 0.100	1.564 0.150	1.710 0.215	1.850 0.294	1.984 0.390	2.241 0.634	2.483 0.956	2.715 1.365	2.936 1.868	3.150 2.474	3.357 3.190	3.557 4.023	3.848 5.508	4.128 7.295
6.4	0.896 0.016	1.086 0.034	1.260 0.062	1.423 0.101	1.577 0.152	1.724 0.217	1.864 0.296	2.000 0.393	2.258 0.638	2.503 0.963	2.736 1.375	2.959 1.882	3.175 2.494	3.383 3.215	3.585 4.055	3.878 5.551	4.160 7.351
6.5	0.903 0.016	1.094 0.034	1.270 0.062	1.434 0.101	1.589 0.153	1.737 0.218	1.879 0.299	2.016 0.396	2.276 0.644	2.522 0.971	2.757 1.386	2.982 1.897	3.200 2.513	3.409 3.240	3.613 4.086	3.908 5.594	4.193 7.410
6.6	0.910 0.016	1.103 0.035	1.279 0.063	1.445 0.102	1.601 0.154	1.750 0.220	1.893 0.301	2.031 0.399	2.294 0.649	2.542 0.978	2.778 1.396	3.005 1.912	3.224 2.532	3.436 3.265	3.641 4.118	3.938 5.637	4.225 7.466
6.7	0.917 0.016	1.111 0.035	1.289 0.063	1.456 0.103	1.613 0.155	1.763 0.222	1.908 0.303	2.046 0.402	2.311 0.653	2.561 0.986	2.799 1.407	3.028 1.926	3.248 2.551	3.461 3.289	3.668 4.148	3.968 5.680	4.257 7.523
6.8	0.924 0.016	1.119 0.035	1.299 0.064	1.467 0.104	1.625 0.156	1.777 0.223	1.922 0.306	2.062 0.405	2.328 0.658	2.580 0.993	2.820 1.417	3.051 1.941	3.273 2.571	3.487 3.314	3.695 4.179	3.997 5.721	4.288 7.578
6.9	0.931 0.016	1.127 0.035	1.308 0.064	1.477 0.104	1.637 0.157	1.790 0.225	1.936 0.308	2.077 0.408	2.345 0.663	2.599 1.000	2.841 1.428	3.073 1.955	3.296 2.589	3.513 3.339	3.723 4.211	4.027 5.764	4.320 7.634
7.0	0.937 0.017	1.136 0.036	1.318 0.065	1.488 0.105	1.649 0.159	1.803 0.227	1.950 0.310	2.092 0.411	2.362 0.668	2.618 1.008	2.861 1.438	3.095 1.969	3.320 2.608	3.538 3.362	3.749 4.240	4.056 5.806	4.351 7.689
7.1	0.944 0.017	1.144 0.036	1.327 0.065	1.499 0.106	1.661 0.160	1.815 0.228	1.964 0.312	2.107 0.414	2.379 0.673	2.636 1.014	2.882 1.449	3.117 1.983	3.344 2.626	3.563 3.386	3.776 4.271	4.085 5.847	4.382 7.744
7.2	0.951 0.017	1.152 0.036	1.336 0.066	1.509 0.107	1.672 0.161	1.828 0.230	1.977 0.314	2.121 0.416	2.395 0.677	2.655 1.022	2.902 1.459	3.139 1.997	3.367 2.644	3.588 3.410	3.803 4.301	4.113 5.887	4.413 7.798
7.3	0.957 0.017	1.160 0.036	1.346 0.066	1.520 0.107	1.684 0.162	1.841 0.231	1.991 0.317	2.136 0.419	2.412 0.682	2.673 1.029	2.922 1.469	3.161 2.011	3.391 2.663	3.613 3.434	3.829 4.330	4.142 5.929	4.443 7.851
7.4	0.964 0.017	1.168 0.037	1.355 0.067	1.530 0.108	1.695 0.163	1.853 0.233	2.005 0.319	2.151 0.422	2.429 0.687	2.691 1.036	2.942 1.479	3.182 2.024	3.414 2.681	3.638 3.457	3.855 4.360	4.170 5.969	4.473 7.904

Flow Rate & Velocity

n= 0.01

PIPE DIAMETER (mm)	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1350	1500
INCLINE(‰)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)	U:(m/s)
	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)	D:(m3/s)
7.5	0.970 0.017	1.175 0.037	1.364 0.067	1.540 0.109	1.707 0.164	1.866 0.234	2.018 0.321	2.165 0.425	2.445 0.691	2.710 1.043	2.962 1.489	3.204 2.038	3.437 2.699	3.662 3.480	3.881 4.389	4.198 6.009	4.504 7.959
7.6	0.977 0.017	1.183 0.037	1.373 0.067	1.550 0.110	1.718 0.165	1.878 0.236	2.032 0.323	2.179 0.428	2.461 0.696	2.728 1.050	2.981 1.498	3.225 2.052	3.460 2.717	3.687 3.504	3.907 4.419	4.226 6.049	4.533 8.010
7.7	0.983 0.017	1.191 0.037	1.382 0.068	1.561 0.110	1.729 0.166	1.891 0.238	2.045 0.325	2.194 0.431	2.477 0.700	2.745 1.056	3.001 1.508	3.246 2.065	3.482 2.735	3.711 3.527	3.932 4.447	4.254 6.089	4.563 8.063
7.8	0.989 0.017	1.199 0.038	1.391 0.068	1.571 0.111	1.741 0.168	1.903 0.239	2.058 0.327	2.208 0.434	2.493 0.705	2.763 1.063	3.020 1.518	3.267 2.078	3.505 2.753	3.735 3.549	3.958 4.476	4.281 6.128	4.593 8.117
7.9	0.996 0.018	1.206 0.038	1.400 0.069	1.581 0.112	1.752 0.169	1.915 0.241	2.071 0.329	2.222 0.436	2.509 0.709	2.781 1.070	3.040 1.528	3.288 2.092	3.527 2.770	3.759 3.572	3.983 4.505	4.309 6.168	4.622 8.168
8.0	1.002 0.018	1.214 0.038	1.409 0.069	1.591 0.112	1.763 0.170	1.927 0.242	2.084 0.331	2.236 0.439	2.525 0.714	2.798 1.077	3.059 1.538	3.309 2.105	3.550 2.788	3.782 3.594	4.008 4.533	4.336 6.206	4.651 8.219
8.1	1.008 0.018	1.221 0.038	1.417 0.070	1.601 0.113	1.774 0.171	1.939 0.244	2.097 0.334	2.250 0.442	2.541 0.718	2.816 1.084	3.078 1.547	3.329 2.118	3.572 2.805	3.806 3.617	4.033 4.561	4.363 6.245	4.680 8.270
8.2	1.015 0.018	1.229 0.039	1.426 0.070	1.610 0.114	1.785 0.172	1.951 0.245	2.110 0.336	2.264 0.445	2.556 0.723	2.833 1.090	3.097 1.557	3.350 2.131	3.594 2.823	3.829 3.639	4.058 4.589	4.390 6.284	4.709 8.321
8.3	1.021 0.018	1.236 0.039	1.435 0.070	1.620 0.115	1.796 0.173	1.963 0.247	2.123 0.338	2.278 0.447	2.572 0.727	2.850 1.097	3.116 1.566	3.370 2.144	3.615 2.839	3.853 3.662	4.083 4.618	4.416 6.321	4.738 8.373
8.4	1.027 0.018	1.244 0.039	1.443 0.071	1.630 0.115	1.806 0.174	1.975 0.248	2.136 0.340	2.291 0.450	2.587 0.731	2.867 1.103	3.134 1.575	3.390 2.157	3.637 2.856	3.876 3.683	4.107 4.645	4.443 6.360	4.766 8.422
8.5	1.033 0.018	1.251 0.039	1.452 0.071	1.640 0.116	1.817 0.175	1.986 0.250	2.149 0.342	2.305 0.453	2.603 0.736	2.884 1.110	3.153 1.585	3.411 2.170	3.659 2.874	3.899 3.705	4.132 4.673	4.469 6.397	4.794 8.472
8.6	1.039 0.018	1.259 0.040	1.461 0.072	1.649 0.117	1.828 0.176	1.998 0.251	2.161 0.344	2.318 0.455	2.618 0.740	2.901 1.116	3.172 1.594	3.431 2.183	3.680 2.890	3.922 3.727	4.156 4.700	4.495 6.434	4.822 8.521
8.7	1.045 0.018	1.266 0.040	1.469 0.072	1.659 0.117	1.838 0.177	2.010 0.253	2.174 0.346	2.332 0.458	2.633 0.744	2.918 1.123	3.190 1.603	3.450 2.195	3.702 2.908	3.944 3.748	4.180 4.727	4.521 6.471	4.850 8.571
8.8	1.051 0.019	1.273 0.040	1.477 0.073	1.668 0.118	1.849 0.178	2.021 0.254	2.186 0.348	2.345 0.460	2.648 0.749	2.935 1.130	3.208 1.613	3.470 2.208	3.723 2.924	3.967 3.770	4.204 4.755	4.547 6.509	4.878 8.620
8.9	1.057 0.019	1.280 0.040	1.486 0.073	1.678 0.119	1.859 0.179	2.032 0.255	2.199 0.350	2.358 0.463	2.663 0.753	2.952 1.136	3.226 1.622	3.490 2.220	3.744 2.941	3.989 3.791	4.228 4.782	4.573 6.546	4.906 8.670
9.0	1.063 0.019	1.288 0.040	1.494 0.073	1.687 0.119	1.870 0.180	2.044 0.257	2.211 0.352	2.372 0.466	2.678 0.757	2.968 1.142	3.244 1.631	3.509 2.232	3.765 2.957	4.012 3.813	4.251 4.808	4.599 6.583	4.933 8.717
9.1	1.069 0.019	1.295 0.041	1.502 0.074	1.697 0.120	1.880 0.181	2.055 0.258	2.223 0.354	2.385 0.468	2.693 0.761	2.985 1.149	3.262 1.640	3.529 2.245	3.786 2.974	4.034 3.834	4.275 4.835	4.624 6.619	4.961 8.767
9.2	1.075 0.019	1.302 0.041	1.511 0.074	1.706 0.121	1.890 0.182	2.066 0.260	2.235 0.355	2.398 0.471	2.708 0.766	3.001 1.155	3.280 1.649	3.548 2.257	3.806 2.989	4.056 3.855	4.298 4.861	4.650 6.656	4.988 8.815

Flow Rate & Velocity

n= 0.01

PIPE DIAMETER (mm)	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1350	1500
INCLINE(‰)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)	U:V(m/s) D:(m3/s)
9.3	1.080 0.019	1.309 0.041	1.519 0.075	1.715 0.121	1.901 0.183	2.078 0.261	2.247 0.357	2.411 0.473	2.723 0.770	3.017 1.161	3.298 1.658	3.567 2.269	3.827 3.006	4.078 3.875	4.322 4.888	4.675 6.692	5.015 8.862
9.4	1.086 0.019	1.316 0.041	1.527 0.075	1.724 0.122	1.911 0.184	2.089 0.263	2.259 0.359	2.424 0.476	2.737 0.774	3.033 1.167	3.316 1.667	3.587 2.282	3.848 3.022	4.100 3.896	4.345 4.914	4.700 6.728	5.042 8.910
9.5	1.092 0.019	1.323 0.042	1.535 0.075	1.733 0.122	1.921 0.185	2.100 0.264	2.271 0.361	2.437 0.479	2.752 0.778	3.049 1.173	3.333 1.675	3.606 2.294	3.868 3.038	4.122 3.917	4.368 4.940	4.725 6.763	5.069 8.958
9.6	1.098 0.019	1.330 0.042	1.543 0.076	1.743 0.123	1.931 0.186	2.111 0.265	2.283 0.363	2.449 0.481	2.766 0.782	3.065 1.180	3.351 1.684	3.625 2.306	3.888 3.054	4.143 3.937	4.391 4.966	4.750 6.799	5.095 9.004
9.7	1.103 0.019	1.337 0.042	1.551 0.076	1.752 0.124	1.941 0.187	2.122 0.267	2.295 0.365	2.462 0.483	2.780 0.786	3.081 1.186	3.368 1.693	3.643 2.318	3.909 3.070	4.165 3.958	4.414 4.992	4.774 6.833	5.122 9.051
9.8	1.109 0.020	1.344 0.042	1.559 0.077	1.761 0.124	1.951 0.188	2.133 0.268	2.307 0.367	2.475 0.486	2.795 0.790	3.097 1.192	3.386 1.702	3.662 2.330	3.929 3.086	4.186 3.978	4.436 5.017	4.799 6.869	5.148 9.097
9.9	1.115 0.020	1.350 0.042	1.567 0.077	1.770 0.125	1.961 0.189	2.144 0.269	2.319 0.369	2.487 0.488	2.809 0.794	3.113 1.198	3.403 1.711	3.681 2.342	3.949 3.102	4.208 3.999	4.459 5.043	4.823 6.904	5.174 9.143
10.0	1.120 0.020	1.357 0.043	1.575 0.077	1.778 0.126	1.971 0.190	2.154 0.271	2.330 0.371	2.500 0.491	2.823 0.798	3.129 1.204	3.420 1.719	3.699 2.353	3.969 3.117	4.229 4.019	4.481 5.068	4.847 6.938	5.200 9.189

Design Parameter List (1/55)

NO.1 Pa1 + NO.2 Lb1

1. District outline

1-1. District ID name:	L22
1-2. Catchment area (ha) :	1,125.65
1-3. Service population (people) :	216,165
1-4. Service barangay name :	BF Homes(S), BF International(SE), Talon Tres(E), Almanza Uno, Talon Uno, Talon Singko, Pilar Village, Almanza Dos(N)

Note; N:North, S:South, E:East, W:West, M:Middle

2. STP outline

2-1. Name :	Pa1 + Lb1 STP
2-2. Process :	OD
2-3. Required area (ha) :	3.70ha
2-4. Capacity (m ³ /day) :	38,910

3. Facilities list

3-1. Interceptor Pipes

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes										
		IP1-1	IP1-2	IP1-3	IP1-4	IP1-5	IP1-6	IP1-7	IP1-8	IP1-9	IP1-10	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	Steel	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ200	φ250	φ300	φ200	φ200	φ200	φ300	φ400	φ450	φ150	
Gradient	(%)	6.0	6.0	6.0	6.0	6.0	-	6.0	5.5	5.0	7.0	
Covering Population	(P)	3,832	5,702	8,354	3,018	3,476	10,226	12,977	21,331	29,849	611	
Flow rate	Average	(m ³ /s)	0.008	0.012	0.018	0.007	0.008	0.022	0.028	0.045	0.063	0.002
	Max	(m ³ /s)	0.015	0.022	0.032	0.012	0.014	0.039	0.049	0.080	0.112	0.003
Capacity	(m ³ /s)	0.033	0.060	0.097	0.033	0.033	-	0.097	0.201	0.262	0.017	
Length	(m)	560.00	380.00	480.00	230.00	1150.00	150.00	160.00	340.00	70.00	420.00	

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes										
		IP1-11	IP1-12	IP1-13	IP1-14	IP1-15	IP1-16	IP1-17	IP1-18	IP1-19	IP1-20	
Flow system	-	Pressure	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	
Material	-	Steel	ABS	Steel	ABS	Steel	ABS	ABS	ABS	Steel	Steel	
Aperture	(mm)	φ350	φ450	φ75	φ150	φ500	φ150	φ150	φ150	φ75	φ500	
Gradient	(%)	-	5.0	-	7.0	5.0	7.0	7.0	7.0	-	5.0	
Catchment Area	(ha)	33,941	33,941	1,161	1,161	35,102	140	668	1,207	1,875	36,977	
Flow rate	Average	(m ³ /s)	0.071	0.071	0.003	0.003	0.074	0.001	0.002	0.003	0.004	0.078
	Max	(m ³ /s)	0.128	0.128	0.005	0.005	0.132	0.001	0.003	0.005	0.008	0.139
Capacity	(m ³ /s)	-	0.262	-	0.017	0.347	0.017	0.017	0.017	-	0.347	
Length	(m)	590.00	900.00	150.00	620.00	330.00	180.00	140.00	70.00	410.00	730.00	

Design Parameter List (2/55)

NO.1 Pa1 + NO.2 Lb1

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP1-21	IP1-22	IP1-23	IP1-24	IP1-25	IP1-26	IP1-27	IP1-28	IP1-29	IP1-30	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	ABS	ABS	ABS	Steel	ABS	Steel	ABS	ABS	ABS	
Aperture	(mm)	φ600	φ250	φ250	φ300	φ600	φ350	φ700	φ150	φ150	φ250	
Gradient	(%)	4.5	6.0	6.0	6.0	4.5	5.5	4.5	7.0	7.0	6.0	
Covering Population	(P)	49,481	5,634	7,449	8,970	62,462	14,518	76,980	467	699	5,943	
Flow rate	Average	(m ³ /s)	0.104	0.012	0.016	0.019	0.131	0.031	0.161	0.001	0.002	0.013
	Max	(m ³ /s)	0.186	0.022	0.028	0.034	0.235	0.055	0.289	0.002	0.003	0.023
Capacity	(m ³ /s)	0.536	0.060	0.060	0.097	0.536	0.141	0.808	0.017	0.017	0.060	
Length	(m)	150.00	80.00	240.00	290.00	430.00	320.00	260.00	70.00	220.00	80.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP1-31	IP1-32	IP1-33	IP1-34	IP1-35	IP1-36	IP1-37	IP1-38	IP1-39	IP1-40	
Flow system	-	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	Steel	ABS	Steel	ABS	Steel	Steel	Steel	Steel	Steel	
Aperture	(mm)	φ150	φ700	φ150	φ700	φ250	φ700	φ700	φ900	φ900	φ900	
Gradient	(%)	-	4.5	7.0	4.5	6.0	4.5	4.5	4.0	4.0	4.0	
Catchment Area	(ha)	5,943	82,923	1,654	102,988	4,990	112,153	113,807	196,730	196,730	196,730	
Flow rate	Average	(m ³ /s)	0.013	0.173	0.004	0.215	0.011	0.234	0.238	0.410	0.410	0.410
	Max	(m ³ /s)	0.023	0.311	0.007	0.387	0.019	0.421	0.427	0.738	0.738	0.738
Capacity	(m ³ /s)	-	0.808	0.017	0.808	0.060	0.808	0.808	1.489	1.489	1.489	
Length	(m)	320.00	370.00	120.00	330.00	60.00	230.00	390.00	350.00	220.00	390.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP1-41	IP1-42	IP1-43	IP1-44	IP2-1	IP2-2	IP2-3	IP2-4	IP2-5	IP2-6	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Pressure	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	Steel	Steel	ABS	Steel	Steel	ABS	ABS	ABS	
Aperture	(mm)	φ150	φ400	φ900	φ900	φ250	φ200	φ200	φ300	φ300	φ350	
Gradient	(%)	7.0	5.5	4.0	4.0	6.0	-	-	6.0	6.0	5.5	
Covering Population	(P)	1,589	19,272	196,730	196,893	4,879	10,094	10,648	12,229	12,762	15,711	
Flow rate	Average	(m ³ /s)	0.004	0.041	0.410	0.411	0.011	0.022	0.023	0.026	0.027	0.033
	Max	(m ³ /s)	0.006	0.073	0.738	0.739	0.019	0.038	0.040	0.046	0.048	0.059
Capacity	(m ³ /s)	0.017	0.201	1.489	1.489	0.060	-	-	0.097	0.097	0.141	
Length	(m)	120.00	320.00	350.00	100.00	150.00	150.00	200.00	200.00	200.00	200.00	

Design Parameter List (3/55)

NO.1 Pa1 + NO.2 Lb1

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP2-7	IP2-8	IP2-9	IP2-10	IP2-11	IP2-12	IP2-13	IP2-14	IP2-15	IP2-16	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Pressure	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	Steel	ABS	Steel	ABS	
Aperture	(mm)	φ150	φ350	φ200	φ200	φ250	φ250	φ150	φ400	φ300	φ150	
Gradient	(%)	7.0	5.5	6.0	6.0	6.0	6.0	-	5.5	-	7.0	
Catchment Area	(ha)	758	16,469	4,121	4,393	4,978	5,089	6,240	23,262	24,549	1,205	
Flow rate	Average	(m ³ /s)	0.002	0.035	0.009	0.010	0.011	0.011	0.013	0.049	0.052	0.003
	Max	(m ³ /s)	0.003	0.062	0.016	0.017	0.019	0.020	0.024	0.088	0.093	0.005
Capacity	(m ³ /s)	0.017	0.141	0.033	0.033	0.060	0.060	-	0.201	-	0.017	
Length	(m)	200.00	200.00	120.00	120.00	120.00	120.00	130.00	360.00	150.00	130.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP2-17	IP2-18	IP2-19	IP2-20	IP2-21	IP2-22	IP2-23	IP2-24	IP2-25	IP2-26	
Flow system	-	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	
Material	-	ABS	ABS	ABS	Steel	Steel	ABS	ABS	ABS	Steel	Steel	
Aperture	(mm)	φ150	φ200	φ450	φ200	φ500	φ250	φ300	φ350	φ450	φ600	
Gradient	(%)	7.0	6.0	5.0	-	5.0	6.0	6.0	5.5	-	4.5	
Catchment Area	(ha)	1,926	3,680	28,365	9,034	38,638	5,405	12,104	13,121	51,759	57,659	
Flow rate	Average	(m ³ /s)	0.005	0.008	0.060	0.019	0.081	0.012	0.026	0.028	0.108	0.121
	Max	(m ³ /s)	0.008	0.014	0.107	0.034	0.145	0.021	0.046	0.050	0.195	0.217
Capacity	(m ³ /s)	0.017	0.033	0.262	-	0.347	0.060	0.097	0.141	-	0.536	
Length	(m)	130.00	140.00	310.00	60.00	200.00	100.00	100.00	150.00	150.00	590.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP2-27	IP2-28	IP2-29	IP2-30	IP2-31	IP2-32	IP2-33	IP2-34	IP2-35	IP2-36	
Flow system	-	Pressure	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	
Material	-	Steel	ABS	Steel	ABS	ABS	ABS	ABS	Steel	ABS	ABS	
Aperture	(mm)	φ150	φ250	φ75	φ200	φ300	φ300	φ150	φ75	φ350	φ150	
Gradient	(%)	-	6.0	-	6.0	6.0	6.0	7.0	-	5.5	7.0	
Covering Population	(P)	5,059	5,691	1,795	2,865	8,556	10,100	1,093	1,278	14,502	223	
Flow rate	Average	(m ³ /s)	0.011	0.012	0.004	0.006	0.018	0.022	0.003	0.003	0.031	0.001
	Max	(m ³ /s)	0.019	0.022	0.007	0.011	0.033	0.038	0.005	0.005	0.055	0.001
Capacity	(m ³ /s)	-	0.060	-	0.033	0.097	0.097	0.017	-	0.141	0.017	
Length	(m)	120.00	120.00	210.00	500.00	100.00	100.00	100.00	50.00	360.00	110.00	

Design Parameter List (4/55)

NO.1 Pa1 + NO.2 Lb1

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP2-37	IP2-38	IP2-39	IP2-40	IP2-41	IP2-42	IP2-43	IP2-44	IP2-45	IP2-46	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	Steel	Steel	Steel	
Aperture	(mm)	φ350	φ150	φ150	φ250	φ300	φ450	φ200	φ700	φ75	φ700	
Gradient	(%)	5.5	7.0	7.0	6.0	6.0	5.0	6.0	4.5	-	4.5	
Catchment Area	(ha)	14,725	246	627	7,039	12,884	27,609	4,153	89,421	1,335	90,756	
Flow rate	Average	(m ³ /s)	0.031	0.001	0.002	0.015	0.027	0.058	0.009	0.187	0.003	0.190
	Max	(m ³ /s)	0.056	0.001	0.003	0.027	0.049	0.104	0.016	0.336	0.006	0.341
Capacity	(m ³ /s)	0.141	0.017	0.017	0.060	0.097	0.262	0.033	0.808	-	0.808	
Length	(m)	360.00	100.00	100.00	100.00	540.00	200.00	300.00	450.00	500.00	500.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP2-47	IP2-48	IP2-49	IP2-50	IP2-51	IP2-52	IP2-53	IP2-54	IP2-55	IP2-56	
Flow system	-	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	Steel	Steel	ABS	ABS	ABS	ABS	ABS	Steel	
Aperture	(mm)	φ150	φ150	φ600	φ700	φ200	φ200	φ150	φ150	φ250	φ700	
Gradient	(%)	7.0	7.0	-	4.5	6.0	6.0	7.0	7.0	6.0	4.5	
Catchment Area	(ha)	213	345	92,633	92,633	3,324	3,483	177	2,149	5,861	98,494	
Flow rate	Average	(m ³ /s)	0.001	0.001	0.193	0.193	0.007	0.008	0.001	0.005	0.013	0.206
	Max	(m ³ /s)	0.001	0.002	0.348	0.348	0.013	0.014	0.001	0.009	0.022	0.370
Capacity	(m ³ /s)	0.017	0.017	-	0.808	0.033	0.033	0.017	0.017	0.060	0.808	
Length	(m)	100.00	50.00	150.00	150.00	100.00	100.00	100.00	100.00	100.00	850.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes									
Flow system	-										
Material	-										
Aperture	(mm)										
Gradient	(%)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Capacity	(m ³ /s)										
Length	(m)										

Design Parameter List (5/55)

NO.1 Pa1 + NO.2 Lb1

3-2. Conversion Manhole

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P2121112.19U	P2121112.17U	P2121112.16U	P2121112.24A	P2121112.18U	P2121112.15U	P2121112.14U	P2121112.13U	P2121112.11U	P2121112.12U	
Section of EP or EC	(mm)											
Covering Population	(P)	3,832	1,870	2,652	3,018	458	6,750	2,751	8,518	611	3,481	
Flow rate	Average	(m ³ /s)	0.008	0.004	0.006	0.007	0.001	0.015	0.006	0.018	0.002	0.008
	Max	(m ³ /s)	0.015	0.008	0.010	0.012	0.002	0.026	0.011	0.032	0.003	0.014
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P2121112.10U	P2121112.9U	P2121112.8U	P2121112.7U	P2121112.22A	P2121112.23A	P2121112.6U	P2121112.5U	P2121112.4U	Add SB4-25-2	
Section of EP or EC	(mm)											
Covering Population	(P)	1,161	140	528	1,207	12,504	5,634	1,815	1,521	4,011	14,518	
Flow rate	Average	(m ³ /s)	0.003	0.001	0.002	0.003	0.027	0.012	0.004	0.004	0.009	0.031
	Max	(m ³ /s)	0.005	0.001	0.002	0.005	0.047	0.022	0.007	0.006	0.016	0.055
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P2121112.3U	P2121112.2U	P2121112.1U	P2121111.4	Add SB4-25-1	P2121111.6	P2121111.5	P2121111.2	P2121111.3	P2121111.1	
Section of EP or EC	(mm)											
Covering Population	(P)	467	232	5,244	1,654	4,494	4,990	4,175	1,589	17,683	163	
Flow rate	Average	(m ³ /s)	0.001	0.001	0.011	0.004	0.010	0.011	0.009	0.004	0.037	0.001
	Max	(m ³ /s)	0.002	0.001	0.020	0.007	0.017	0.019	0.016	0.006	0.067	0.001
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		L111222.41U	L111222.40U	L111222.39U	L111222.38U	L111222.37U	L111222.36U	L111222.33U	L111222.35U	L111222.34U	L111222.32U	
Section of EP or EC	(mm)											
Covering Population	(P)	4,879	5,215	554	1,581	533	2,949	758	4,121	272	585	
Flow rate	Average	(m ³ /s)	0.011	0.011	0.002	0.004	0.002	0.007	0.002	0.009	0.001	0.002
	Max	(m ³ /s)	0.019	0.020	0.003	0.006	0.002	0.012	0.003	0.016	0.002	0.003
Weir Height	(mm)											
Remarks	-											

Design Parameter List (6/55)

NO.1 Pa1 + NO.2 Lb1

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L111222.31U	L111222.30U	L111222.29U	L111222.25U	L111222.28U	L111222.27U	L111222.26U	L111222.24U	L111222.23U	L111222.22U	
Section of EP or EC	(mm)											
Covering Population	(P)	111	1,151	553	1,287	1,205	721	1,754	136	9,034	1,239	
Flow rate	Average	(m ³ /s)	0.001	0.003	0.002	0.003	0.003	0.002	0.004	0.001	0.019	0.003
	Max	(m ³ /s)	0.001	0.005	0.003	0.005	0.005	0.003	0.007	0.001	0.034	0.005
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L111222.19U	L111222.18U	L111222.20U	L111222.21U	L1112212.19U	L1112212.18U	L1112212.17U	L1112212.16U	L1112212.15U	L1112212.12U	
Section of EP or EC	(mm)											
Covering Population	(P)	5,405	6,699	1,017	5,900	5,059	632	1,795	1,070	1,544	1,093	
Flow rate	Average	(m ³ /s)	0.012	0.014	0.003	0.013	0.011	0.002	0.004	0.003	0.004	0.003
	Max	(m ³ /s)	0.021	0.026	0.004	0.023	0.019	0.003	0.007	0.005	0.006	0.005
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L1112212.14U	L1112212.13U	L1112212.11U	L1112212.7U	L1112212.8U	L1112212.9U	L1112212.10U	L1112212.6U	L1112212.5U	L111222.17U	
Section of EP or EC	(mm)											
Covering Population	(P)	185	3,124	223	246	381	6,412	5,845	4,153	1,335	213	
Flow rate	Average	(m ³ /s)	0.001	0.007	0.001	0.001	0.001	0.014	0.013	0.009	0.003	0.001
	Max	(m ³ /s)	0.001	0.012	0.001	0.001	0.002	0.025	0.022	0.016	0.006	0.001
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L111222.16U	L111222.15U	L111222.14U	L111222.12U	L111222.13U	L111222.11U	L111222.10U				
Section of EP or EC	(mm)											
Covering Population	(P)	132	1,532	3,324	159	177	1,972	229				
Flow rate	Average	(m ³ /s)	0.001	0.004	0.007	0.001	0.001	0.005	0.001	-	-	-
	Max	(m ³ /s)	0.001	0.006	0.013	0.001	0.001	0.008	0.001	-	-	-
Weir Height	(mm)											
Remarks	-											

Design Parameter List (7/55)

NO.1 Pa1 + NO.2 Lb1

3-3. Discharge Pipes

Item	Unit	DP ※Note ; DP:Discharge Pipes
Flow system	-	Gravity
Material	-	Steel
Aperture	(mm)	φ600
Gradient	(‰)	4.5
Flow rate Average	(m ³ /s)	0.451
Capacity	(m ³ /s)	0.536
Length	(m)	100

3-4. Manhole pumping station

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station										
		MP12	MP13	MP14	MP15	MP16	MP17	MP18	MP19	MP20	MP21	
Covering Population	(P)	7,295	7,849	5,097	19,789	6,529	41,137	3,656	1,795	1,278	1,335	
Flow rate	Average	(m ³ /min)	0.912	0.982	0.638	2.474	0.817	5.143	0.457	0.225	0.160	0.167
	Max	(m ³ /min)	1.642	1.767	1.147	4.453	1.470	9.256	0.823	0.404	0.288	0.301
Capacity	(m ³ /min)	1.600	1.700	1.100	4.400	1.500	9.200	0.800	0.400	0.300	0.300	
Number of pump	-	2	2	2	2	2	3	2	2	2	2	
Aperture	(mm)	100	100	100	150	100	150	100	80	80	80	
Pump head	(m)	7.8	8.2	8.5	7.8	8.2	7.7	7.7	17.6	8.5	21.8	
Output	(kw)	5.5	5.5	3.7	7.5	5.5	11.0	3.7	3.7	1.5	3.7	
Receiving Voltage	(v・60Hz)	230	230	230	230	230	230	230	230	230	230	

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station										
		MP40	MP41	MP42	MP43	MP47						
Covering Population	(P)	8,801	29,418	1,161	1,875	5,178						
Flow rate	Average	(m ³ /min)	1.101	3.678	0.146	0.235	0.648					
	Max	(m ³ /min)	1.981	6.620	0.262	0.422	1.166					
Capacity	(m ³ /min)	2.000	6.600	0.200	0.400	1.100						
Number of pump	-	2	3	2	2	2						
Aperture	(mm)	100	150	80	80	100						
Pump head	(m)	8.3	9.9	8.5	22.2	10.6						
Output	(kw)	3.7	11.0	1.5	3.7	5.5						
Receiving Voltage	(v・60Hz)	230	230	230	230	230						

Design Parameter List (8/55)

NO.3 Pa2 + NO.4 Pb2

1. District outline

1-1. District ID name:	P11
1-2. Catchment area (ha) :	2,510.76
1-3. Service population (people) :	427,932
1-4. Service barangay name :	San Diorisio(E), Moonwalk(W), Don Bosco(S), San Antonio, Marceio Green(S), San Isidro, BF Homes(N)

Note; N:North, S:South, E:East, W:West, M:Middle

2. STP outline

2-1. Name :	Pa2 + Pb2 STP
2-2. Process :	SBR
2-3. Required area (ha) :	3.21ha
2-4. Capacity (m ³ /day) :	77,028

3. Facilities list

3-1. Interceptor Pipes

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes										
		IP3-1	IP3-2	IP3-3	IP3-4	IP3-5	IP3-6	IP3-7	IP3-8	IP3-9	IP3-10	
Flow system	-	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ150	φ200	φ150	φ250	φ300	φ200	φ200	φ250	φ150	φ250	
Gradient	(%)	-	6.0	7.0	6.0	6.0	6.0	6.0	6.0	7.0	6.0	
Covering Population	(P)	4,077	2,815	1,844	4,659	8,736	3,373	4,159	4,570	89	4,765	
Flow rate	Average	(m ³ /s)	0.009	0.006	0.004	0.010	0.019	0.008	0.009	0.010	0.001	0.010
	Max	(m ³ /s)	0.016	0.011	0.007	0.018	0.033	0.013	0.016	0.018	0.001	0.018
Capacity	(m ³ /s)	-	0.033	0.017	0.060	0.097	0.033	0.033	0.060	0.017	0.060	
Length	(m)	250.00	310.00	70.00	160.00	630.00	540.00	150.00	250.00	60.00	60.00	

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes										
		IP3-11	IP3-12	IP3-13	IP3-14	IP3-15	IP3-16	IP3-17	IP3-18	IP3-19	IP3-20	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ300	φ250	φ150	φ250	φ350	φ300	φ250	φ350	φ200	φ400	
Gradient	(%)	6.0	6.0	7.0	6.0	5.5	6.0	6.0	5.5	6.0	5.5	
Catchment Area	(ha)	8,431	4,847	1,007	6,595	15,026	9,825	5,394	15,219	3,744	18,963	
Flow rate	Average	(m ³ /s)	0.018	0.011	0.003	0.014	0.032	0.021	0.012	0.032	0.008	0.040
	Max	(m ³ /s)	0.032	0.019	0.004	0.025	0.057	0.037	0.021	0.058	0.015	0.072
Capacity	(m ³ /s)	0.097	0.060	0.017	0.060	0.141	0.097	0.060	0.141	0.033	0.201	
Length	(m)	60.00	320.00	70.00	110.00	60.00	1,340.00	350.00	70.00	680.00	380.00	

Design Parameter List (9/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-21	IP3-22	IP3-23	IP3-24	IP3-25	IP3-26	IP3-27	IP3-28	IP3-29	IP3-30	
Flow system	-	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	Steel	Steel	Steel	Steel	Steel	ABS	ABS	
Aperture	(mm)	φ150	φ400	φ150	φ350	φ500	φ500	φ400	φ600	φ150	φ300	
Gradient	(%)	7.0	5.5	7.0	-	5.0	5.0	-	4.5	7.0	6.0	
Covering Population	(P)	1,314	20,277	816	36,119	36,119	37,072	38,745	47,481	1,411	10,956	
Flow rate	Average	(m ³ /s)	0.003	0.043	0.002	0.076	0.076	0.078	0.081	0.099	0.003	0.023
	Max	(m ³ /s)	0.005	0.077	0.004	0.136	0.136	0.140	0.146	0.179	0.006	0.042
Capacity	(m ³ /s)	0.017	0.201	0.017	-	0.347	0.347	-	0.536	0.017	0.097	
Length	(m)	200.00	640.00	80.00	270.00	270.00	90.00	720.00	980.00	70.00	230.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-31	IP3-32	IP3-33	IP3-34	IP3-35	IP3-36	IP3-37	IP3-38	IP3-39	IP3-40	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	
Material	-	Steel	ABS	ABS	Steel	Steel	ABS	ABS	ABS	ABS	Steel	
Aperture	(mm)	φ600	φ200	φ200	φ600	φ600	φ150	φ150	φ150	φ200	φ150	
Gradient	(%)	4.5	6.0	6.0	4.5	4.5	7.0	7.0	7.0	6.0	-	
Catchment Area	(ha)	58,437	2,741	4,500	64,806	68,875	1,073	835	1,489	3,931	3,931	
Flow rate	Average	(m ³ /s)	0.122	0.006	0.010	0.136	0.144	0.003	0.002	0.004	0.009	0.009
	Max	(m ³ /s)	0.220	0.011	0.017	0.244	0.259	0.005	0.004	0.006	0.015	0.015
Capacity	(m ³ /s)	0.536	0.033	0.033	0.536	0.536	0.017	0.017	0.017	0.033	-	
Length	(m)	490.00	440.00	400.00	100.00	310.00	80.00	320.00	380.00	50.00	420.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-41	IP3-42	IP3-43	IP3-44	IP3-45	IP3-46	IP3-47	IP3-48	IP3-49	IP3-50	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	
Material	-	Steel	ABS	ABS	ABS	Steel	ABS	ABS	ABS	ABS	Steel	
Aperture	(mm)	φ700	φ150	φ200	φ200	φ700	φ150	φ200	φ200	φ250	φ150	
Gradient	(%)	4.5	7.0	6.0	6.0	4.5	7.0	6.0	6.0	6.0	-	
Covering Population	(P)	72,806	439	2,496	2,935	75,741	2,277	3,277	4,254	4,933	4,933	
Flow rate	Average	(m ³ /s)	0.152	0.001	0.006	0.007	0.158	0.005	0.007	0.009	0.011	0.011
	Max	(m ³ /s)	0.274	0.002	0.010	0.012	0.285	0.009	0.013	0.016	0.019	0.019
Capacity	(m ³ /s)	0.808	0.017	0.033	0.033	0.808	0.017	0.033	0.033	0.060	-	
Length	(m)	350.00	310.00	530.00	50.00	460.00	260.00	80.00	350.00	30.00	410.00	

Design Parameter List (10/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-51	IP3-52	IP3-53	IP3-54	IP3-55	IP3-56	IP3-57	IP3-58	IP3-59	IP3-60	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	
Material	-	Steel	Steel	ABS	Steel	ABS	ABS	ABS	ABS	Steel	ABS	
Aperture	(mm)	φ700	φ700	φ150	φ700	φ200	φ250	φ150	φ200	φ200	φ300	
Gradient	(%)	4.5	4.5	7.0	4.5	6.0	6.0	7.0	6.0	-	6.0	
Catchment Area	(ha)	82,951	84,643	1,643	86,286	3,332	6,506	1,200	3,167	9,673	9,673	
Flow rate	Average	(m ³ /s)	0.173	0.177	0.004	0.180	0.007	0.014	0.003	0.007	0.021	0.021
	Max	(m ³ /s)	0.312	0.318	0.007	0.324	0.013	0.025	0.005	0.012	0.037	0.037
Capacity	(m ³ /s)	0.808	0.808	0.017	0.808	0.033	0.060	0.017	0.033	-	0.097	
Length	(m)	410.00	90.00	220.00	230.00	720.00	320.00	120.00	50.00	510.00	820.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-61	IP3-62	IP3-63	IP3-64	IP3-65	IP3-66	IP3-67	IP3-68	IP3-69	IP3-70	
Flow system	-	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	Steel	ABS	ABS	ABS	ABS	Steel	ABS	
Aperture	(mm)	φ250	φ150	φ350	φ250	φ350	φ400	φ400	φ350	φ500	φ150	
Gradient	(%)	6.0	7.0	5.5	-	5.5	5.5	5.5	5.5	5.0	7.0	
Catchment Area	(ha)	5,293	1,904	16,973	16,973	16,973	19,606	23,768	13,173	36,941	2,200	
Flow rate	Average	(m ³ /s)	0.012	0.004	0.036	0.036	0.036	0.041	0.050	0.028	0.077	0.005
	Max	(m ³ /s)	0.020	0.008	0.064	0.064	0.064	0.074	0.090	0.050	0.139	0.009
Capacity	(m ³ /s)	0.060	0.017	0.141	-	0.141	0.201	0.201	0.141	0.347	0.017	
Length	(m)	50.00		60.00	230.00	70.00	50.00	110.00	300.00	360.00	200.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-71	IP3-72	IP3-73	IP3-74	IP3-75	IP3-76	IP3-77	IP3-78	IP3-79	IP3-80	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	ABS	ABS	ABS	ABS	Steel	Steel	ABS	ABS	ABS	
Aperture	(mm)	φ500	φ200	φ150	φ150	φ200	φ200	φ600	φ150	φ150	φ200	
Gradient	(%)	5.0	6.0	7.0	7.0	6.0	-	4.5	7.0	7.0	6.0	
Covering Population	(P)	39,141	3,920	477	1,090	4,056	7,976	47,117	2,224	481	3,276	
Flow rate	Average	(m ³ /s)	0.082	0.009	0.001	0.003	0.009	0.017	0.099	0.005	0.002	0.007
	Max	(m ³ /s)	0.147	0.015	0.002	0.005	0.016	0.030	0.177	0.009	0.002	0.013
Capacity	(m ³ /s)	0.347	0.033	0.017	0.017	0.033	-	0.536	0.017	0.017	0.033	
Length	(m)	260.00	70.00	90.00	70.00	60.00	480.00	420.00	120.00	90.00	200.00	

Design Parameter List (11/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-81	IP3-82	IP3-83	IP3-84	IP3-85	IP3-86	IP3-87	IP3-88	IP3-89	IP3-90	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ200	φ250	φ150	φ150	φ250	φ150	φ300	φ150	φ150	φ200	
Gradient	(%)	6.0	6.0	7.0	7.0	6.0	7.0	6.0	7.0	7.0	6.0	
Catchment Area	(ha)	3,946	4,788	1,096	1,736	6,524	202	8,483	1,478	287	2,494	
Flow rate	Average	(m ³ /s)	0.009	0.010	0.003	0.004	0.014	0.001	0.018	0.004	0.001	0.006
	Max	(m ³ /s)	0.015	0.018	0.005	0.007	0.025	0.001	0.032	0.006	0.002	0.010
Capacity	(m ³ /s)	0.033	0.060	0.017	0.017	0.060	0.017	0.097	0.017	0.017	0.033	
Length	(m)	320.00	80.00	80.00	350.00	100.00	60.00	380.00	90.00	70.00	100.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-91	IP3-92	IP3-93	IP3-94	IP3-95	IP3-96	IP3-97	IP3-98	IP3-99	IP3-100	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	Steel	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ150	φ200	φ150	φ150	φ150	φ150	φ150	φ150	φ250	φ350	
Gradient	(%)	7.0	6.0	7.0	7.0	-	7.0	7.0	7.0	6.0	5.5	
Catchment Area	(ha)	777	3,271	1,976	2,343	5,614	715	1,512	2,227	7,841	16,324	
Flow rate	Average	(m ³ /s)	0.002	0.007	0.005	0.005	0.012	0.002	0.004	0.005	0.017	0.035
	Max	(m ³ /s)	0.003	0.013	0.008	0.009	0.022	0.003	0.006	0.009	0.030	0.062
Capacity	(m ³ /s)	0.017	0.033	0.017	0.017	-	0.017	0.017	0.017	0.060	0.141	
Length	(m)	70.00	90.00	50.00	190.00	530.00	260.00	220.00	100.00	90.00	250.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-101	IP3-102	IP3-103	IP3-104	IP3-105	IP3-106	IP3-107	IP3-108	IP3-109	IP3-110	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	
Material	-	ABS	Steel	ABS	ABS	ABS	ABS	ABS	Steel	ABS	ABS	
Aperture	(mm)	φ400	φ600	φ150	φ150	φ200	φ300	φ300	φ200	φ200	φ150	
Gradient	(%)	5.5	4.5	7.0	7.0	6.0	6.0	6.0	-	6.0	7.0	
Covering Population	(P)	20,928	68,045	1,144	1,586	3,102	10,893	12,037	12,037	4,469	1,853	
Flow rate	Average	(m ³ /s)	0.044	0.142	0.003	0.004	0.007	0.023	0.026	0.026	0.010	0.004
	Max	(m ³ /s)	0.079	0.256	0.005	0.006	0.012	0.041	0.046	0.046	0.017	0.007
Capacity	(m ³ /s)	0.201	0.536	0.017	0.017	0.033	0.097	0.097	-	0.033	0.017	
Length	(m)	160.00	670.00	50.00	170.00	180.00	380.00	190.00	160.00	50.00	170.00	

Design Parameter List (12/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-111	IP3-112	IP3-113	IP3-114	IP3-115	IP3-116	IP3-117	IP3-118	IP3-119	IP3-120	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Pressure	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	Steel	Steel	ABS	Steel	
Aperture	(mm)	φ350	φ250	φ250	φ250	φ450	φ450	φ500	φ150	φ250	φ400	
Gradient	(%)	5.5	6.0	6.0	6.0	5.0	5.0	5.0	-	6.0	-	
Catchment Area	(ha)	18,359	5,242	5,981	6,835	28,556	30,788	35,297	4,452	6,312	41,609	
Flow rate	Average	(m ³ /s)	0.039	0.011	0.013	0.015	0.060	0.065	0.074	0.010	0.014	0.087
	Max	(m ³ /s)	0.069	0.020	0.023	0.026	0.108	0.116	0.133	0.017	0.024	0.157
Capacity	(m ³ /s)	0.141	0.060	0.060	0.060	0.262	0.262	0.347	-	0.060	-	
Length	(m)	270.00	100.00	150.00	270.00	290.00	40.00	160.00	160.00	180.00	220.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-121	IP3-122	IP3-123	IP3-124	IP3-125	IP3-126	IP3-127	IP3-128	IP3-129	IP3-130	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	Steel	Steel	Steel	
Aperture	(mm)	φ150	φ200	φ250	φ250	φ300	φ350	φ150	φ250	φ600	φ700	
Gradient	(%)	7.0	6.0	6.0	6.0	6.0	5.5	7.0	-	4.5	4.5	
Catchment Area	(ha)	121	2,698	4,861	7,559	10,571	18,130	1,514	19,644	61,253	129,298	
Flow rate	Average	(m ³ /s)	0.001	0.006	0.011	0.016	0.023	0.038	0.004	0.041	0.128	0.270
	Max	(m ³ /s)	0.001	0.011	0.019	0.029	0.040	0.068	0.006	0.074	0.230	0.485
Capacity	(m ³ /s)	0.017	0.033	0.060	0.060	0.097	0.141	0.017	-	0.536	0.808	
Length	(m)	280.00	50.00	60.00	120.00	180.00	150.00	50.00	330.00	680.00	270.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-131	IP3-132	IP3-133	IP3-134	IP3-135	IP3-136	IP3-137	IP3-138	IP3-139	IP3-140	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	Steel	ABS	Steel	
Aperture	(mm)	φ150	φ150	φ150	φ250	φ150	φ150	φ150	φ150	φ250	φ700	
Gradient	(%)	7.0	7.0	7.0	6.0	7.0	7.0	7.0	-	6.0	4.5	
Covering Population	(P)	517	1,223	440	4,859	537	1,033	1,529	6,388	6,388	135,686	
Flow rate	Average	(m ³ /s)	0.002	0.003	0.001	0.011	0.002	0.003	0.004	0.014	0.014	0.283
	Max	(m ³ /s)	0.002	0.005	0.002	0.019	0.003	0.004	0.006	0.024	0.024	0.509
Capacity	(m ³ /s)	0.017	0.017	0.017	0.060	0.017	0.017	0.017	-	0.060	0.808	
Length	(m)	420.00	100.00	360.00	80.00	90.00	200.00	60.00	440.00	290.00	290.00	

Design Parameter List (13/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-141	IP3-142	IP3-143	IP3-144	IP3-145	IP3-146	IP3-147	IP3-148	IP3-149	IP3-150	
Flow system	-	Gravity	Pressure	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	Steel	Steel	ABS	ABS	Steel	ABS	Steel	ABS	Steel	
Aperture	(mm)	φ250	φ150	φ700	φ200	φ250	φ150	φ250	φ900	φ200	φ900	
Gradient	(%)	6.0	-	4.5	6.0	6.0	-	6.0	4.0	6.0	4.0	
Catchment Area	(ha)	5,345	5,345	141,031	3,577	5,266	5,266	5,266	232,583	3,876	236,459	
Flow rate	Average	(m ³ /s)	0.012	0.012	0.294	0.008	0.011	0.011	0.011	0.485	0.009	0.493
	Max	(m ³ /s)	0.021	0.021	0.529	0.014	0.020	0.020	0.020	0.873	0.015	0.887
Capacity	(m ³ /s)	0.060	-	0.808	0.033	0.060	-	0.060	1.489	0.033	1.489	
Length	(m)	50.00	360.00	410.00	50.00	50.00	250.00	270.00	100.00	130.00	410.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-151	IP3-152	IP3-153	IP3-154	IP3-155	IP3-156	IP3-157	IP3-158	IP3-159	IP3-160	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	Steel	ABS	ABS	ABS	Steel	
Aperture	(mm)	φ150	φ200	φ200	φ200	φ300	φ250	φ150	φ200	φ250	φ900	
Gradient	(%)	7.0	6.0	6.0	6.0	6.0	-	7.0	6.0	6.0	4.0	
Catchment Area	(ha)	1,039	2,737	3,776	3,724	10,252	14,028	2,401	3,594	5,177	255,664	
Flow rate	Average	(m ³ /s)	0.003	0.006	0.008	0.008	0.022	0.030	0.006	0.008	0.011	0.533
	Max	(m ³ /s)	0.004	0.011	0.015	0.014	0.039	0.053	0.010	0.014	0.020	0.959
Capacity	(m ³ /s)	0.017	0.033	0.033	0.033	0.097	-	0.017	0.033	0.060	1.489	
Length	(m)	260.00	120.00	510.00	150.00	50.00	310.00	170.00	60.00	150.00	350.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-161	IP3-162	IP3-163	IP3-164	IP3-165	IP3-166	IP3-167	IP3-168	IP3-169	IP3-170	
Flow system	-	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	
Material	-	ABS	Steel	Steel	ABS	ABS	Steel	ABS	ABS	Steel	ABS	
Aperture	(mm)	φ200	φ100	φ900	φ150	φ150	φ900	φ150	φ150	φ250	φ150	
Gradient	(%)	6.0	-	4.0	7.0	7.0	4.0	7.0	7.0	-	7.0	
Covering Population	(P)	2,610	2,610	258,274	773	1,689	260,565	502	527	16,419	1,054	
Flow rate	Average	(m ³ /s)	0.006	0.006	0.539	0.002	0.004	0.543	0.002	0.002	0.035	0.003
	Max	(m ³ /s)	0.010	0.010	0.969	0.003	0.007	0.978	0.002	0.002	0.062	0.004
Capacity	(m ³ /s)	0.033	-	1.489	0.017	0.017	1.489	0.017	0.017	-	0.017	
Length	(m)	50.00	440.00	280.00	110.00	80.00	280.00	70.00	50.00	190.00	630.00	

Design Parameter List (14/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-171	IP3-172	IP3-173	IP3-174	IP3-175	IP3-176	IP3-177	IP3-178	IP3-179	IP3-180	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	Steel	Steel	
Aperture	(mm)	φ200	φ250	φ400	φ400	φ150	φ250	φ450	φ200	φ500	φ500	
Gradient	(%)	6.0	6.0	5.5	5.5	7.0	6.0	5.0	6.0	5.0	5.0	
Catchment Area	(ha)	3,479	5,046	22,492	25,785	1,994	7,726	33,511	2,937	36,448	39,121	
Flow rate	Average	(m ³ /s)	0.008	0.011	0.047	0.054	0.005	0.017	0.070	0.007	0.076	0.082
	Max	(m ³ /s)	0.014	0.019	0.085	0.097	0.008	0.029	0.126	0.012	0.137	0.147
Capacity	(m ³ /s)	0.033	0.060	0.201	0.201	0.017	0.060	0.262	0.033	0.347	0.347	
Length	(m)	500.00	500.00	70.00	570.00	500.00	280.00	90.00	460.00	130.00	210.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-181	IP3-182	IP3-183	IP3-184	IP3-185	IP3-186	IP3-187	IP3-188	IP3-189	IP3-190	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	
Material	-	ABS	Steel	Steel	Steel	ABS	ABS	Steel	ABS	ABS	Steel	
Aperture	(mm)	φ200	φ500	φ1000	φ1000	φ200	φ200	φ1000	φ250	φ150	φ200	
Gradient	(%)	6.0	5.0	3.5	3.5	6.0	6.0	3.5	6.0	7.0	-	
Catchment Area	(ha)	2,776	41,897	304,926	308,568	2,810	3,213	311,781	7,385	1,877	9,262	
Flow rate	Average	(m ³ /s)	0.006	0.088	0.636	0.643	0.006	0.007	0.650	0.016	0.004	0.020
	Max	(m ³ /s)	0.011	0.158	1.144	1.158	0.011	0.013	1.170	0.028	0.008	0.035
Capacity	(m ³ /s)	0.033	0.347	1.844	1.844	0.033	0.033	1.844	0.060	0.017	-	
Length	(m)	100.00	110.00	450.00	180.00	50.00	350.00	710.00	190.00	50.00	280.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-191	IP3-192	IP3-193	IP3-194	IP3-195	IP3-196	IP3-197	IP3-198	IP3-199	IP3-200	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	Steel	Steel	Steel	Steel	ABS	ABS	
Aperture	(mm)	φ300	φ450	φ200	φ250	φ200	φ500	φ600	φ600	φ350	φ350	
Gradient	(%)	6.0	5.0	6.0	6.0	-	5.0	4.5	4.5	5.5	5.5	
Covering Population	(P)	9,262	32,050	4,278	6,029	10,442	42,492	51,948	56,921	17,789	18,279	
Flow rate	Average	(m ³ /s)	0.020	0.067	0.009	0.013	0.022	0.089	0.109	0.119	0.038	0.039
	Max	(m ³ /s)	0.035	0.121	0.017	0.023	0.040	0.160	0.195	0.214	0.067	0.069
Capacity	(m ³ /s)	0.097	0.262	0.033	0.060	-	0.347	0.536	0.536	0.141	0.141	
Length	(m)	520.00	480.00	280.00	320.00	270.00	170.00	110.00	50.00	190.00	50.00	

Design Parameter List (15/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-201	IP3-202	IP3-203	IP3-204	IP3-205	IP3-206	IP3-207	IP3-208	IP3-209	IP3-210	
Flow system	-	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	Steel	Steel	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ400	φ200	φ300	φ700	φ150	φ150	φ150	φ200	φ150	φ300	
Gradient	(‰)	5.5	6.0	-	4.5	7.0	7.0	7.0	6.0	7.0	6.0	
Catchment Area	(ha)	19,101	2,695	21,796	78,717	761	1,602	1,969	4,304	1,018	11,210	
Flow rate	Average	(m ³ /s)	0.040	0.006	0.046	0.164	0.002	0.004	0.005	0.009	0.003	0.024
	Max	(m ³ /s)	0.072	0.011	0.082	0.296	0.003	0.007	0.008	0.017	0.004	0.043
Capacity	(m ³ /s)	0.201	0.033	-	0.808	0.017	0.017	0.017	0.033	0.017	0.097	
Length	(m)	380.00	120.00	210.00	450.00	30.00	80.00	30.00	990.00	40.00	70.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP3-211	IP3-212	IP3-213	IP3-214	IP3-215	IP3-216	IP4-1	IP4-2	IP4-3	IP4-4	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	
Material	-	Steel	Steel	Steel	ABS	ABS	Steel	ABS	ABS	ABS	Steel	
Aperture	(mm)	φ700	φ700	φ1100	φ200	φ300	φ1200	φ350	φ150	φ350	φ300	
Gradient	(‰)	4.5	4.5	3.5	6.0	6.0	3.0	5.5	7.0	5.5	-	
Catchment Area	(ha)	94,231	94,231	415,274	4,217	8,441	427,932	13,331	638	13,969	19,902	
Flow rate	Average	(m ³ /s)	0.197	0.197	0.866	0.009	0.018	0.892	0.028	0.002	0.030	0.042
	Max	(m ³ /s)	0.354	0.354	1.558	0.016	0.032	1.605	0.050	0.003	0.053	0.075
Capacity	(m ³ /s)	0.808	0.808	2.378	0.033	0.097	2.777	0.141	0.017	0.141	-	
Length	(m)	200.00	350.00	370.00	330.00	180.00	50.00	1,580.00	550.00	100.00	120.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes									
		IP4-5	IP4-6	IP4-7							
Flow system	-	Gravity	Gravity	Gravity							
Material	-	ABS	ABS	ABS							
Aperture	(mm)	φ400	φ400	φ450							
Gradient	(‰)	5.5	5.5	5.0							
Covering Population	(P)	19,902	19,902	27,814							
Flow rate	Average	(m ³ /s)	0.042	0.042	0.058						
	Max	(m ³ /s)	0.075	0.075	0.105						
Capacity	(m ³ /s)	0.201	0.201	0.262							
Length	(m)	220.00	220.00	1,020.00							

Design Parameter List (16/55)

NO.3 Pa2 + NO.4 Pb2

3-2. Conversion Manhole

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P212112111.3	P212112111.5A	P212112111.4A	P212112112.11A	P212112112.10A	P212112112.8A	P212112112.5	P212112112.4	P212112112.3	P212112112.7A	
Section of EP or EC	(mm)											
Covering Population	(P)	4,077	2,815	1,844	3,373	786	411	89	106	3,666	4,847	
Flow rate	Average	(m ³ /s)	0.009	0.006	0.004	0.008	0.002	0.001	0.001	0.001	0.008	0.011
	Max	(m ³ /s)	0.016	0.011	0.007	0.013	0.003	0.002	0.001	0.001	0.014	0.019
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P212112112.1	P212112112.2	M.1A	M.2A	M.3A	P212112112.9A	P212112112.6A	P212112111.1	P212112111.2	P21211112.5A	
Section of EP or EC	(mm)											
Covering Population	(P)	1,007	741	9,825	5,394	3,744	1,314	816	953	1,673	1,411	
Flow rate	Average	(m ³ /s)	0.003	0.002	0.021	0.012	0.008	0.003	0.002	0.002	0.004	0.003
	Max	(m ³ /s)	0.004	0.003	0.037	0.021	0.015	0.005	0.004	0.004	0.007	0.006
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P2121112.4A	P21211112.21A	P21211112.20A	P2121111.8A	P2121111.7A	P2121111.2	P2121111.3A	P2121111.5A	P2121111.1	P2121111.6A	
Section of EP or EC	(mm)											
Covering Population	(P)	9,545	2,741	1,759	1,869	4,069	1,073	835	654	1,369	439	
Flow rate	Average	(m ³ /s)	0.020	0.006	0.004	0.004	0.009	0.003	0.002	0.002	0.003	0.001
	Max	(m ³ /s)	0.036	0.011	0.007	0.008	0.016	0.005	0.004	0.003	0.006	0.002
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P2121111.4A	P212111.1A	P212111.2A	P212111.3A	P2121112.1	P21211.12U	P21211.10U	P2121222.10A	P2121222.9A	P2121222.2U	
Section of EP or EC	(mm)											
Covering Population	(P)	2,496	2,277	3,277	977	679	1,692	1,643	3,332	3,174	1,200	
Flow rate	Average	(m ³ /s)	0.006	0.005	0.007	0.003	0.002	0.004	0.004	0.007	0.007	0.003
	Max	(m ³ /s)	0.010	0.009	0.013	0.004	0.003	0.007	0.007	0.013	0.012	0.005
Weir Height	(mm)											
Remarks	-											

Design Parameter List (17/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P2121222.3U	P2121221.8U	P2121221.11A	P2121221.7U	P2121221.5U	P2121221.6U	P2121221.10A	P2121221.9A	P2121221.4U	P2121221.1U	
Section of EP or EC	(mm)											
Covering Population	(P)	1,967	5,293	1,904	103	2,633	4,162	13,173	2,200	3,920	477	
Flow rate	Average	(m ³ /s)	0.005	0.012	0.004	0.001	0.006	0.009	0.028	0.005	0.009	0.001
	Max	(m ³ /s)	0.008	0.020	0.008	0.001	0.010	0.016	0.050	0.009	0.015	0.002
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P2121221.3U	P2121221.2U	P21211212.7A	P21211212.6A	P21211212.5A	P21211212.4A	P21211212.3A	P21211211.1A	P21211211.2A	P21211212.1	
Section of EP or EC	(mm)											
Covering Population	(P)	613	2,966	2,224	481	571	670	842	1,096	640	202	
Flow rate	Average	(m ³ /s)	0.002	0.007	0.005	0.002	0.002	0.002	0.002	0.003	0.002	0.001
	Max	(m ³ /s)	0.003	0.012	0.009	0.002	0.003	0.003	0.004	0.005	0.003	0.001
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P21211212.2	P212112.5	P212112.3U	P212112.4	P212115.12A	P2121121.2	P2121121.1	P2121122.1A	P2121121.3A	P2121122.2A	
Section of EP or EC	(mm)											
Covering Population	(P)	1,757	1,478	287	729	777	1,976	367	715	1,512	4,604	
Flow rate	Average	(m ³ /s)	0.004	0.004	0.001	0.002	0.002	0.005	0.001	0.002	0.004	0.010
	Max	(m ³ /s)	0.007	0.006	0.002	0.003	0.003	0.008	0.002	0.003	0.006	0.018
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P2121222.1	P2121222.8A	P2121222.7A	P2121222.6A	P2121222.5A	P2121222.4A	P212122.10A	P212122.11A	P212122.9A	P212122.8	
Section of EP or EC	(mm)											
Covering Population	(P)	1,144	1,586	1,516	7,791	4,469	1,853	5,242	739	854	3,362	
Flow rate	Average	(m ³ /s)	0.003	0.004	0.004	0.017	0.010	0.004	0.011	0.002	0.002	0.008
	Max	(m ³ /s)	0.005	0.006	0.006	0.030	0.017	0.007	0.020	0.003	0.004	0.013
Weir Height	(mm)											
Remarks	-											

Design Parameter List (18/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P212122.6	P212122.7	P212122.4	P212122.5	P212122.1	P212122.2	P212121.1U	P212121.2U	P212122.3	P212115.6A	
Section of EP or EC	(mm)											
Covering Population	(P)	2,232	4,509	4,452	1,860	121	2,577	4,861	10,571	1,514	517	
Flow rate	Average	(m ³ /s)	0.005	0.010	0.010	0.004	0.001	0.006	0.011	0.023	0.004	0.002
	Max	(m ³ /s)	0.009	0.017	0.017	0.007	0.001	0.010	0.019	0.040	0.006	0.002
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P212115.10A	P212115.11A	P212115.9A	P212115.7A	P212115.8A	P212112.2U	P212112.1	P21212.8	P21212.9	P21211.11U	
Section of EP or EC	(mm)											
Covering Population	(P)	706	440	3,196	537	496	496	5,345	3,577	1,689	3,876	
Flow rate	Average	(m ³ /s)	0.002	0.001	0.007	0.002	0.002	0.002	0.012	0.008	0.004	0.009
	Max	(m ³ /s)	0.003	0.002	0.012	0.003	0.002	0.002	0.021	0.014	0.007	0.015
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P21212.7	P21212.6	P21212.4	P21212.5	P21211.7U	P21211.9U	P21211.8U	P21212.3	P21211.6U	P21211.5U	
Section of EP or EC	(mm)											
Covering Population	(P)	1,039	2,737	3,724	6,528	2,401	1,193	1,583	2,610	773	916	
Flow rate	Average	(m ³ /s)	0.003	0.006	0.008	0.014	0.006	0.003	0.004	0.006	0.002	0.002
	Max	(m ³ /s)	0.004	0.011	0.014	0.025	0.010	0.005	0.006	0.010	0.003	0.004
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P21211.4U	P2122.2	P2122.3	P2122.6U	P2122.9A	P2122.8A	P2122.7A	P2122.5	P2122.4	P2121.3A	
Section of EP or EC	(mm)											
Covering Population	(P)	602	502	25	16,419	1,054	2,425	1,567	1,027	2,766	1,994	
Flow rate	Average	(m ³ /s)	0.002	0.002	0.001	0.035	0.003	0.006	0.004	0.003	0.006	0.005
	Max	(m ³ /s)	0.003	0.002	0.001	0.062	0.004	0.010	0.006	0.004	0.011	0.008
Weir Height	(mm)											
Remarks	-											

Design Parameter List (19/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P2121.10A	P21212.2	P21212.1	P21211.2U	P21211.3U	P21211.1U	P2121.1	P2121.2	P211.10	P211.9	
Section of EP or EC	(mm)											
Covering Population	(P)	5,732	2,937	2,673	2,776	2,464	3,642	2,810	403	7,385	1,877	
Flow rate	Average	(m ³ /s)	0.012	0.007	0.006	0.006	0.006	0.008	0.006	0.001	0.016	0.004
	Max	(m ³ /s)	0.022	0.012	0.011	0.011	0.010	0.014	0.011	0.002	0.028	0.008
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P2.2U	P212.2A	P212.1A	P21.1	P211.1	P211.2	P211.8	P211.5U	P211.4U	P211.3	
Section of EP or EC	(mm)											
Covering Population	(P)	4,236	4,278	1,751	4,413	9,456	4,973	17,789	490	822	2,695	
Flow rate	Average	(m ³ /s)	0.009	0.009	0.004	0.010	0.020	0.011	0.038	0.002	0.002	0.006
	Max	(m ³ /s)	0.016	0.017	0.007	0.017	0.036	0.019	0.067	0.002	0.004	0.011
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P211.10	P211.8U	P211.7U	P211.9	P211.7	P211.6	P2122.1U	P212.3A	P22.5A	P22.2U	
Section of EP or EC	(mm)											
Covering Population	(P)	761	841	367	2,335	1,018	10,192	4,217	8,441	13,331	638	
Flow rate	Average	(m ³ /s)	0.002	0.002	0.001	0.005	0.003	0.022	0.009	0.018	0.028	0.002
	Max	(m ³ /s)	0.003	0.004	0.002	0.009	0.004	0.039	0.016	0.032	0.050	0.003
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole									
		P22.1	P22.4								
Section of EP or EC	(mm)										
Covering Population	(P)	5,933	7,912								
Flow rate	Average	(m ³ /s)	0.013	0.017							
	Max	(m ³ /s)	0.023	0.030							
Weir Height	(mm)										
Remarks	-										

Design Parameter List (20/55)

NO.3 Pa2 + NO.4 Pb2

3-3. Discharge Pipes

Item	Unit	DP ※Note ; DP:Discharge Pipes
Flow system	-	Gravity
Material	-	Steel
Aperture	(mm)	φ800
Gradient	(%)	4.0
Flow rate Average	(m ³ /s)	0.892
Capacity	(m ³ /s)	1.087
Length	(m)	100

3-4. Manhole pumping station

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station										
		MP44	MP45	MP46	MP50	MP51	MP52	MP53	MP54	MP55	MP56	
Covering Population	(P)	3,876	34,599	37,225	3,931	4,772	9,353	16,392	7,637	5,614	11,653	
Flow rate	Average	(m ³ /min)	0.485	4.325	4.654	0.492	0.597	1.170	2.049	0.955	0.702	1.457
	Max	(m ³ /min)	0.873	7.785	8.376	0.885	1.074	2.105	3.689	1.719	1.264	2.622
Capacity	(m ³ /min)	0.900	7.800	8.400	0.900	1.100	2.100	3.700	1.700	1.300	2.600	
Number of pump	-	2	3	3	2	2	2	2	2	2	2	
Aperture	(mm)	100	150	150	100	100	100	150	100	100	100	
Pump head	(m)	8.9	8.8	12.7	10.3	11.6	11.6	9.0	10.0	15.2	9.2	
Output	(kw)	3.7	11.0	15.0	3.7	5.5	5.5	7.5	3.7	5.5	5.5	
Receiving Voltage	(v・60Hz)	230	230	230	230	230	230	230	230	230	230	

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station										
		MP57	MP58	MP59	MP60	MP61	MP62	MP63	MP64	MP65	MP66	
Covering Population	(P)	4,233	40,030	18,757	6,231	5,082	5,090	13,388	2,481	15,610	8,898	
Flow rate	Average	(m ³ /min)	0.530	5.004	2.345	0.779	0.636	0.637	1.674	0.311	1.952	1.113
	Max	(m ³ /min)	0.953	9.007	4.221	1.402	1.144	1.146	3.013	0.559	3.513	2.003
Capacity	(m ³ /min)	1.000	9.000	4.200	1.400	1.100	1.100	3.000	0.500	3.500	2.000	
Number of pump	-	2	3	3	2	2	2	2	2	2	2	
Aperture	(mm)	100	150	150	100	100	100	100	80	150	100	
Pump head	(m)	8.5	8.0	10.7	14.7	11.1	9.8	8.9	15.3	8.5	2.0	
Output	(kw)	3.7	11.0	7.5	5.5	5.5	5.5	5.5	3.7	7.5	3.7	
Receiving Voltage	(v・60Hz)	230	230	230	230	230	230	230	230	230	230	

Design Parameter List (21/55)

NO.3 Pa2 + NO.4 Pb2

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station							
		MP67	MP68	MP72	MP5-1				
Covering Population	(P)	10,014	20,787	18,484	18,484				
Flow rate	Average	(m ³ /min)	1.252	2.599	2.311	2.311			
	Max	(m ³ /min)	2.254	4.678	4.159	4.159			
Capacity	(m ³ /min)	2.300	4.700	4.100	5.800				
Number of pump	-	2	3	2	3				
Aperture	(mm)	100	150	150	150				
Pump head	(m)	9.9	8.2	8.3	15.4				
Output	(kw)	5.5	5.5	7.5	15.0				
Receiving Voltage	(v・60Hz)	230	230	230	230				

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station							
Covering Population	(P)								
Flow rate	Average	(m ³ /min)							
	Max	(m ³ /min)							
Capacity	(m ³ /min)								
Number of pump	-								
Aperture	(mm)								
Pump head	(m)								
Output	(kw)								
Receiving Voltage	(v・60Hz)								

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station							
Covering Population	(P)								
Flow rate	Average	(m ³ /min)	-	-	-	-	-	-	-
	Max	(m ³ /min)	-	-	-	-	-	-	-
Capacity	(m ³ /min)								
Number of pump	-								
Aperture	(mm)								
Pump head	(m)								
Output	(kw)								
Receiving Voltage	(v・60Hz)								

Design Parameter List (22/55)

NO.5 Pb1 + PP2

1. District outline

1-1. District ID name:	P4
1-2. Catchment area (ha) :	978.85
1-3. Service population (people) :	160,251
1-4. Service barangay name :	Merville, San Martin de Porres, Moonwalk(E), Don Bosco(N), Marcelo Green(N), PP2 district [Part of Pasay city]

Note; N:North, S:South, E:East, W:West, M:Middle

2. STP outline

2-1. Name :	Pb1 STP
2-2. Process :	OD
2-3. Required area (ha) :	3.33ha
2-4. Capacity (m ³ /day) :	28,845

3. Facilities list

3-1. Interceptor Pipes

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes										
		IP5-1	IP5-2	IP5-3	IP5-4	IP5-5	IP5-6	IP5-7	IP5-8	IP5-9	IP5-10	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ150	φ250	φ150	φ200	φ200	φ200	φ300	φ350	φ350	φ400	
Gradient	(%)	7.0	6.0	7.0	6.0	6.0	6.0	6.0	5.5	5.5	5.5	
Covering Population	(P)	1,228	4,765	2,145	3,616	2,593	3,145	12,845	16,461	18,014	21,472	
Flow rate	Average	(m ³ /s)	0.003	0.010	0.005	0.008	0.006	0.007	0.027	0.035	0.038	0.045
	Max	(m ³ /s)	0.005	0.018	0.009	0.014	0.010	0.012	0.049	0.062	0.068	0.081
Capacity	(m ³ /s)	0.017	0.060	0.017	0.033	0.033	0.033	0.097	0.141	0.141	0.201	
Length	(m)	200.00	420.00	350.00	60.00	90.00	150.00	480.00	100.00	50.00	200.00	

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes										
		IP5-11	IP5-12	IP5-13	IP5-14	IP5-15	IP5-16	IP5-17	IP5-18	IP5-19	IP5-20	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	Steel	ABS	ABS	Steel	Steel	ABS	ABS	ABS	
Aperture	(mm)	φ400	φ250	φ500	φ150	φ200	φ500	φ500	φ250	φ300	φ300	
Gradient	(%)	5.5	6.0	5.0	7.0	6.0	5.0	5.0	6.0	6.0	6.0	
Catchment Area	(ha)	23,110	7,706	35,581	883	2,509	38,090	38,541	6,802	8,144	11,498	
Flow rate	Average	(m ³ /s)	0.049	0.017	0.075	0.002	0.006	0.080	0.081	0.015	0.017	0.024
	Max	(m ³ /s)	0.087	0.029	0.134	0.004	0.010	0.143	0.145	0.026	0.031	0.044
Capacity	(m ³ /s)	0.201	0.060	0.347	0.017	0.033	0.347	0.347	0.060	0.097	0.097	
Length	(m)	110.00	460.00	170.00	80.00	210.00	340.00	180.00	350.00	320.00	530.00	

Design Parameter List (23/55)

NO.5 Pb1 + PP2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP5-21	IP5-22	IP5-23	IP5-24	IP5-25	IP5-26	IP5-27	IP5-28	IP5-29	IP5-30	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	Steel	ABS	ABS	ABS	Steel	
Aperture	(mm)	φ150	φ300	φ150	φ150	φ200	φ600	φ150	φ150	φ150	φ600	
Gradient	(%)	7.0	6.0	7.0	7.0	6.0	4.5	7.0	7.0	7.0	4.5	
Covering Population	(P)	629	12,127	1,896	672	2,568	53,236	224	960	1,184	55,834	
Flow rate	Average	(m ³ /s)	0.002	0.026	0.004	0.002	0.006	0.111	0.001	0.002	0.003	0.117
	Max	(m ³ /s)	0.003	0.046	0.008	0.003	0.010	0.200	0.001	0.004	0.005	0.210
Capacity	(m ³ /s)	0.017	0.097	0.017	0.017	0.033	0.536	0.017	0.017	0.017	0.536	
Length	(m)	180.00	100.00	150.00	70.00	80.00	190.00	260.00	50.00	570.00	320.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP5-31	IP5-32	IP5-33	IP5-34	IP5-35	IP5-36	IP5-37	IP5-38	IP5-39	IP5-40	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	Steel	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ150	φ150	φ150	φ200	φ250	φ600	φ200	φ200	φ250	φ150	
Gradient	(%)	7.0	7.0	7.0	6.0	6.0	4.5	6.0	6.0	6.0	7.0	
Catchment Area	(ha)	831	639	1,470	2,679	7,243	63,077	3,297	4,146	6,157	1,619	
Flow rate	Average	(m ³ /s)	0.002	0.002	0.004	0.006	0.016	0.132	0.007	0.009	0.013	0.004
	Max	(m ³ /s)	0.004	0.003	0.006	0.011	0.028	0.237	0.013	0.016	0.024	0.007
Capacity	(m ³ /s)	0.017	0.017	0.017	0.033	0.060	0.536	0.033	0.033	0.060	0.017	
Length	(m)	130.00	60.00	260.00	150.00	50.00	700.00	50.00	580.00	360.00	410.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP5-41	IP5-42	IP5-43	IP5-44	IP5-45	IP5-46	IP5-47	IP5-48	IP5-49	IP5-50	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	Steel	Steel	ABS	Steel	ABS	
Aperture	(mm)	φ150	φ300	φ350	φ150	φ350	φ250	φ700	φ150	φ700	φ200	
Gradient	(%)	7.0	6.0	5.5	7.0	5.5	-	4.5	7.0	4.5	6.0	
Covering Population	(P)	2,388	10,036	14,474	872	15,956	17,060	80,137	1,171	81,308	3,147	
Flow rate	Average	(m ³ /s)	0.005	0.021	0.031	0.002	0.034	0.036	0.167	0.003	0.170	0.007
	Max	(m ³ /s)	0.009	0.038	0.055	0.004	0.060	0.064	0.301	0.005	0.305	0.012
Capacity	(m ³ /s)	0.017	0.097	0.141	0.017	0.141	-	0.808	0.017	0.808	0.033	
Length	(m)	140.00	500.00	50.00	410.00	230.00	210.00	320.00	380.00	1,200.00	330.00	

Design Parameter List (24/55)

NO.5 Pb1 + PP2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP5-51	IP5-52	IP5-53	IP5-54	IP5-55	IP5-56	IP5-57	IP5-58	IP5-59	IP5-60	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	Steel	Steel	ABS	ABS	Steel	ABS	Steel	ABS	
Aperture	(mm)	φ250	φ250	φ500	φ500	φ250	φ250	φ500	φ150	φ500	φ150	
Gradient	(%)	6.0	6.0	5.0	5.0	6.0	6.0	5.0	7.0	5.0	7.0	
Catchment Area	(ha)	4,871	7,254	37,516	37,516	5,149	5,869	43,385	368	43,753	278	
Flow rate	Average	(m ³ /s)	0.011	0.016	0.079	0.079	0.011	0.013	0.091	0.001	0.092	0.001
	Max	(m ³ /s)	0.019	0.028	0.141	0.141	0.020	0.023	0.163	0.002	0.165	0.002
Capacity	(m ³ /s)	0.060	0.060	0.347	0.347	0.060	0.060	0.347	0.017	0.347	0.017	
Length	(m)	550.00	100.00	170.00	1,700.00	530.00	100.00	700.00	50.00	30.00	50.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP5-61	IP5-62	IP5-63	IP5-64	IP5-65	IP5-66	IP5-67	IP5-68	IP5-69	IP5-70	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	Steel	Steel	ABS	Steel	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ500	φ500	φ500	φ150	φ500	φ150	φ200	φ150	φ150	φ150	
Gradient	(%)	5.0	5.0	5.0	7.0	5.0	7.0	6.0	7.0	7.0	7.0	
Catchment Area	(ha)	44,031	44,031	44,291	1,364	45,655	1,504	4,540	1,029	1,177	83	
Flow rate	Average	(m ³ /s)	0.092	0.092	0.093	0.003	0.096	0.004	0.010	0.003	0.003	0.001
	Max	(m ³ /s)	0.166	0.166	0.167	0.006	0.172	0.006	0.018	0.004	0.005	0.001
Capacity	(m ³ /s)	0.347	0.347	0.347	0.017	0.347	0.017	0.033	0.017	0.017	0.017	
Length	(m)	60.00	110.00	350.00	230.00	140.00	260.00	800.00	60.00	20.00	50.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP5-71	IP5-72	IP5-73	IP5-74	IP5-75	IP5-76	IP5-77	IP5-78	IP5-79	IP5-80	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ150	φ150	φ150	φ150	φ150	φ150	φ200	φ150	φ150	φ200	
Gradient	(%)	7.0	7.0	7.0	7.0	7.0	7.0	6.0	7.0	7.0	6.0	
Covering Population	(P)	275	691	966	1,037	1,120	2,297	2,849	575	337	3,761	
Flow rate	Average	(m ³ /s)	0.001	0.002	0.003	0.003	0.003	0.005	0.006	0.002	0.001	0.008
	Max	(m ³ /s)	0.002	0.003	0.004	0.004	0.005	0.009	0.011	0.003	0.002	0.015
Capacity	(m ³ /s)	0.017	0.017	0.017	0.017	0.017	0.017	0.033	0.017	0.017	0.033	
Length	(m)	80.00	250.00	120.00	50.00	50.00	50.00	450.00	320.00	200.00	410.00	

Design Parameter List (25/55)

NO.5 Pb1 + PP2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP5-81	IP5-82	IP5-83	IP5-84	IP5-85	IP5-86	IP5-87	IP5-88	IP5-89	IP5-90	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	Steel	Steel	ABS	Steel	Steel	ABS	
Aperture	(mm)	φ150	φ300	φ150	φ300	φ600	φ450	φ150	φ600	φ800	φ200	
Gradient	(%)	7.0	6.0	7.0	6.0	4.5	-	7.0	4.5	4.0	6.0	
Catchment Area	(ha)	1,881	10,182	1,321	11,503	57,158	57,840	282	68,960	150,268	2,925	
Flow rate	Average	(m ³ /s)	0.004	0.022	0.003	0.024	0.120	0.121	0.001	0.144	0.314	0.007
	Max	(m ³ /s)	0.008	0.039	0.005	0.044	0.215	0.217	0.002	0.259	0.564	0.011
Capacity	(m ³ /s)	0.017	0.097	0.017	0.097	0.536	-	0.017	0.536	1.087	0.033	
Length	(m)	210.00	210.00	70.00	190.00	130.00	70.00	40.00	60.00	300.00	100.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP5-91	IP5-92	IP5-93	IP5-94	IP5-95						
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity						
Material	-	Steel	Steel	ABS	ABS	Steel						
Aperture	(mm)	φ800	φ800	φ200	φ250	φ800						
Gradient	(%)	4.0	4.0	6.0	6.0	4.0						
Catchment Area	(ha)	153,193	153,193	2,480	7,058	160,251						
Flow rate	Average	(m ³ /s)	0.320	0.320	0.006	0.015	0.334					
	Max	(m ³ /s)	0.575	0.575	0.010	0.027	0.601					
Capacity	(m ³ /s)	1.087	1.087	0.033	0.060	1.087						
Length	(m)	200.00	120.00	410.00	150.00	1,100.00						

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes									
Flow system	-										
Material	-										
Aperture	(mm)										
Gradient	(%)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Capacity	(m ³ /s)										
Length	(m)										

Design Parameter List (26/55)

NO.5 Pb1 + PP2

3-2. Conversion Manhole

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P2211212.2A	P221121.2	P22112.3A	P221122.2	P22112.5A	P22112.6A	P22112.4A	P221122.1	P221121.1A	P221121.2A	
Section of EP or EC	(mm)											
Covering Population	(P)	1,228	3,537	2,145	1,471	2,593	552	9,700	1,553	3,458	1,638	
Flow rate	Average	(m ³ /s)	0.003	0.008	0.005	0.004	0.006	0.002	0.021	0.004	0.008	0.004
	Max	(m ³ /s)	0.005	0.014	0.009	0.006	0.010	0.003	0.037	0.006	0.013	0.007
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P2211211.1A	P221112.4A	P221112.3	P221112.1	P221112.7A	P221112.6A	P221112.5A	P221112.2	P221111.4A	P221111.2A	
Section of EP or EC	(mm)											
Covering Population	(P)	7,706	883	1,626	451	6,802	1,342	3,354	629	1,896	672	
Flow rate	Average	(m ³ /s)	0.017	0.002	0.004	0.001	0.015	0.003	0.007	0.002	0.004	0.002
	Max	(m ³ /s)	0.029	0.004	0.007	0.002	0.026	0.006	0.013	0.003	0.008	0.003
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P221111.3A	P221111.5A	P221111.1A	P221121.1	P22112.1A	P22111.1	P22111.2	P2211.5U	P2212.12A	P2212.10A	
Section of EP or EC	(mm)											
Covering Population	(P)	224	960	1,414	831	639	1,209	4,564	3,297	4,146	2,011	
Flow rate	Average	(m ³ /s)	0.001	0.002	0.003	0.002	0.002	0.003	0.010	0.007	0.009	0.005
	Max	(m ³ /s)	0.001	0.004	0.006	0.004	0.003	0.005	0.018	0.013	0.016	0.008
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P2212.11A	P2212.8A	P2212.9A	P2211.4	P2212.7A	P2211.3	P2211.2	P2211.1	P222.12	P222.17A	
Section of EP or EC	(mm)											
Covering Population	(P)	1,619	769	1,491	1,141	872	610	1,104	1,171	3,147	4,871	
Flow rate	Average	(m ³ /s)	0.004	0.002	0.004	0.003	0.002	0.002	0.003	0.003	0.007	0.011
	Max	(m ³ /s)	0.007	0.003	0.006	0.005	0.004	0.003	0.005	0.005	0.012	0.019
Weir Height	(mm)											
Remarks	-											

Design Parameter List (27/55)

NO.5 Pb1 + PP2

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P222.16A	P222.11	P222.10	P222.9U	P222.7U	P222.8	P222.5	P222.3	P222.4	P222.2	
Section of EP or EC	(mm)											
Covering Population	(P)	2,383	27,115	-	5,149	720	-	368	278	-	-	
Flow rate	Average	(m ³ /s)	0.005	0.057	-	0.011	0.002	-	0.001	0.001	-	-
	Max	(m ³ /s)	0.009	0.102	-	0.020	0.003	-	0.002	0.002	-	-
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P222.14A	P222.13A	P222.15A	P222.6	P222.5	P222.3	P222.2	P222.6A	P222.6A	P222.4	
Section of EP or EC	(mm)											
Covering Population	(P)	260	1,364	1,504	3,036	1,029	148	83	275	691	71	
Flow rate	Average	(m ³ /s)	0.001	0.003	0.004	0.007	0.003	0.001	0.001	0.001	0.002	0.001
	Max	(m ³ /s)	0.001	0.006	0.006	0.012	0.004	0.001	0.001	0.002	0.003	0.001
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		P222.1	P222.6A	P222.7A	P222.5A	P222.4A	P222.3A	P222.1	P222.2	P222.6A	P222.1	
Section of EP or EC	(mm)											
Covering Population	(P)	552	575	337	1,881	1,321	682	282	10,838	2,925	2,480	
Flow rate	Average	(m ³ /s)	0.002	0.002	0.001	0.004	0.003	0.002	0.001	0.023	0.007	0.006
	Max	(m ³ /s)	0.003	0.003	0.002	0.008	0.005	0.003	0.002	0.041	0.011	0.010
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole									
		P22.3U									
Section of EP or EC	(mm)										
Covering Population	(P)	4,578									
Flow rate	Average	(m ³ /s)	0.010								
	Max	(m ³ /s)	0.018								
Weir Height	(mm)										
Remarks	-										

Design Parameter List (28/55)

NO.5 Pb1 + PP2

3-3. Discharge Pipes

Item	Unit	DP ※Note ; DP:Discharge Pipes
Flow system	-	Gravity
Material	-	Steel
Aperture	(mm)	φ500
Gradient	(%)	5.0
Flow rate Average	(m ³ /s)	0.334
Capacity	(m ³ /s)	0.347
Length	(m)	100

3-4. Manhole pumping station

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station							
		MP70	MP71						
Covering Population	(P)	17,334	58,378						
Flow rate	Average	(m ³ /min)	2.167	7.298					
	Max	(m ³ /min)	3.901	13.136					
Capacity	(m ³ /min)	3.900	13.100						
Number of pump	-	2	3						
Aperture	(mm)	150	150						
Pump head	(m)	9.0	7.4						
Output	(kw)	7.5	15.0						
Receiving Voltage	(v・60Hz)	230	230						

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station							
Covering Population	(P)								
Flow rate	Average	(m ³ /min)							
	Max	(m ³ /min)							
Capacity	(m ³ /min)								
Number of pump	-								
Aperture	(mm)								
Pump head	(m)								
Output	(kw)								
Receiving Voltage	(v・60Hz)								

Design Parameter List (29/55)

NO.6 Pc + PP1

1. District outline

1-1. District ID name:	P2
1-2. Catchment area (ha) :	659.37
1-3. Service population (people) :	137,771
1-4. Service barangay name :	Baclaran(E), Tambo(E), Don Galo(E), Sto Nino, Vitalez, PP1 district [Part of Pasay city]

Note; N:North, S:South, E:East, W:West, M:Middle

2. STP outline

2-1. Name :	Pc STP
2-2. Process :	OD
2-3. Required area (ha) :	2.82ha
2-4. Capacity (m ³ /day) :	24,799

3. Facilities list

3-1. Interceptor Pipes

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP6-1	IP6-2	IP6-3	IP6-4	IP6-5	IP6-6	IP6-7	IP6-8	IP6-9	IP6-10	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ150	φ200	φ200	φ250	φ300	φ350	φ400	φ150	φ400	φ200	
Gradient	(%)	7.0	6.0	6.0	6.0	6.0	5.5	5.5	7.0	5.5	6.0	
Covering Population	(P)	1,720	3,571	4,333	5,218	11,094	13,297	24,391	604	24,995	2,471	
Flow rate	Average	(m ³ /s)	0.004	0.008	0.010	0.011	0.024	0.028	0.051	0.002	0.053	0.006
	Max	(m ³ /s)	0.007	0.014	0.017	0.020	0.042	0.050	0.092	0.003	0.094	0.010
Capacity	(m ³ /s)	0.017	0.033	0.033	0.060	0.097	0.141	0.201	0.017	0.201	0.033	
Length	(m)	300.00	130.00	100.00	540.00	800.00	150.00	150.00	150.00	150.00	150.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP6-11	IP6-12	IP6-13	IP6-14	IP6-15	IP6-16	IP6-17	IP6-18	IP6-19	IP6-20	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	Steel	ABS	Steel	ABS	ABS	ABS	ABS	Steel	
Aperture	(mm)	φ450	φ350	φ500	φ150	φ500	φ150	φ150	φ150	φ150	φ600	
Gradient	(%)	5.0	5.5	5.0	7.0	5.0	7.0	7.0	7.0	7.0	4.5	
Catchment Area	(ha)	27,466	16,029	43,495	669	44,478	2,129	755	978	1,096	48,403	
Flow rate	Average	(m ³ /s)	0.058	0.034	0.091	0.002	0.093	0.005	0.002	0.003	0.003	0.101
	Max	(m ³ /s)	0.103	0.061	0.164	0.003	0.167	0.008	0.003	0.004	0.005	0.182
Capacity	(m ³ /s)	0.262	0.141	0.347	0.017	0.347	0.017	0.017	0.017	0.017	0.536	
Length	(m)	700.00	50.00	200.00	290.00	220.00	340.00	120.00	40.00	280.00	140.00	

Design Parameter List (30/55)

NO.6 Pc + PP1

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP6-21	IP6-22	IP6-23	IP6-24	IP6-25	IP6-26	IP6-27	IP6-28	IP6-29	IP6-30	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	Steel	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ200	φ600	φ150	φ150	φ150	φ150	φ200	φ200	φ250	φ250	
Gradient	(%)	6.0	4.5	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0	
Covering Population	(P)	3,798	53,816	500	1,000	1,500	2,000	3,000	4,000	5,000	7,000	
Flow rate	Average	(m ³ /s)	0.008	0.113	0.002	0.003	0.004	0.005	0.007	0.009	0.011	0.015
	Max	(m ³ /s)	0.015	0.202	0.002	0.004	0.006	0.008	0.012	0.015	0.019	0.027
Capacity	(m ³ /s)	0.033	0.536	0.017	0.017	0.017	0.017	0.033	0.033	0.060	0.060	
Length	(m)	220.00	190.00	20.00	50.00	20.00	60.00	20.00	30.00	50.00	330.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP6-31	IP6-32	IP6-33	IP6-34	IP6-35	IP6-36	IP6-37	IP6-38	IP6-39	IP6-40	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ300	φ150	φ150	φ150	φ150	φ150	φ150	φ150	φ200	φ200	
Gradient	(%)	6.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0	6.0	
Catchment Area	(ha)	11,000	246	439	709	846	1,137	1,367	2,313	4,045	4,364	
Flow rate	Average	(m ³ /s)	0.023	0.001	0.001	0.002	0.002	0.003	0.003	0.005	0.009	0.010
	Max	(m ³ /s)	0.042	0.001	0.002	0.003	0.004	0.005	0.006	0.009	0.016	0.017
Capacity	(m ³ /s)	0.097	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.033	0.033	
Length	(m)	130.00	80.00	30.00	50.00	110.00	80.00	60.00	40.00	190.00	70.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP6-41	IP6-42	IP6-43	IP6-44	IP6-45	IP6-46	IP6-47	IP6-48	IP6-49	IP6-50	
Flow system	-	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	Steel	ABS	ABS	ABS	Steel	Steel	Steel	
Aperture	(mm)	φ200	φ350	φ400	φ300	φ450	φ450	φ450	φ500	φ500	φ500	
Gradient	(%)	6.0	5.5	5.5	-	5.0	5.0	5.0	5.0	5.0	5.0	
Covering Population	(P)	4,364	16,500	25,000	25,000	27,400	30,850	33,757	36,185	40,021	42,969	
Flow rate	Average	(m ³ /s)	0.010	0.035	0.053	0.053	0.058	0.065	0.071	0.076	0.084	0.090
	Max	(m ³ /s)	0.017	0.062	0.094	0.094	0.103	0.116	0.127	0.136	0.151	0.162
Capacity	(m ³ /s)	0.033	0.141	0.201	-	0.262	0.262	0.262	0.347	0.347	0.347	
Length	(m)	190.00	100.00	1,000.00	50.00	300.00	100.00	100.00	250.00	50.00	150.00	

Design Parameter List (31/55)

NO.6 Pc + PP1

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP6-51	IP6-52	IP6-53	IP6-54	IP6-55	IP6-56	IP6-57	IP6-58	IP6-59	IP6-60	
Flow system	-	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	Steel	Steel	ABS	Steel	Steel	Steel	ABS	ABS	ABS	
Aperture	(mm)	φ600	φ450	φ600	φ250	φ700	φ700	φ700	φ200	φ250	φ200	
Gradient	(%)	4.5	-	4.5	6.0	4.5	4.5	4.5	6.0	6.0	6.0	
Catchment Area	(ha)	48,058	63,058	64,558	6,279	75,201	75,201	129,017	2,631	5,728	3,026	
Flow rate	Average	(m ³ /s)	0.101	0.132	0.135	0.014	0.157	0.157	0.269	0.006	0.012	0.007
	Max	(m ³ /s)	0.181	0.237	0.243	0.024	0.283	0.283	0.484	0.010	0.022	0.012
Capacity	(m ³ /s)	0.536	-	0.536	0.060	0.808	0.808	0.808	0.033	0.060	0.033	
Length	(m)	300.00	60.00	910.00	230.00	860.00	270.00	240.00	560.00	320.00	130.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes									
		IP6-61									
Flow system	-	Gravity									
Material	-	Steel									
Aperture	(mm)	φ700									
Gradient	(%)	4.5									
Catchment Area	(ha)	137,771									
Flow rate	Average	(m ³ /s)	0.288								
	Max	(m ³ /s)	0.517								
Capacity	(m ³ /s)	0.808									
Length	(m)	50.00									

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes									
Flow system	-										
Material	-										
Aperture	(mm)										
Gradient	(%)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Capacity	(m ³ /s)										
Length	(m)										

Design Parameter List (32/55)

NO.6 Pc + PP1

3-2. Conversion Manhole

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P11.10	P11.9	P11.8	P11.6	P11.12A	P11.4U	P11.1U	P11.11U	P1.7A	B7	
Section of EP or EC	(mm)											
Covering Population	(P)	1,720	1,851	762	885	5,876	13,297	604	2,471	16,029	669	
Flow rate	Average	(m ³ /s)	0.004	0.004	0.002	0.002	0.013	0.028	0.002	0.006	0.034	0.002
	Max	(m ³ /s)	0.007	0.007	0.003	0.004	0.023	0.050	0.003	0.010	0.061	0.003
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P1.3U	B8	P1	P2U	P3U	P1.6A	P2.1U	P1.1	P121.21	P121.20	
Section of EP or EC	(mm)											
Covering Population	(P)	314	2,129	755	223	118	700	3,798	1,615	500	500	
Flow rate	Average	(m ³ /s)	0.001	0.005	0.002	0.001	0.001	0.002	0.008	0.004	0.002	0.002
	Max	(m ³ /s)	0.002	0.008	0.003	0.001	0.001	0.003	0.015	0.007	0.002	0.002
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P121.18	P121.14	P121.13	P121.11	P121.9	P121.7	P121.3	P121.19	P121.17	P121.16	
Section of EP or EC	(mm)											
Covering Population	(P)	500	500	1,000	1,000	1,000	2,000	4,000	246	193	270	
Flow rate	Average	(m ³ /s)	0.002	0.002	0.003	0.003	0.003	0.005	0.009	0.001	0.001	0.001
	Max	(m ³ /s)	0.002	0.002	0.004	0.004	0.004	0.008	0.015	0.001	0.001	0.002
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P121.15	P121.12	P121.10	P121.8	P121.6	P121.5	P121.4	P11.7U1	P11.7U	MP	
Section of EP or EC	(mm)											
Covering Population	(P)	137	291	230	946	1,732	319	-	16,500	8,500	-	
Flow rate	Average	(m ³ /s)	0.001	0.001	0.001	0.002	0.004	0.001	-	0.035	0.018	-
	Max	(m ³ /s)	0.001	0.002	0.001	0.004	0.007	0.002	-	0.062	0.032	-
Weir Height	(mm)											
Remarks	-											

Design Parameter List (33/55)

NO.6 Pc + PP1

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		P11.5.1	P11.5	P11.3U	P11.2U	P12.1	P12.2	P12.3	P121.1	P121.2	P121.22A	
Section of EP or EC	(mm)											
Covering Population	(P)	2,400	3,450	2,907	2,428	3,836	2,948	5,089	4,000	1,500	6,279	
Flow rate	Average	(m ³ /s)	0.005	0.008	0.007	0.006	0.008	0.007	0.011	0.009	0.004	0.014
	Max	(m ³ /s)	0.009	0.013	0.011	0.010	0.015	0.012	0.020	0.015	0.006	0.024
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole									
		P1.5U	P1.4U	P1.2							
Section of EP or EC	(mm)										
Covering Population	(P)	2,631	3,097	3,026							
Flow rate	Average	(m ³ /s)	0.006	0.007	0.007						
	Max	(m ³ /s)	0.010	0.012	0.012						
Weir Height	(mm)										
Remarks	-										

Item	Unit	ID of CM ※Note; CM:Conversion Manhole									
Section of EP or EC	(mm)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Weir Height	(mm)										
Remarks	-										

Item	Unit	ID of CM ※Note; CM:Conversion Manhole									
Section of EP or EC	(mm)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Weir Height	(mm)										
Remarks	-										

Design Parameter List (34/55)

NO.6 Pc + PP1

3-3. Discharge Pipes

Item	Unit	DP ※Note ; DP:Discharge Pipes
Flow system	-	Gravity
Material	-	Steel
Aperture	(mm)	φ500
Gradient	(%)	5.0
Flow rate Average	(m ³ /s)	0.288
Capacity	(m ³ /s)	0.347
Length	(m)	100

3-4. Manhole pumping station

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station							
		MP73							
Covering Population	(P)	63,058							
Flow rate	Average	(m ³ /min)	7.883						
	Max	(m ³ /min)	14.189						
Capacity	(m ³ /min)	14.400							
Number of pump	-	3							
Aperture	(mm)	150							
Pump head	(m)	10.4							
Output	(kw)	22.0							
Receiving Voltage	(v・60Hz)	230							

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station							
Covering Population	(P)								
Flow rate	Average	(m ³ /min)							
	Max	(m ³ /min)							
Capacity	(m ³ /min)								
Number of pump	-								
Aperture	(mm)								
Pump head	(m)								
Output	(kw)								
Receiving Voltage	(v・60Hz)								

Design Parameter List (35/55)

NO.7 Pd + Pe

1. District outline

1-1. District ID name:	P6
1-2. Catchment area (ha) :	415.95
1-3. Service population (people) :	77,599
1-4. Service barangay name :	Baclaran(W), Tambo(W), Don Galo(W), La Huerta(W), San Diorisio(W)

Note; N:North, S:South, E:East, W:West, M:Middle

2. STP outline

2-1. Name :	Pd STP
2-2. Process :	OD
2-3. Required area (ha) :	1.89ha
2-4. Capacity (m ³ /day) :	13,968

3. Facilities list

3-1. Interceptor Pipes

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes									
		IP7-1	IP7-2	IP7-3	IP7-4	IP7-5	IP7-6	IP7-7	IP7-8	IP7-9	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	Steel	Steel	Steel	
Aperture	(mm)	φ150	φ150	φ150	φ200	φ200	φ250	φ500	φ600	φ700	
Gradient	(%)	7.0	7.0	7.0	6.0	6.0	6.0	5.0	4.5	4.5	
Covering Population	(P)	726	1,108	2,123	3,176	3,684	6,444	36,521	71,155	77,599	
Flow rate	Average	(m ³ /s)	0.002	0.003	0.005	0.007	0.008	0.014	0.077	0.149	0.162
	Max	(m ³ /s)	0.003	0.005	0.008	0.012	0.014	0.025	0.137	0.267	0.291
Capacity	(m ³ /s)	0.017	0.017	0.017	0.033	0.033	0.060	0.347	0.536	0.808	
Length	(m)	680.00	180.00	150.00	110.00	140.00	380.00	100.00	570.00	2,860.00	

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes									
Flow system	-										
Material	-										
Aperture	(mm)										
Gradient	(%)										
Catchment Area	(ha)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Capacity	(m ³ /s)										
Length	(m)										

Design Parameter List (36/55)

NO.7 Pd + Pe

3-2. Conversion Manhole

Item	Unit	ID of CM ※Note; CM:Conversion Manhole									
		B5	B.9A	B4U	B1	B2	B3	B.7A	B.8A		
Section of EP or EC	(mm)										
Covering Population	(P)	726	1,108	1,015	1,053	508	2,034	36,521	34,634		
Flow rate	Average	(m ³ /s)	0.002	0.003	0.003	0.003	0.002	0.005	0.077	0.073	
	Max	(m ³ /s)	0.003	0.005	0.004	0.004	0.002	0.008	0.137	0.130	
Weir Height	(mm)										
Remarks	-										

Item	Unit	ID of CM ※Note; CM:Conversion Manhole									
Section of EP or EC	(mm)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Weir Height	(mm)										
Remarks	-										

Item	Unit	ID of CM ※Note; CM:Conversion Manhole									
Section of EP or EC	(mm)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Weir Height	(mm)										
Remarks	-										

Item	Unit	ID of CM ※Note; CM:Conversion Manhole									
Section of EP or EC	(mm)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Weir Height	(mm)										
Remarks	-										

Design Parameter List (37/55)

NO.7 Pd + Pe

3-3. Discharge Pipes

Item	Unit	DP ※Note; DP: Discharge Pipes
Flow system	-	Gravity
Material	-	ABS
Aperture	(mm)	φ400
Gradient	(%)	5.5
Flow rate Average	(m ³ /s)	0.162
Capacity	(m ³ /s)	0.201
Length	(m)	100

3-4. Manhole pumping station

Item	Unit	ID of MP ※Note; MP: Manhole Pumping station							
Covering Population	(P)								
Flow rate	Average (m ³ /min)	-							
	Max (m ³ /min)	-							
Capacity	(m ³ /min)								
Number of pump	-								
Aperture	(mm)								
Pump head	(m)								
Output	(kw)								
Receiving Voltage	(v·60Hz)								

Item	Unit	ID of MP ※Note; MP: Manhole Pumping station							
Covering Population	(P)								
Flow rate	Average (m ³ /min)								
	Max (m ³ /min)								
Capacity	(m ³ /min)								
Number of pump	-								
Aperture	(mm)								
Pump head	(m)								
Output	(kw)								
Receiving Voltage	(v·60Hz)								

Design Parameter List (38/55)

NO.8 La1

1. District outline

1-1. District ID name:	LA
1-2. Catchment area (ha) :	965.31
1-3. Service population (people) :	171,392
1-4. Service barangay name :	Pamplona Uno(S), Pamplona Dos, Talon Dos(W), Talon Singko(W), Talon Uno(W), Almanza Uno(W), Almanza Dos(S)

Note; N:North, S:South, E:East, W:West, M:Middle

2. STP outline

2-1. Name :	La1 STP
2-2. Process :	SBR
2-3. Required area (ha) :	0.99ha
2-4. Capacity (m ³ /day) :	30,851

3. Facilities list

3-1. Interceptor Pipes

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes										
		IP8-1	IP8-2	IP8-3	IP8-4	IP8-5	IP8-6	IP8-7	IP8-8	IP8-9	IP8-10	
Flow system	-	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	
Material	-	ABS	Steel	ABS	ABS	Steel	Steel	Steel	ABS	ABS	Steel	
Aperture	(mm)	φ200	φ200	φ300	φ350	φ500	φ600	φ600	φ150	φ150	φ450	
Gradient	(%)	6.0	-	6.0	5.5	5.0	4.5	4.5	7.0	7.0	-	
Covering Population	(P)	3,178	9,263	9,263	13,909	45,502	50,508	51,255	1,287	590	54,747	
Flow rate	Average	(m ³ /s)	0.007	0.020	0.020	0.029	0.095	0.106	0.107	0.003	0.002	0.115
	Max	(m ³ /s)	0.012	0.035	0.035	0.053	0.171	0.190	0.193	0.005	0.003	0.206
Capacity	(m ³ /s)	0.033	-	0.097	0.141	0.347	0.536	0.536	0.017	0.017	-	
Length	(m)	20.00	300.00	1,590.00	20.00	1,190.00	200.00	100.00	50.00	1,500.00	430.00	

Item	Unit	ID of IP ※Note; IP:Interceptor Pipes										
		IP8-11	IP8-12	IP8-13	IP8-14	IP8-15	IP8-16	IP8-17	IP8-18	IP8-19	IP8-20	
Flow system	-	Gravity	Pressure	Gravity	Pressure	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	Steel	Steel	Steel	Steel	Steel	ABS	Steel	ABS	Steel	
Aperture	(mm)	φ450	φ350	φ700	φ75	φ700	φ75	φ150	φ700	φ150	φ700	
Gradient	(%)	5.0	-	4.5	-	4.5	-	7.0	4.5	7.0	4.5	
Catchment Area	(ha)	28,084	29,380	84,127	382	84,509	1,474	709	86,692	434	87,126	
Flow rate	Average	(m ³ /s)	0.059	0.062	0.176	0.001	0.177	0.004	0.002	0.181	0.001	0.182
	Max	(m ³ /s)	0.106	0.111	0.316	0.002	0.317	0.006	0.003	0.326	0.002	0.327
Capacity	(m ³ /s)	0.262	-	0.808	-	0.808	-	0.017	0.808	0.017	0.808	
Length	(m)	1,500.00	190.00	300.00	320.00	300.00	190.00	240.00	300.00	570.00	300.00	

Design Parameter List (39/55)

NO.8 La1

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP8-21	IP8-22	IP8-23	IP8-24	IP8-25	IP8-26	IP8-27	IP8-28	IP8-29	IP8-30	
Flow system	-	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	ABS	Steel	ABS	ABS	ABS	Steel	Steel	ABS	ABS	
Aperture	(mm)	φ700	φ150	φ600	φ150	φ150	φ150	φ700	φ700	φ150	φ150	
Gradient	(%)	4.5	7.0	-	7.0	7.0	7.0	4.5	4.5	7.0	7.0	
Covering Population	(P)	88,363	313	88,676	318	870	843	90,254	91,124	370	1,248	
Flow rate	Average	(m ³ /s)	0.185	0.001	0.185	0.001	0.002	0.002	0.189	0.190	0.001	0.003
	Max	(m ³ /s)	0.332	0.002	0.333	0.002	0.004	0.004	0.339	0.342	0.002	0.005
Capacity	(m ³ /s)	0.808	0.017	-	0.017	0.017	0.017	0.808	0.808	0.017	0.017	
Length	(m)	630.00	650.00	650.00	440.00	400.00	300.00	450.00	450.00	100.00	100.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP8-31	IP8-32	IP8-33	IP8-34	IP8-35	IP8-36	IP8-37	IP8-38	IP8-39	IP8-40	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ700	φ150	φ150	φ150	φ150	φ150	φ200	φ250	φ300	φ300	
Gradient	(%)	4.5	7.0	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0	
Catchment Area	(ha)	92,372	370	443	956	1,366	2,143	3,666	6,604	8,274	11,245	
Flow rate	Average	(m ³ /s)	0.193	0.001	0.001	0.002	0.003	0.005	0.008	0.014	0.018	0.024
	Max	(m ³ /s)	0.347	0.002	0.002	0.004	0.006	0.009	0.014	0.025	0.032	0.043
Capacity	(m ³ /s)	0.808	0.017	0.017	0.017	0.017	0.017	0.033	0.060	0.097	0.097	
Length	(m)	300.00	130.00	130.00	130.00	100.00	100.00	160.00	300.00	380.00	500.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP8-41	IP8-42	IP8-43	IP8-44	IP8-45	IP8-46	IP8-47	IP8-48	IP8-49	IP8-50	
Flow system	-	Gravity	Pressure	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	Steel	Steel	ABS	Steel	Steel	ABS	Steel	ABS	ABS	
Aperture	(mm)	φ300	φ300	φ700	φ150	φ700	-	φ200	φ700	φ200	φ200	
Gradient	(%)	6.0	-	4.5	7.0	4.5	-	6.0	4.5	6.0	6.0	
Covering Population	(P)	9,480	20,725	113,097	263	113,360	114,568	4,178	118,746	3,066	3,555	
Flow rate	Average	(m ³ /s)	0.020	0.044	0.236	0.001	0.237	0.239	0.009	0.248	0.007	0.008
	Max	(m ³ /s)	0.036	0.078	0.425	0.001	0.426	0.430	0.016	0.446	0.012	0.014
Capacity	(m ³ /s)	0.097	-	0.808	0.017	0.808	-	0.033	0.808	0.033	0.033	
Length	(m)	150.00	150.00	300.00	230.00	100.00	800.00	400.00	400.00	300.00	300.00	

Design Parameter List (40/55)

NO.8 La1

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP8-51	IP8-52	IP8-53	IP8-54	IP8-55	IP8-56	IP8-57	IP8-58	IP8-59	IP8-60	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	Steel	Steel	ABS	ABS	ABS	Steel	ABS	Steel	ABS	
Aperture	(mm)	φ250	φ700	φ700	φ150	φ150	φ150	φ700	φ300	φ700	φ150	
Gradient	(%)	6.0	4.5	4.5	7.0	7.0	7.0	4.5	6.0	4.5	7.0	
Catchment Area	(ha)	7,933	126,679	128,004	181	431	571	128,575	11,098	139,673	461	
Flow rate	Average	(m ³ /s)	0.017	0.264	0.267	0.001	0.001	0.002	0.268	0.024	0.291	0.001
	Max	(m ³ /s)	0.030	0.476	0.481	0.001	0.002	0.003	0.483	0.042	0.524	0.002
Capacity	(m ³ /s)	0.060	0.808	0.808	0.017	0.017	0.017	0.808	0.097	0.808	0.017	
Length	(m)	300.00	300.00	600.00	200.00	200.00	200.00	300.00	90.00	500.00	250.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP8-61	IP8-62	IP8-63	IP8-64	IP8-65	IP8-66	IP8-67	IP8-68	IP8-69	IP8-70	
Flow system	-	Pressure	Gravity	Gravity	Pressure	Pressure	Gravity	Gravity	Gravity	Gravity	Pressure	
Material	-	Steel	ABS	Steel	Steel	Steel	ABS	Steel	ABS	ABS	Steel	
Aperture	(mm)	φ150	φ200	φ700	φ100	φ75	φ200	φ800	φ350	φ150	φ250	
Gradient	(%)	-	6.0	4.5	-	-	6.0	4.0	5.5	7.0	-	
Catchment Area	(ha)	3,837	3,837	143,510	1,990	846	2,836	146,346	14,293	784	16,933	
Flow rate	Average	(m ³ /s)	0.008	0.008	0.299	0.005	0.002	0.006	0.305	0.030	0.002	0.036
	Max	(m ³ /s)	0.015	0.015	0.539	0.008	0.004	0.011	0.549	0.054	0.003	0.064
Capacity	(m ³ /s)	-	0.033	0.808	-	-	0.033	1.087	0.141	0.017	-	
Length	(m)	440.00	50.00	300.00	400.00	300.00	300.00	500.00	300.00	250.00	250.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes									
		IP8-71	IP8-72	IP8-73	IP8-74						
Flow system	-	Gravity	Pressure	Gravity	Gravity						
Material	-	ABS	Steel	Steel	ABS						
Aperture	(mm)	φ350	φ250	φ800	φ250						
Gradient	(%)	5.5	-	4.0	6.0						
Covering Population	(P)	16,933	17,850	164,196	7,196						
Flow rate	Average	(m ³ /s)	0.036	0.038	0.343	0.015					
	Max	(m ³ /s)	0.064	0.067	0.616	0.027					
Capacity	(m ³ /s)	0.141	-	1.087	0.060						
Length	(m)	250.00	300.00	300.00	200.00						

Design Parameter List (41/55)

NO.8 La1

3-2. Conversion Manhole

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		L21112.21U	L21112.22U	L21112.23A	L21112.20U	L21112.19U	L21112.18U	L21112.16U	L21112.15U	L21112.17U	L21111.7U	
Section of EP or EC	(mm)											
Covering Population	(P)	3,178	6,085	13,909	22,330	5,006	747	1,287	590	1,615	28,084	
Flow rate	Average	(m ³ /s)	0.007	0.013	0.029	0.047	0.011	0.002	0.003	0.002	0.004	0.059
	Max	(m ³ /s)	0.012	0.023	0.053	0.084	0.019	0.003	0.005	0.003	0.007	0.106
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		L21111.6U	L21112.14U	L21111.5U	L21112.12U	L21112.8U	L21111.4U	L21111.3U	L21112.13U	L21112.11U	L21112.10U	
Section of EP or EC	(mm)											
Covering Population	(P)	1,296	382	1,474	709	434	1,237	313	318	552	843	
Flow rate	Average	(m ³ /s)	0.003	0.001	0.004	0.002	0.001	0.003	0.001	0.001	0.002	0.002
	Max	(m ³ /s)	0.005	0.002	0.006	0.003	0.002	0.005	0.002	0.002	0.003	0.004
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		L21112.9U	L21112.4U	L21112.6U	L21112.7U	L21112.5U	L21112.3U	L21111.2U	L21111.1U	L21112.2U	L21112.1U	
Section of EP or EC	(mm)											
Covering Population	(P)	735	370	878	370	73	513	1,366	777	567	2,938	
Flow rate	Average	(m ³ /s)	0.002	0.001	0.002	0.001	0.001	0.002	0.003	0.002	0.002	0.007
	Max	(m ³ /s)	0.003	0.002	0.004	0.002	0.001	0.002	0.006	0.003	0.003	0.012
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		L21111.8U	L21111.7U	L21111.6U	L21111.4U	L21111.5U	L21112.4U	L21111.3	L2111.2U	L21111.1	L21112.5A	
Section of EP or EC	(mm)											
Covering Population	(P)	1,670	2,971	9,480	263	1,208	4,178	3,066	489	4,378	1,325	
Flow rate	Average	(m ³ /s)	0.004	0.007	0.020	0.001	0.003	0.009	0.007	0.002	0.010	0.003
	Max	(m ³ /s)	0.007	0.012	0.036	0.001	0.005	0.016	0.012	0.002	0.017	0.005
Weir Height	(mm)											
Remarks	-											

Design Parameter List (42/55)

NO.8 La1

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L2112.3	L2112.2	L2112.1	L211.8	L211.7U	L211.6	L211.4U	L211.5U	L211.3U	L211.1	
Section of EP or EC	(mm)											
Covering Population	(P)	181	250	140	11,098	461	3,376	1,990	846	14,293	784	
Flow rate	Average	(m ³ /s)	0.001	0.001	0.001	0.024	0.001	0.008	0.005	0.002	0.030	0.002
	Max	(m ³ /s)	0.001	0.001	0.001	0.042	0.002	0.013	0.008	0.004	0.054	0.003
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole									
		L211.2	L212.1U	L212.2A							
Section of EP or EC	(mm)										
Covering Population	(P)	1,856	917	7,196							
Flow rate	Average	(m ³ /s)	0.004	0.002	0.015						
	Max	(m ³ /s)	0.007	0.004	0.027						
Weir Height	(mm)										
Remarks	-										

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole									
Section of EP or EC	(mm)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Weir Height	(mm)										
Remarks	-										

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole									
Section of EP or EC	(mm)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Weir Height	(mm)										
Remarks	-										

Design Parameter List (43/55)

NO.8 La1

3-3. Discharge Pipes

Item	Unit	DP ※Note ; DP:Discharge Pipes
Flow system	-	Gravity
Material	-	Steel
Aperture	(mm)	φ500
Gradient	(%)	5.0
Flow rate Average	(m ³ /s)	0.358
Capacity	(m ³ /s)	0.347
Length	(m)	100

3-4. Manhole pumping station

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station										
		MP1	MP2	MP3	MP4	MP5	MP73	MP6	MP7	MP8	MP9	
Covering Population	(P)	6,360	38,920	20,579	382	1,474	64,048	15,902	2,779	1,990	846	
Flow rate	Average	(m ³ /min)	0.795	4.865	2.573	0.048	0.185	8.006	1.988	0.348	0.249	0.106
	Max	(m ³ /min)	1.431	8.757	4.631	0.086	0.332	14.411	3.578	0.626	0.448	0.191
Capacity	(m ³ /min)	1.400	8.800	4.600	0.400	0.400	14.400	3.600	0.600	0.500	0.200	
Number of pump	-	2	3	2	2	2	3	2	2	2	2	
Aperture	(mm)	100	150	150	80	80	150	150	100	80	80	
Pump head	(m)	12.3	8.9	8.0	23.2	14.1	10.4	8.3	18.6	14.5	11.2	
Output	(kw)	7.5	11.0	7.5	3.7	2.2	22.0	7.5	5.5	3.7	1.5	
Receiving Voltage	(v・60Hz)	230	230	230	230	230	230	230	230	230	230	

Item	Unit	ID of MP ※Note ; MP:Manhole Pumping station									
		MP10	MP11								
Covering Population	(P)	12,454	13,371								
Flow rate	Average	(m ³ /min)	1.557	1.672							
	Max	(m ³ /min)	2.803	3.009							
Capacity	(m ³ /min)	2.800	3.000								
Number of pump	-	2	2								
Aperture	(mm)	100	150								
Pump head	(m)	10.9	8.8								
Output	(kw)	7.5	5.5								
Receiving Voltage	(v・60Hz)	230	230								

Design Parameter List (44/55)

NO.9 La2 + NO.10 Lb2

1. District outline

1-1. District ID name:	LC
1-2. Catchment area (ha) :	1,279.90
1-3. Service population (people) :	288,520
1-4. Service barangay name :	Manuyo Uno, Daniel Fajardo, Ilaya, Elias Aldana, Pulang Lupa Uno, Mnuyo Dos, Zapote, Pamplona Uno(N), Pulang Lupa Dos, BF International(NW), Pamplona Tres, Talon Uno(W), Talon Dos(E), Talon Kwarto(W), Talon Singko(E) Note; N:North, S:South, E:East, W:West, M:Middle

2. STP outline

2-1. Name :	La2 + Lb2 STP
2-2. Process :	OD
2-3. Required area (ha) :	7.54ha
2-4. Capacity (m ³ /day) :	51,934

3. Facilities list

3-1. Interceptor Pipes

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP9-1	IP9-2	IP9-3	IP9-4	IP9-5	IP9-6	IP9-7	IP9-8	IP9-9	IP9-10	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	Steel	ABS	ABS	
Aperture	(mm)	φ200	φ200	φ300	φ200	φ400	φ450	φ200	φ500	φ150	φ250	
Gradient	(%)	6.0	6.0	6.0	6.0	5.5	5.0	6.0	5.0	7.0	6.0	
Covering Population	(P)	4,398	4,524	8,441	3,267	25,116	33,557	3,997	37,554	721	6,460	
Flow rate	Average	(m ³ /s)	0.010	0.010	0.018	0.007	0.053	0.070	0.009	0.079	0.002	0.014
	Max	(m ³ /s)	0.017	0.017	0.032	0.013	0.095	0.126	0.015	0.141	0.003	0.025
Capacity	(m ³ /s)	0.033	0.033	0.097	0.033	0.201	0.262	0.033	0.347	0.017	0.060	
Length	(m)	100.00	150.00	200.00	100.00	100.00	100.00	200.00	300.00	300.00	100.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP9-11	IP9-12	IP9-13	IP9-14	IP9-15	IP10-1	IP10-2	IP10-3	IP10-4-1	IP10-4-2	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	Steel	ABS	Steel	ABS	ABS	ABS	
Aperture	(mm)	φ300	φ300	φ150	φ350	φ600	φ150	φ150	φ150	φ250	φ250	
Gradient	(%)	6.0	6.0	7.0	5.5	4.5	7.0	-	7.0	6.0	6.0	
Catchment Area	(ha)	8,714	10,389	1,731	13,853	51,407	2,300	3,533	990	4,629	4,629	
Flow rate	Average	(m ³ /s)	0.019	0.022	0.004	0.029	0.108	0.005	0.008	0.003	0.010	0.010
	Max	(m ³ /s)	0.033	0.039	0.007	0.052	0.193	0.009	0.014	0.004	0.018	0.018
Capacity	(m ³ /s)	0.097	0.097	0.017	0.141	0.536	0.017	-	0.017	0.060	0.060	
Length	(m)	200.00	500.00	100.00	200.00	400.00	100.00	100.00	60.00	100.00	250.00	

Design Parameter List (45/55)

NO.9 La2 + NO.10 Lb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-5	IP10-6	IP10-7	IP10-8	IP10-9	IP10-10	IP10-11-1	IP10-11-2	IP10-11-3	IP10-12	
Flow system	-	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	Steel	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ150	φ150	φ100	φ150	φ200	φ150	φ200	φ200	φ300	φ150	
Gradient	(%)	7.0	7.0	-	7.0	6.0	7.0	6.0	6.0	6.0	7.0	
Covering Population	(P)	609	1,522	2,559	408	3,221	709	2,562	3,271	11,121	1,383	
Flow rate	Average	(m ³ /s)	0.002	0.004	0.006	0.001	0.007	0.002	0.006	0.007	0.024	0.003
	Max	(m ³ /s)	0.003	0.006	0.010	0.002	0.013	0.003	0.010	0.013	0.042	0.006
Capacity	(m ³ /s)	0.017	0.017	-	0.017	0.033	0.017	0.033	0.033	0.097	0.017	
Length	(m)	250.00	60.00	150.00	50.00	150.00	520.00	300.00	200.00	200.00	50.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-13-1	IP10-13-2	IP10-14	IP10-15	IP10-16	IP10-17	IP10-18-1	IP10-18-2	IP10-19	IP10-20	
Flow system	-	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ75	φ300	φ150	φ150	φ200	φ200	φ150	φ350	φ150	φ150	
Gradient	(%)	-	6.0	7.0	7.0	6.0	6.0	7.0	5.5	7.0	7.0	
Catchment Area	(ha)	288	12,792	774	2,195	2,770	3,154	324	16,270	1,451	994	
Flow rate	Average	(m ³ /s)	0.001	0.027	0.002	0.005	0.006	0.007	0.001	0.034	0.004	0.003
	Max	(m ³ /s)	0.002	0.048	0.003	0.009	0.011	0.012	0.002	0.062	0.006	0.004
Capacity	(m ³ /s)	-	0.097	0.017	0.017	0.033	0.033	0.017	0.141	0.017	0.017	
Length	(m)	100.00	250.00	100.00	100.00	100.00	200.00	50.00	200.00	150.00	20.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-21	IP10-22-1	IP10-22-2	IP10-23	IP10-24	IP10-25	IP10-26	IP10-27	IP10-28	IP10-29	
Flow system	-	Gravity	Pressure	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Pressure	
Material	-	ABS	Steel	ABS	ABS	ABS	Steel	ABS	ABS	ABS	Steel	
Aperture	(mm)	φ150	φ150	φ400	φ150	φ250	φ200	φ200	φ350	φ350	φ250	
Gradient	(%)	7.0	-	5.5	7.0	6.0	-	6.0	5.5	5.5	-	
Covering Population	(P)	1,314	3,693	19,963	1,629	7,920	11,008	2,741	14,481	15,806	17,636	
Flow rate	Average	(m ³ /s)	0.003	0.008	0.042	0.004	0.017	0.023	0.006	0.031	0.033	0.037
	Max	(m ³ /s)	0.005	0.014	0.075	0.007	0.030	0.042	0.011	0.055	0.060	0.067
Capacity	(m ³ /s)	0.017	-	0.201	0.017	0.060	-	0.033	0.141	0.141	-	
Length	(m)	40.00	300.00	360.00	300.00	300.00	100.00	100.00	250.00	250.00	50.00	

Design Parameter List (46/55)

NO.9 La2 + NO.10 Lb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-30	IP10-31	IP10-32	IP10-33	IP10-34-1	IP10-34-2	IP10-35	IP10-36	IP10-37	IP10-38-1	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Pressure	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	Steel	ABS	Steel	
Aperture	(mm)	φ350	φ350	φ150	φ150	φ250	φ400	φ150	φ75	φ150	φ150	
Gradient	(%)	5.5	5.5	7.0	7.0	6.0	5.5	7.0	-	7.0	-	
Catchment Area	(ha)	18,207	18,543	1,289	504	7,997	26,540	1,414	932	1,680	4,829	
Flow rate	Average	(m ³ /s)	0.038	0.039	0.003	0.002	0.017	0.056	0.003	0.002	0.004	0.011
	Max	(m ³ /s)	0.069	0.070	0.005	0.002	0.030	0.100	0.006	0.004	0.007	0.019
Capacity	(m ³ /s)	0.141	0.141	0.017	0.017	0.060	0.201	0.017	-	0.017	-	
Length	(m)	250.00	250.00	200.00	100.00	100.00	500.00	100.00	100.00	100.00	550.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-38-2	IP10-39	IP10-40-1	IP10-40-2	IP10-41	IP10-42	IP10-43	IP10-44	IP10-45	IP10-46	
Flow system	-	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	Steel	ABS	Steel	Steel	Steel	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ600	φ150	φ75	φ600	φ600	φ150	φ150	φ150	φ150	φ200	
Gradient	(%)	4.5	7.0	-	4.5	4.5	7.0	7.0	7.0	7.0	6.0	
Catchment Area	(ha)	51,332	896	1,539	52,871	54,448	1,310	871	1,556	2,136	2,582	
Flow rate	Average	(m ³ /s)	0.107	0.002	0.004	0.111	0.114	0.003	0.002	0.004	0.005	0.006
	Max	(m ³ /s)	0.193	0.004	0.006	0.199	0.205	0.005	0.004	0.006	0.009	0.010
Capacity	(m ³ /s)	0.536	0.017	-	0.536	0.536	0.017	0.017	0.017	0.017	0.033	
Length	(m)	150.00	100.00	560.00	660.00	100.00	200.00	300.00	100.00	150.00	100.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-47	IP10-48-1	IP10-48-2	IP10-49	IP10-50	IP10-51	IP10-52	IP10-53	IP10-54	IP10-55	
Flow system	-	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	Steel	ABS	ABS	Steel	Steel	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ200	φ150	φ250	φ250	φ600	φ600	φ150	φ250	φ250	φ300	
Gradient	(%)	6.0	-	6.0	6.0	4.5	4.5	7.0	6.0	6.0	6.0	
Covering Population	(P)	3,748	4,549	5,859	6,384	62,080	62,545	1,010	6,214	7,117	11,161	
Flow rate	Average	(m ³ /s)	0.008	0.010	0.013	0.014	0.130	0.131	0.003	0.013	0.015	0.024
	Max	(m ³ /s)	0.015	0.018	0.022	0.024	0.233	0.235	0.004	0.024	0.027	0.042
Capacity	(m ³ /s)	0.033	-	0.060	0.060	0.536	0.536	0.017	0.060	0.060	0.097	
Length	(m)	100.00	100.00	400.00	200.00	100.00	200.00	150.00	150.00	150.00	100.00	

Design Parameter List (47/55)

NO.9 La2 + NO.10 Lb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-56	IP10-57	IP10-58	IP10-59-1	IP10-59-2	IP10-60	IP10-61	IP10-62-1	IP10-62-2	IP10-62-3	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity
Material	-	ABS	Steel	ABS	ABS	Steel	ABS	ABS	ABS	Steel	Steel	
Aperture	(mm)	φ300	φ700	φ150	φ150	φ700	φ200	φ250	φ300	φ250	φ700	
Gradient	(%)	6.0	4.5	7.0	7.0	4.5	6.0	6.0	6.0	-	4.5	
Catchment Area	(ha)	11,665	74,761	397	1,987	76,748	4,017	5,008	10,545	14,562	91,310	
Flow rate	Average	(m ³ /s)	0.025	0.156	0.001	0.005	0.160	0.009	0.011	0.022	0.031	0.191
	Max	(m ³ /s)	0.044	0.281	0.002	0.008	0.288	0.016	0.019	0.040	0.055	0.343
Capacity	(m ³ /s)	0.097	0.808	0.017	0.017	0.808	0.033	0.060	0.097	-	0.808	
Length	(m)	150.00	230.00	150.00	150.00	650.00	1,200.00	590.00	600.00	1,300.00	430.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-63	IP10-64	IP10-65	IP10-66	IP10-67	IP10-68	IP10-69	IP10-70-1	IP10-70-2	IP10-71	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	Steel	Steel	
Aperture	(mm)	φ400	φ400	φ400	φ150	φ150	φ200	φ200	φ450	φ700	φ150	
Gradient	(%)	5.5	5.5	5.5	7.0	7.0	6.0	6.0	5.0	4.5	-	
Catchment Area	(ha)	21,713	22,277	22,715	764	2,158	2,661	4,071	28,644	119,954	4,135	
Flow rate	Average	(m ³ /s)	0.046	0.047	0.048	0.002	0.005	0.006	0.009	0.060	0.250	0.009
	Max	(m ³ /s)	0.082	0.084	0.086	0.003	0.009	0.010	0.016	0.108	0.450	0.016
Capacity	(m ³ /s)	0.201	0.201	0.201	0.017	0.017	0.033	0.033	0.262	0.808	-	
Length	(m)	130.00	150.00	150.00	130.00	100.00	100.00	100.00	100.00	430.00	350.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-72	IP10-73	IP10-74	IP10-75	IP10-76-1	IP10-76-2	IP10-77-1	IP10-77-2	IP10-78	IP10-79	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	Steel	Steel	ABS	Steel	ABS	Steel	
Aperture	(mm)	φ150	φ150	φ200	φ150	φ200	φ700	φ200	φ700	φ150	φ700	
Gradient	(%)	7.0	7.0	6.0	7.0	-	4.5	6.0	4.5	7.0	4.5	
Covering Population	(P)	1,677	2,298	3,278	1,585	9,887	129,841	2,732	132,573	612	133,768	
Flow rate	Average	(m ³ /s)	0.004	0.005	0.007	0.004	0.021	0.271	0.006	0.277	0.002	0.279
	Max	(m ³ /s)	0.007	0.009	0.013	0.006	0.038	0.487	0.011	0.498	0.003	0.502
Capacity	(m ³ /s)	0.017	0.017	0.033	0.017	-	0.808	0.033	0.808	0.017	0.808	
Length	(m)	100.00	100.00	100.00	300.00	700.00	150.00	300.00	220.00	100.00	100.00	

Design Parameter List (48/55)

NO.9 La2 + NO.10 Lb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-80	IP10-81-1	IP10-81-2	IP10-82-1	IP10-82-2	IP10-83	IP10-84-1	IP10-84-2	IP10-85	IP10-86	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	Steel	ABS	Steel	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ150	φ200	φ700	φ150	φ700	φ150	φ150	φ150	φ150	φ150	
Gradient	(%)	7.0	6.0	4.5	7.0	4.5	7.0	7.0	7.0	7.0	7.0	
Catchment Area	(ha)	197	2,748	136,516	751	137,267	785	670	1,455	171	403	
Flow rate	Average	(m ³ /s)	0.001	0.006	0.285	0.002	0.286	0.002	0.002	0.004	0.001	0.001
	Max	(m ³ /s)	0.001	0.011	0.512	0.003	0.515	0.003	0.003	0.006	0.001	0.002
Capacity	(m ³ /s)	0.017	0.033	0.808	0.017	0.808	0.017	0.017	0.017	0.017	0.017	
Length	(m)	50.00	50.00	150.00	150.00	300.00	200.00	100.00	100.00	100.00	100.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-87	IP10-88	IP10-89	IP10-90	IP10-91	IP10-92	IP10-93	IP10-94	IP10-95	IP10-96	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	Steel	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ200	φ200	φ250	φ250	φ250	φ200	φ150	φ200	φ250	φ250	
Gradient	(%)	6.0	6.0	6.0	6.0	6.0	-	7.0	6.0	6.0	6.0	
Catchment Area	(ha)	3,784	4,353	4,630	4,832	7,280	8,337	267	3,314	4,689	5,293	
Flow rate	Average	(m ³ /s)	0.008	0.010	0.010	0.011	0.016	0.018	0.001	0.007	0.010	0.012
	Max	(m ³ /s)	0.015	0.017	0.018	0.019	0.028	0.032	0.002	0.013	0.018	0.020
Capacity	(m ³ /s)	0.033	0.033	0.060	0.060	0.060	-	0.017	0.033	0.060	0.060	
Length	(m)	100.00	100.00	100.00	100.00	100.00	200.00	200.00	100.00	100.00	100.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-97	IP10-98	IP10-99-1	IP10-99-2	IP10-100	IP10-101	IP10-102	IP10-103	IP10-104	IP10-105	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	
Aperture	(mm)	φ250	φ250	φ250	φ350	φ150	φ150	φ200	φ350	φ150	φ400	
Gradient	(%)	6.0	6.0	6.0	5.5	7.0	7.0	6.0	5.5	7.0	5.5	
Covering Population	(P)	6,148	6,417	6,654	14,991	512	2,369	2,687	18,124	970	19,173	
Flow rate	Average	(m ³ /s)	0.013	0.014	0.014	0.032	0.002	0.005	0.006	0.038	0.003	0.040
	Max	(m ³ /s)	0.024	0.025	0.025	0.057	0.002	0.009	0.011	0.068	0.004	0.072
Capacity	(m ³ /s)	0.060	0.060	0.060	0.141	0.017	0.017	0.033	0.141	0.017	0.201	
Length	(m)	100.00	100.00	200.00	150.00	100.00	100.00	200.00	100.00	100.00	100.00	

Design Parameter List (49/55)

NO.9 La2 + NO.10 Lb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-106	IP10-107	IP10-108	IP10-109	IP10-110	IP10-111	IP10-112	IP10-113	IP10-114	IP10-115	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	Steel	ABS	
Aperture	(mm)	φ150	φ400	φ400	φ400	φ150	φ400	φ150	φ400	φ800	φ150	
Gradient	(%)	7.0	5.5	5.5	5.5	7.0	5.5	7.0	5.5	4.0	7.0	
Catchment Area	(ha)	1,002	20,415	20,902	21,122	1,560	22,682	286	22,968	161,690	1,549	
Flow rate	Average	(m ³ /s)	0.003	0.043	0.044	0.045	0.004	0.048	0.001	0.048	0.337	0.004
	Max	(m ³ /s)	0.004	0.077	0.079	0.080	0.006	0.086	0.002	0.087	0.607	0.006
Capacity	(m ³ /s)	0.017	0.201	0.201	0.201	0.017	0.201	0.017	0.201	1.087	0.017	
Length	(m)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	470.00	460.00	150.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-116	IP10-117	IP10-118	IP10-119	IP10-120	IP10-121	IP10-122	IP10-123	IP10-124	IP10-125	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	
Material	-	ABS	ABS	Steel	Steel	Steel	Steel	Steel	Steel	ABS	ABS	
Aperture	(mm)	φ300	φ300	φ800	φ800	φ800	φ900	φ900	φ900	φ400	φ400	
Gradient	(%)	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	5.5	5.5	
Catchment Area	(ha)	8,211	8,483	170,173	170,766	171,088	222,495	222,989	223,971	19,601	26,151	
Flow rate	Average	(m ³ /s)	0.018	0.018	0.355	0.356	0.357	0.464	0.465	0.467	0.041	0.055
	Max	(m ³ /s)	0.031	0.032	0.639	0.641	0.642	0.835	0.837	0.840	0.074	0.099
Capacity	(m ³ /s)	0.097	0.097	1.087	1.087	1.087	1.489	1.489	1.489	0.201	0.201	
Length	(m)	100.00	100.00	20.00	100.00	100.00	150.00	100.00	100.00	600.00	200.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-126	IP10-127	IP10-128	IP10-129	IP10-130	IP10-131	IP10-132	IP10-133	IP10-134	IP10-135	
Flow system	-	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	Gravity	Gravity	
Material	-	Steel	Steel	ABS	Steel	ABS	Steel	Steel	ABS	ABS	ABS	
Aperture	(mm)	φ900	φ900	φ150	φ900	φ200	φ900	φ100	φ250	φ250	φ200	
Gradient	(%)	4.0	4.0	7.0	4.0	6.0	4.0	-	6.0	6.0	6.0	
Covering Population	(P)	252,552	255,948	489	257,752	3,396	261,148	3,182	5,283	7,212	2,462	
Flow rate	Average	(m ³ /s)	0.527	0.534	0.002	0.537	0.008	0.545	0.007	0.012	0.016	0.006
	Max	(m ³ /s)	0.948	0.960	0.002	0.967	0.013	0.980	0.012	0.020	0.028	0.010
Capacity	(m ³ /s)	1.489	1.489	0.017	1.489	0.033	1.489	-	0.060	0.060	0.033	
Length	(m)	200.00	200.00	100.00	500.00	150.00	550.00	100.00	200.00	200.00	100.00	

Design Parameter List (50/55)

NO.9 La2 + NO.10 Lb2

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes										
		IP10-136	IP10-137	IP10-138	IP10-139	IP10-140	IP10-141	IP10-142	IP10-143	IP10-144	IP10-145	
Flow system	-	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Gravity	Pressure	Gravity	
Material	-	Steel	ABS	ABS	ABS	ABS	ABS	ABS	ABS	Steel	ABS	
Aperture	(mm)	φ150	φ300	φ150	φ350	φ350	φ150	φ200	φ150	φ75	φ200	
Gradient	(%)	-	6.0	7.0	5.5	5.5	7.0	6.0	7.0	-	6.0	
Catchment Area	(ha)	4,495	11,707	651	14,281	15,515	1,851	4,162	405	1,416	3,678	
Flow rate	Average	(m ³ /s)	0.010	0.025	0.002	0.030	0.033	0.004	0.009	0.001	0.003	0.008
	Max	(m ³ /s)	0.017	0.044	0.003	0.054	0.059	0.007	0.016	0.002	0.006	0.014
Capacity	(m ³ /s)	-	0.097	0.017	0.141	0.141	0.017	0.033	0.017	-	0.033	
Length	(m)	100.00	400.00	150.00	150.00	150.00	200.00	600.00	100.00	150.00	50.00	

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes									
		IP10-146	IP10-147	IP10-148	IP10-149	IP10-150	IP10-151	IP10-152			
Flow system	-	Gravity	Pressure	Gravity	Gravity	Gravity	Gravity	Gravity			
Material	-	ABS	Steel	ABS	ABS	ABS	ABS	Steel			
Aperture	(mm)	φ250	φ75	φ150	φ300	φ400	φ150	φ1000			
Gradient	(%)	6.0	-	7.0	6.0	5.5	7.0	3.5			
Catchment Area	(ha)	7,840	707	1,817	9,657	25,172	2,200	288,520			
Flow rate	Average	(m ³ /s)	0.017	0.002	0.004	0.021	0.053	0.005	0.602		
	Max	(m ³ /s)	0.030	0.003	0.007	0.037	0.095	0.009	1.082		
Capacity	(m ³ /s)	0.060	-	0.017	0.097	0.201	0.017	1.844			
Length	(m)	150.00	100.00	250.00	200.00	200.00	150.00	200.00			

Item	Unit	ID of IP ※Note ; IP:Interceptor Pipes									
Flow system	-										
Material	-										
Aperture	(mm)										
Gradient	(%)										
Covering Population	(P)										
Flow rate	Average	(m ³ /s)									
	Max	(m ³ /s)									
Capacity	(m ³ /s)										
Length	(m)										

Design Parameter List (51/55)

NO.9 La2 + NO.10 Lb2

3-2. Conversion Manhole

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		L22.3U	L22.2	L22.1	L21.2U	L21.1U	L121.1A	L2.1U	D.1A	D.2A	Add SB6-1-1	
Section of EP or EC	(mm)											
Covering Population	(P)	4,398	126	3,917	3,267	21,849	3,997	721	6,460	2,254	1,675	
Flow rate	Average	(m ³ /s)	0.010	0.001	0.009	0.007	0.046	0.009	0.002	0.014	0.005	0.004
	Max	(m ³ /s)	0.017	0.001	0.015	0.013	0.082	0.015	0.003	0.025	0.009	0.007
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		L0.2	L0.1	L111222.9U	L111222.7U	L111222.8U	L111222.6U	ICP9	L111222.1U	L111222.5U	L111222.3U	
Section of EP or EC	(mm)											
Covering Population	(P)	1,731	1,012	2,300	1,233	990	106	-	609	1,522	428	
Flow rate	Average	(m ³ /s)	0.004	0.003	0.005	0.003	0.003	0.001	-	0.002	0.004	0.001
	Max	(m ³ /s)	0.007	0.004	0.009	0.005	0.004	0.001	-	0.003	0.006	0.002
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		L111222.4U	L111222.2U	L11122.18U	L11122.19U	L11122.23U	L11122.20U	L111221.6A	L111221.1U	L11122.24U	L11122.22U	
Section of EP or EC	(mm)											
Covering Population	(P)	408	254	709	2,562	1,383	288	774	1,421	575	384	
Flow rate	Average	(m ³ /s)	0.001	0.001	0.002	0.006	0.003	0.001	0.002	0.003	0.002	0.001
	Max	(m ³ /s)	0.002	0.001	0.003	0.010	0.006	0.002	0.003	0.006	0.003	0.002
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note; CM:Conversion Manhole										
		L11122.21U	L11122.17U	L11122.16U	L11122.15U	L11122.14U	L1112212.4U	L1112211.1U	L1112212.2U	L1112212.3U	L1112212.1	
Section of EP or EC	(mm)											
Covering Population	(P)	324	1,451	994	320	928	1,629	7,920	1,459	2,741	732	
Flow rate	Average	(m ³ /s)	0.001	0.004	0.003	0.001	0.002	0.004	0.017	0.004	0.006	0.002
	Max	(m ³ /s)	0.002	0.006	0.004	0.002	0.004	0.007	0.030	0.006	0.011	0.003
Weir Height	(mm)											
Remarks	-											

Design Parameter List (52/55)

NO.9 La2 + NO.10 Lb2

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L111221.4U	L111221.2U	L111221.3U	L111221.5U	L11121.13U	L11121.12U	L11121.14U	L11121.8U	L11121.9U	L11121.11U	
Section of EP or EC	(mm)											
Covering Population	(P)	1,325	1,830	571	336	1,289	504	6,204	1,414	932	1,680	
Flow rate	Average	(m ³ /s)	0.003	0.004	0.002	0.001	0.003	0.002	0.013	0.003	0.002	0.004
	Max	(m ³ /s)	0.005	0.007	0.003	0.002	0.005	0.002	0.024	0.006	0.004	0.007
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L11121.10U	L11122.13U	L11122.12U	L11122.6U	L11121.6U	L11121.1U	L11121.7U	L11121.5U	L11121.4U	L11121.2U	
Section of EP or EC	(mm)											
Covering Population	(P)	803	896	643	1,577	1,310	871	1,556	580	446	295	
Flow rate	Average	(m ³ /s)	0.002	0.002	0.002	0.004	0.003	0.002	0.004	0.002	0.001	0.001
	Max	(m ³ /s)	0.004	0.004	0.003	0.006	0.005	0.004	0.006	0.003	0.002	0.002
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L11121.3U	L11122.2U	L11122.4U	L11122.3U	L11122.11U	L11122.10U	L11122.9U	L11122.8U	L11122.7U	L11122.5U	
Section of EP or EC	(mm)											
Covering Population	(P)	801	525	1,248	465	1,010	5,204	903	4,044	504	551	
Flow rate	Average	(m ³ /s)	0.002	0.002	0.003	0.001	0.003	0.011	0.002	0.009	0.002	0.002
	Max	(m ³ /s)	0.004	0.002	0.005	0.002	0.004	0.020	0.004	0.016	0.002	0.003
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L11122.1U	L1112.12U	L1122.12U	L1122.11U	L1122.10U	L1121.16U	L1121.15U	L1121.14U	L1121.8U	L1121.9U	
Section of EP or EC	(mm)											
Covering Population	(P)	397	1,590	4,017	5,008	5,537	21,713	564	438	764	1,394	
Flow rate	Average	(m ³ /s)	0.001	0.004	0.009	0.011	0.012	0.046	0.002	0.001	0.002	0.003
	Max	(m ³ /s)	0.002	0.006	0.016	0.019	0.021	0.082	0.003	0.002	0.003	0.006
Weir Height	(mm)											
Remarks	-											

Design Parameter List (53/55)

NO.9 La2 + NO.10 Lb2

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L1121.10	L1121.12U	L1121.13U	L11.5	L111.1U	L111.2	L111.3	L111.5U	L111.4U	L111.13U	
Section of EP or EC	(mm)											
Covering Population	(P)	503	1,410	1,858	4,135	1,677	621	980	1,585	889	2,732	
Flow rate	Average	(m ³ /s)	0.002	0.003	0.004	0.009	0.004	0.002	0.003	0.004	0.002	0.006
	Max	(m ³ /s)	0.002	0.006	0.007	0.016	0.007	0.003	0.004	0.006	0.004	0.011
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L111.10U	L111.12U	L111.9U	L111.11U	L111.8U	L111.6U	L111.7U	L1111.9U	L1111.8U	L1111.11U	
Section of EP or EC	(mm)											
Covering Population	(P)	612	583	197	2,551	751	785	670	171	232	3,784	
Flow rate	Average	(m ³ /s)	0.002	0.002	0.001	0.006	0.002	0.002	0.002	0.001	0.001	0.008
	Max	(m ³ /s)	0.003	0.003	0.001	0.010	0.003	0.003	0.003	0.001	0.001	0.015
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L1111.10U	L1111.7U	L1111.6U	L1111.5U	L1111.4U	L1112.11U	L1112.9U	L1112.10U	L1112.8U	L1112.6U	
Section of EP or EC	(mm)											
Covering Population	(P)	569	277	202	2,448	654	267	3,314	1,108	604	855	
Flow rate	Average	(m ³ /s)	0.002	0.001	0.001	0.006	0.002	0.001	0.007	0.003	0.002	0.002
	Max	(m ³ /s)	0.003	0.002	0.001	0.010	0.003	0.002	0.013	0.005	0.003	0.004
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L1112.5U	L1112.4U	L1112.7U	L1112.3U	L1112.2U	L1112.1U	L1111.3U	L1111.1U	L1111.2U	L1111.18U	
Section of EP or EC	(mm)											
Covering Population	(P)	269	237	512	1,857	318	446	970	79	1,002	240	
Flow rate	Average	(m ³ /s)	0.001	0.001	0.002	0.004	0.001	0.001	0.003	0.001	0.003	0.001
	Max	(m ³ /s)	0.002	0.001	0.002	0.007	0.002	0.002	0.004	0.001	0.004	0.001
Weir Height	(mm)											
Remarks	-											

Design Parameter List (54/55)

NO.9 La2 + NO.10 Lb2

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L111.17U	L111.16U	L111.15U	L111.14U	L122.4U	L122.3U	L122.2	L122.1	L12.2U	L12.1	
Section of EP or EC	(mm)											
Covering Population	(P)	487	220	1,560	286	1,549	6,662	272	593	322	494	
Flow rate	Average	(m ³ /s)	0.002	0.001	0.004	0.001	0.004	0.014	0.001	0.002	0.001	0.002
	Max	(m ³ /s)	0.002	0.001	0.006	0.002	0.006	0.025	0.002	0.003	0.002	0.002
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L1.1U	SSB5-1	L11.2	L11.1U	L11.3(S)	L11.3(N)	L11.4	P211.11	L1122.8U	L1122.9U	
Section of EP or EC	(mm)											
Covering Population	(P)	982	19,601	6,550	2,430	3,396	489	1,315	3,396	3,182	2,101	
Flow rate	Average	(m ³ /s)	0.003	0.041	0.014	0.006	0.008	0.002	0.003	0.008	0.007	0.005
	Max	(m ³ /s)	0.004	0.074	0.025	0.010	0.013	0.002	0.005	0.013	0.012	0.008
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole										
		L1122.7U	L1122.5	L1122.6U	L1122.3U	L1122.4U	L1122.2	L1121.11U	L1121.7U	L1121.3U	L1121.5	
Section of EP or EC	(mm)											
Covering Population	(P)	1,929	2,462	2,033	651	1,923	1,234	1,851	2,311	405	1,011	
Flow rate	Average	(m ³ /s)	0.005	0.006	0.005	0.002	0.005	0.003	0.004	0.005	0.001	0.003
	Max	(m ³ /s)	0.008	0.010	0.008	0.003	0.008	0.005	0.007	0.009	0.002	0.004
Weir Height	(mm)											
Remarks	-											

Item	Unit	ID of CM ※Note ; CM:Conversion Manhole									
		L1121.4	L1121.2U	L1121.1U	L1122.1U						
Section of EP or EC	(mm)										
Covering Population	(P)	2,262	707	1,110	2,200						
Flow rate	Average	(m ³ /s)	0.005	0.002	0.003	0.005					
	Max	(m ³ /s)	0.009	0.003	0.005	0.009					
Weir Height	(mm)										
Remarks	-										

Design Parameter List (55/55)

NO.9 La2 + NO.10 Lb2

3-3. Discharge Pipes

Item	Unit	DP ※Note; DP: Discharge Pipes
Flow system	-	Gravity
Material	-	Steel
Aperture	(mm)	φ700
Gradient	(‰)	4.5
Flow rate Average	(m ³ /s)	0.602
Capacity	(m ³ /s)	0.808
Length	(m)	100

3-4. Manhole pumping station

Item	Unit	ID of MP ※Note; MP: Manhole Pumping station										
		MP22	MP23	MP24	MP25	MP26	MP27	MP28	MP29	MP30	MP31	
Covering Population	(P)	3,533	2,559	288	3,693	11,008	17,636	932	4,829	1,539	4,549	
Flow rate	Average	(m ³ /min)	0.442	0.320	0.036	0.462	1.376	2.205	0.117	0.604	0.193	0.569
	Max	(m ³ /min)	0.795	0.576	0.065	0.831	2.477	3.969	0.210	1.087	0.347	1.024
Capacity	(m ³ /min)	1.000	0.600	0.400	0.800	3.400	5.300	0.400	1.100	0.400	1.000	
Number of pump	-	2	2	2	2	2	3	2	2	2	2	
Aperture	(mm)	100	100	80	100	150	150	80	100	80	100	
Pump head	(m)	7.9	10.9	12.1	9.8	7.8	7.4	7.2	13.2	35.4	7.9	
Output	(kw)	3.7	3.7	2.2	3.7	5.5	5.5	1.5	7.5	5.5	3.7	
Receiving Voltage	(v・60Hz)	230	230	230	230	230	230	230	230	230	230	

Item	Unit	ID of MP ※Note; MP: Manhole Pumping station									
		MP32	MP33	MP34	MP35	MP36	MP37	MP38	MP39		
Covering Population	(P)	14,562	4,135	9,887	8,337	3,182	4,495	1,416	707		
Flow rate	Average	(m ³ /min)	1.821	0.517	1.236	1.043	0.398	0.562	0.177	0.089	
	Max	(m ³ /min)	3.277	0.931	2.225	1.876	0.716	1.012	0.319	0.160	
Capacity	(m ³ /min)	4.700	1.300	2.800	2.500	1.000	1.400	0.400	0.400		
Number of pump	-	3	2	2	2	2	2	2	2		
Aperture	(mm)	100	100	100	100	100	100	80	80		
Pump head	(m)	14.4	12.4	18.0	9.5	7.9	8.8	14.6	12.1		
Output	(kw)	11.0	7.5	11.0	5.5	3.7	5.5	3.7	2.2		
Receiving Voltage	(v・60Hz)	230	230	230	230	230	230	230	230		

Facilities List of Each Catchment Area

Case No			Case.1	Case2			Case4						Casa5								
			LC	P11	LA	Total	P11	P1	P6	LA	LC	Total	L22	P11	P4	P1	P6	LA	LC	Total	
Population			(p)	1,479,630	905,687	573,943	1,479,630	486,870	326,382	92,435	127,029	446,914	1,479,630	180,956	410,222	162,941	137,627	92,435	127,029	368,420	1,479,630
Area			(ha)	7,935.79	5,144.16	2,791.63	7,935.79	2,744.46	1,983.75	415.95	965.31	1,826.32	7,935.79	1,125.65	2,510.78	978.85	659.37	415.95	965.31	1,279.90	7,935.79
Flow Rate			(m ³ /d)	266,333	163,024	103,310	266,334	87,637	58,749	16,638	22,865	80,445	266,333	32,572	73,840	29,329	24,773	16,638	22,865	66,316	266,333
Item	Specification	Unit	Quantity																		
Gravity Flow Pipe	ABS φ 150	m	35,670.00	20,730.00	14,940.00	35,670.00	11,190.00	8,530.00	1,010.00	6,590.00	8,350.00	35,670.00	3,280.00	9,480.00	5,860.00	2,120.00	1,010.00	6,590.00	6,590.00	34,930.00	
	ABS φ 200	m	23,470.00	17,520.00	5,950.00	23,470.00	12,410.00	4,880.00	250.00	1,210.00	4,740.00	23,470.00	3,890.00	9,800.00	3,070.00	1,790.00	250.00	1,210.00	1,210.00	21,020.00	
	ABS φ 250	m	19,700.00	11,550.00	8,150.00	19,700.00	5,830.00	5,340.00	380.00	3,010.00	5,140.00	19,700.00	1,560.00	4,570.00	3,870.00	1,470.00	380.00	3,010.00	3,010.00	17,870.00	
	ABS φ 300	m	17,450.00	11,220.00	6,230.00	17,450.00	6,760.00	4,460.00	0.00	1,070.00	5,160.00	17,450.00	3,180.00	7,010.00	1,850.00	930.00	0.00	1,070.00	1,070.00	15,110.00	
	ABS φ 350	m	6,120.00	4,310.00	1,810.00	6,120.00	2,880.00	1,430.00	0.00	0.00	1,810.00	6,120.00	1,020.00	2,420.00	910.00	300.00	0.00	0.00	0.00	4,650.00	
	ABS φ 400	m	7,860.00	3,800.00	4,060.00	7,860.00	1,990.00	1,610.00	0.00	1,500.00	2,980.00	7,860.00	580.00	2,570.00	310.00	1,300.00	0.00	1,500.00	1,500.00	7,780.00	
	ABS φ 450	m	7,820.00	4,430.00	3,390.00	7,820.00	3,230.00	1,200.00	0.00	1,390.00	2,000.00	7,820.00	2,160.00	1,330.00	0.00	1,200.00	0.00	1,390.00	1,390.00	7,470.00	
	ABS φ 500	m	9,600.00	8,010.00	1,590.00	9,600.00	3,090.00	4,820.00	100.00	100.00	1,490.00	9,600.00	740.00	2,730.00	3,950.00	870.00	100.00	100.00	100.00	8,590.00	
	ABS φ 600	m	9,750.00	5,570.00	4,180.00	9,750.00	2,830.00	2,940.00	0.00	3,030.00	1,190.00	9,750.00	1,140.00	2,780.00	1,400.00	1,540.00	0.00	3,030.00	3,030.00	12,900.00	
	ABS φ 700	m	19,210.00	12,690.00	6,520.00	19,210.00	2,850.00	2,380.00	3,430.00	3,700.00	2,820.00	15,180.00	2,820.00	3,160.00	1,520.00	1,420.00	3,430.00	3,700.00	3,700.00	19,750.00	
	ABS φ 800	m	5,810.00	3,900.00	1,710.00	5,810.00	1,540.00	2,610.00	0.00	0.00	1,710.00	5,810.00	1,410.00	0.00	1,720.00	0.00	0.00	0.00	0.00	3,130.00	
	ABS φ 900	m	4,250.00	0.00	1,350.00	4,250.00	0.00	270.00	0.00	0.00	1,350.00	4,250.00	0.00	1,420.00	0.00	0.00	0.00	0.00	0.00	1,420.00	
	ABS φ 1000	m	1,130.00	1,350.00	1,030.00	2,380.00	100.00	290.00	0.00	0.00	880.00	1,070.00	0.00	1,340.00	0.00	0.00	0.00	0.00	0.00	1,340.00	
	ABS φ 1100	m	5,990.00	4,870.00	2,950.00	7,820.00	2,660.00	0.00	0.00	0.00	1,800.00	4,480.00	0.00	420.00	0.00	0.00	0.00	0.00	0.00	420.00	
	ABS φ 1200	m	950.00	420.00	2,500.00	2,920.00	420.00	0.00	0.00	0.00	200.00	620.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	ABS φ 1350	m	1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	ABS φ 1500	m	1,730.00	0.00	0.00	1,730.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total	m	177,610.00	110,170.00	66,360.00	176,530.00	57,580.00	40,740.00	5,170.00	21,600.00	40,980.00	166,050.00	21,780.00	48,810.00	24,460.00	12,940.00	5,170.00	21,600.00	21,600.00	156,360.00		
Conversion Manhole	φ700	pcs	371	200	171	371	120	78	2	37	134	371	51	106.00	40	28	2	37	107	371	
	φ1000	pcs	174	90	84	174	58	30	2	18	66	174	25	50.00	16	10	2	18	53	174	
	Total	pcs	545	290	255	545	178	108	4	55	200	545	76	156	56	38	4	55	160	545	
Pump Station	φ400x14.7m3/minx10.0mx37kw 8units	pcs	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
	φ200x4.8m3/minx10.0mx15kw 5units	pcs	1	0	1	1	0	0	0	1	0	1	0	0	0	0	0	1	0	1	
	φ200x4.8m3/minx10.0mx22kw 5units	pcs	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ250x6.6m3/minx10.0mx22kw 5units	pcs	1	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	
	φ400x18.5m3/minx10.0mx45kw 8units	pcs	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
	φ400x16.8m3/minx10.0mx45kw 7units	pcs	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ200x5.5m3/minx10.0mx15kw 4units	pcs	1	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	
	φ250x7.8m3/minx10.0mx22kw 5units	pcs	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ400x18.3m3/minx10.0mx45kw 7units	pcs	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ250x5.2m3/minx10.0mx15kw 5units	pcs	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ250x6.5m3/minx10.0mx22kw 5units	pcs	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	
	φ250x5.0m3/minx10.0mx15kw 5units	pcs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	Total	pcs	7	2	5	7	0	1	0	1	2	4	1	0	0	0	0	0	1	3	
	ABS φ 800	m	800	0	800	800	0	0	0	800	0	800	0	0	0	0	0	0	0	0	
	ABS φ 800	m	1,250	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	m	2,050	0	800	800	0	0	0	800	0	800	0	0	0	0	0	0	0	0	
	Manhole Pump Station	1.5kw x 2units	pcs	4	1	3	4	1	0	0	1	2	4	2	0	0	0	1	1	4	
2.2kw x 2units		pcs	3	0	3	3	0	0	0	1	2	3	0	0	0	0	1	2	3		
3.7kw x 2units		pcs	20	8	12	20	8	0	2	10	20	6	6	0	0	2	6	20			
5.5kw x 2units		pcs	22	12	10	22	11	1	0	2	8	22	4	10	0	1	2	5	22		
7.5kw x 2units		pcs	13	6	7	13	4	2	0	4	3	13	1	4	1	0	4	2	12		
11.0kw x 2units		pcs	7	3	4	7	3	0	0	1	3	7	2	2	0	0	1	2	7		
15.0kw x 2units		pcs	3	3	0	3	1	2	0	0	3	3	0	2	1	0	0	0	4		
22.0kw x 2units		pcs	1	0	1	1	0	0	0	1	0	1	0	0	0	0	1	0	1		
Total		pcs	73	33	40	73	28	5	0	12	28	73	15	24	2	2	0	12	18	73	
ABS φ 75		m	3,040	3,040	2,480	5,520	560	0	0	810	1,670	3,040	1,320	0	0	0	0	810	910	3,040	
ABS φ 100		m	1,430	1,430	990	2,420	440	0	0	840	150	1,430	0	440	0	0	0	840	150	1,430	
ABS φ 150		m	5,450	5,450	2,310	7,760	3,140	0	0	300	2,010	5,450	630	2,820	0	0	0	300	1,700	5,450	
ABS φ 200		m	3,350	3,350	1,500	4,850	1,850	0	0	250	1,250	3,350	500	1,700	0	0	0	250	900	3,350	
ABS φ 250		m	2,260	2,260	550	2,810	1,380	330	0	450	100	2,260	0	1,180	210	0	0	450	100	1,940	
ABS φ 300		m	1,950	1,950	1,690	3,640	210	50	0	190	1,500	1,950	150	210	0	50	0	190	1,350	1,950	
ABS φ 350		m	1,580	1,580	0	1,580	1,580	0	0	0	0	1,580	590	990	0	0	0	0	0	1,580	
ABS φ 400		m	800	800	580	1,380	220	0	0	430	150	800	150	220	0	0	0	430	0	800	
ABS φ 450	m	130	130	0	130	0	130	0	0	0	130	0	70	80	0	0	0	0	130		
ABS φ 500	m	800	800	800	1,600	0	0	0	650	150	800	150	0	0	0	0	650	0	800		
Total	m	20,790	20,790	10,900	31,690	9,380	510	0	3,920	6,980	20,790	3,490	7,560	280	110	0	3,920	5,110	20,470		
Discharge																					

Facilities List of Each Catchment Area

Case No			Case6							Case7						Case8							
			P11	P4	P1	P6	LA	LC	Total	P11	P2	P6	LA	LC	Total	L22	P11	P4	P2	P6	LA	LC	Total
Population (p)			486,870	188,755	137,627	92,435	127,029	446,914	1,479,630	486,870	326,382	92,435	127,029	446,914	1,479,630	180,956	410,222	162,941	137,627	92,435	127,029	368,420	1,479,630
Area (ha)			2,744.46	1,324.38	659.37	415.95	965.31	1,826.32	7,935.79	2,744.46	1,983.75	415.95	965.31	1,826.32	7,935.79	1,125.65	2,510.76	978.85	659.37	415.95	965.31	1,279.90	7,935.79
Flow Rate (m ³ /d)			87,637	33,976	24,773	16,638	22,865	80,445	266,333	87,637	58,749	16,638	22,865	80,445	266,333	32,572	73,840	29,329	24,773	16,638	22,865	66,316	266,333
Item	Specification	Unit	Quantity																				
			P11	P4	P1	P6	LA	LC	Total	P11	P2	P6	LA	LC	Total	L22	P11	P4	P2	P6	LA	LC	Total
Gravity Flow Pipe	ABS φ 150	m	11,190.00	6,410.00	2,120.00	1,010.00	6,590.00	8,350.00	35,670.00	11,190.00	8,530.00	1,010.00	6,590.00	8,350.00	35,670.00	3,280.00	9,480.00	5,860.00	2,120.00	1,010.00	6,590.00	6,590.00	35,370.00
	ABS φ 200	m	12,410.00	3,070.00	1,790.00	250.00	1,210.00	4,740.00	23,470.00	12,410.00	4,880.00	250.00	1,210.00	4,740.00	23,470.00	3,890.00	9,800.00	3,070.00	1,790.00	250.00	1,210.00	1,210.00	22,660.00
	ABS φ 250	m	5,830.00	3,870.00	1,470.00	380.00	3,010.00	5,140.00	19,700.00	5,830.00	5,340.00	380.00	3,010.00	5,140.00	19,700.00	1,560.00	4,570.00	3,870.00	1,470.00	380.00	3,010.00	3,010.00	19,700.00
	ABS φ 300	m	6,760.00	3,530.00	930.00	0.00	1,070.00	5,160.00	17,450.00	6,760.00	4,480.00	0.00	1,070.00	5,160.00	17,450.00	3,180.00	7,010.00	1,850.00	930.00	0.00	1,070.00	1,070.00	16,790.00
	ABS φ 350	m	2,880.00	1,350.00	300.00	0.00	0.00	1,810.00	6,340.00	2,880.00	1,430.00	0.00	0.00	1,810.00	6,120.00	1,020.00	2,420.00	910.00	300.00	0.00	0.00	0.00	6,100.00
	ABS φ 400	m	1,990.00	310.00	1,300.00	0.00	1,500.00	2,560.00	7,660.00	1,990.00	1,610.00	0.00	1,500.00	2,560.00	7,660.00	580.00	2,570.00	310.00	1,300.00	0.00	1,500.00	1,500.00	8,310.00
	ABS φ 450	m	3,230.00	0.00	1,200.00	0.00	1,390.00	2,000.00	7,820.00	3,230.00	1,200.00	0.00	1,390.00	2,000.00	7,820.00	2,160.00	1,330.00	0.00	1,200.00	0.00	1,390.00	1,390.00	7,860.00
	ABS φ 500	m	3,090.00	3,950.00	870.00	100.00	100.00	1,490.00	9,600.00	3,090.00	4,820.00	100.00	1,490.00	1,490.00	9,600.00	740.00	2,730.00	3,950.00	870.00	100.00	100.00	100.00	10,650.00
	ABS φ 600	m	2,830.00	1,400.00	1,540.00	0.00	3,030.00	1,150.00	9,750.00	2,830.00	2,940.00	0.00	3,030.00	1,150.00	9,750.00	1,140.00	2,760.00	1,400.00	1,540.00	0.00	3,030.00	3,030.00	11,480.00
	ABS φ 700	m	2,850.00	1,520.00	1,420.00	3,430.00	3,700.00	2,820.00	15,740.00	2,850.00	2,380.00	3,430.00	3,700.00	2,820.00	15,180.00	2,820.00	3,160.00	1,520.00	1,420.00	3,430.00	3,700.00	3,700.00	17,660.00
	ABS φ 800	m	1,540.00	1,720.00	0.00	0.00	0.00	1,710.00	4,970.00	1,540.00	2,610.00	0.00	0.00	1,710.00	5,860.00	1,410.00	0.00	1,720.00	0.00	0.00	0.00	0.00	4,480.00
	ABS φ 900	m	0.00	0.00	0.00	0.00	0.00	1,350.00	1,350.00	0.00	270.00	0.00	0.00	1,350.00	1,620.00	0.00	1,420.00	0.00	0.00	0.00	0.00	0.00	2,100.00
	ABS φ 1000	m	100.00	0.00	0.00	0.00	0.00	860.00	780.00	100.00	290.00	0.00	0.00	860.00	1,070.00	0.00	1,340.00	0.00	0.00	0.00	0.00	0.00	2,590.00
	ABS φ 1100	m	2,660.00	0.00	0.00	0.00	0.00	1,800.00	4,460.00	2,660.00	0.00	0.00	0.00	1,800.00	4,460.00	0.00	420.00	0.00	0.00	0.00	0.00	0.00	1,170.00
	ABS φ 1200	m	420.00	0.00	0.00	0.00	0.00	200.00	620.00	420.00	0.00	0.00	0.00	200.00	620.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	ABS φ 1350	m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	ABS φ 1500	m	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	m	57,580.00	27,130.00	12,940.00	5,170.00	21,600.00	40,960.00	165,380.00	57,580.00	40,740.00	5,170.00	21,600.00	40,960.00	166,050.00	21,780.00	48,810.00	24,460.00	12,940.00	5,170.00	21,600.00	21,600.00	166,940.00
Conversion Manhole	φ700	pcs	120	50	28	2	37	134	371	120	78	2	37	134	51	108	40	28	2	37	107	371	
	φ1000	pcs	58	20	10	2	18	66	174	58	30	2	18	66	25	56	16	10	2	18	53	174	
	Total	pcs	178	70	38	4	55	200	545	178	108	4	55	200	76	166	56	38	4	55	160	545	
	Total	pcs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pump Station	φ400x14.7m3/minx10.0mx37kw 6units	pcs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ200x4.8m3/minx10.0mx15kw 5units	pcs	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	
	φ200x4.8m3/minx10.0mx22kw 5units	pcs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ250x6.6m3/minx10.0mx22kw 5units	pcs	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	
	φ400x18.5m3/minx10.0mx45kw 6units	pcs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ400x16.8m3/minx10.0mx45kw 7units	pcs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ200x5.5m3/minx10.0mx15kw 4units	pcs	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	
	φ250x7.8m3/minx10.0mx22kw 5units	pcs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ400x18.3m3/minx10.0mx45kw 7units	pcs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	φ250x5.2m3/minx10.0mx15kw 5units	pcs	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
	φ250x6.5m3/minx10.0mx22kw 5units	pcs	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	1	
	φ250x5.0m3/minx10.0mx15kw 5units	pcs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	Total	pcs	0	0	0	0	1	2	3	3	1	0	1	2	4	1	0	0	0	0	1	1	3
	ABS φ 600	m	0	0	0	0	800	0	800	0	0	0	800	0	800	0	0	0	0	0	0	800	800
	ABS φ 800	m	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	m	0	0	0	0	800	0	800	0	0	0	800	0	800	0	0	0	0	0	0	800	800
	Manhole Pump Station	1.5kw x 2units	pcs	1	0	0	0	1	2	4	1	0	0	1	2	4	2	0	0	0	0	1	1
		2.2kw x 2units	pcs	0	0	0	0	1	2	3	0	0	1	2	3	0	0	0	0	0	0	1	2
3.7kw x 2units		pcs	8	0	0	0	2	10	20	8	0	0	2	10	20	6	6	0	0	2	6	10	
5.5kw x 2units		pcs	11	0	1	0	2	8	22	11	1	0	2	8	22	4	10	0	1	0	2	5	
7.5kw x 2units		pcs	4	2	0	0	4	3	13	4	2	0	4	3	13	1	4	1	0	4	2	9	
11.0kw x 2units		pcs	3	0	0	0	1	3	7	3	0	0	1	3	7	2	2	0	0	1	2	4	
15.0kw x 2units		pcs	1	2	1	0	0	4	1	2	0	0	0	3	0	2	1	1	0	0	2		
22.0kw x 2units		pcs	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	1	0	4	
Total		pcs	28	4	2	0	12	28	74	28	5	0	12	28	73	15	24	2	2	0	12	18	
ABS φ 75		m	560	0	0	0	810	1,670	3,040	560	0	0	810	1,670	3,040	1,320	0	0	0	0	810	910	
ABS φ 100		m	440	0	0	0	840	150	1,430	440	0	0	840	150	1,430	0	440	0	0	0	840	150	
ABS φ 150		m	3,140	0	0	0	300	2,010	5,450	3,140	0	0	300	2,010	5,450	630	2,820	0	0	0	300	1,700	
ABS φ 200		m																					

RDO NO. 53 LAS PINAS-MUNTINLUPA

MUNICIPALITY: LAS PINAS

BARANGAY: PAMPLONA UNO

DO No.	10-97	26-96	114-95	22-93	53-90	1-89	85-87
Effect.date	2-May-97	9-May-96	15-Oct-95	30-May-93	18-Nov-90	10-Mar-89	1-Oct-87

STREET/SUBDIVISION	VICINITY	CLASSE- FICATION	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3rd REV. ZV/SQ.M.	2nd REV. ZV/SQ.M.	1st REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
A BONIFACIO	ALONG TUASON ROAD	RR	2,400.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
ANACLETO BUENCAMINO		RR	2,750.00	2,000.00	1,550.00	1,000.00			
ARROW TEXTILE	BALAGTAS SUBD	RR	2,200.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
BALAGTAS	DONA CRISTETA SUBD	RR	2,200.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
BURGOS	MANILA SOUTH ROAD	RR	2,200.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
C'NGBLEZA CPD	PHILIPS	RR	2,200.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
CHARLESTON TERRACE	BF HOMES PH IV, RACLAI	RR	5,900.00	4,700.00	3,450.00	2,200.00			
CTAGELLA SUBD	TUNGTOG	RR	5,130.00	3,700.00	3,450.00	2,200.00			
CUEVAS CPD	ALONG NATIONAL ROAD	CR	13,300.00	11,000.00	8,000.00	5,000.00	4,000.00	1,000.00	1,000.00
CULASI	MANILA SOUTH ROAD	RR	5,600.00	4,850.00	3,850.00	2,500.00	1,900.00	950.00	950.00
DOM ANGELO KING VILL	TUNGTOG	I	5,500.00	4,575.00	3,450.00	2,200.00			
GATCHALLIAN R MEDINA	TUNGTOG	RR	4,400.00	3,000.00	2,250.00	1,400.00			
GATCHALLIAN SUBD P-3C	TUNGTOG	RR	4,400.00	3,000.00	2,250.00	1,400.00			
GOMEZ	MANILA SOUTH ROAD	RR	2,000.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
HILABEL	PAMPLONA ELEM SCHOOL	RR	2,100.00	1,710.00	1,300.00	800.00	600.00	300.00	300.00
HONGKONG VILLAGE	ALONG CAA ROAD, RACLAI	RR	3,400.00	2,900.00	2,250.00	1,400.00			
KAJUNILARAN	BALAGTAS	RR	2,500.00	1,700.00	1,300.00	800.00	600.00	300.00	300.00
KAY MANARIGÓ	MUNICIPAL HALL	RR	3,000.00	2,450.00	1,900.00	1,200.00	1,000.00	500.00	500.00
MONARCK, INC.	PHILIPS	RR	3,650.00	2,900.00	2,250.00	1,400.00	1,200.00	600.00	600.00

Car L. B...
NELSON L. BOONEM, INC.
ASST. REGISTERED SURVEYOR

CERTIFIED TRUE COPY



No. 9172210

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
Land Registration Authority
QUEZON CITY

REGISTRY OF DEEDS FOR THE LAS PINAS CITY

Transfer Certificate of Title

No. T-111103-

IT IS HEREBY CERTIFIED that certain land situated in the City of Las Pinas, Philippines, bounded and described as follows:
A parcel of land (Lot A-3-B-4-B of the subd. plan (LRC)Esd-29031, approved as a non-subd. project, being a portion of Lot A-3-B-4, RS-706, L.R.C. Rec. No. 3634), situated in the Bo. of Pamplona, Mun. of Las Pinas, Prov. of Metro Manila (Rizal) Is. of Luzon. Bounded on the NE, pts. 6 to 7 by the National Road, on the SE, pts. 7 to 9 and 9 to 1 by Lot A-3-B-4-A of the subd. plan, on the SW, pts. 1 to 2 by the Estero Sin Nombre, and on the SW, and NW, pts. 2 to 5 by Rio Grande de Zapote, and pts. 5 to 6 by Lot A-3-B-3, RS-706, Beginning at a pt. marked "1" on plan, being S. 75 deg. 12' E., 3394.46 m. from ELM No. 1, Mun. of Bacoor, Cavite, thence N. 73 deg. 33' W., 47.00 m. to pt. 2, thence N. 11 deg. 20' W., 103.11 m. to pt. 3, thence S. 75 deg. 12' E., 3394.46 m. to pt. 1, which land is registered in accordance with the provisions of the Property Registration Decree in the name of

V.A.A. BUILDERS CORPORATION, a corporation organized and existing under the laws of the Philippines.

as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of said Decree as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 28th day of January, in the year nineteen hundred and eight, in the Registration Book of the Office of the Register of Deeds of Rizal, Volume 564, page 12, as Original Certificate of Title No. 374, pursuant to Decree No. 2244 issued in L.R.C. Record No. Case 3634 in the name of V.A.A. BUILDERS CORPORATION. This certificate is a transfer from Transfer Certificate of Title No. T-32410/165 which is cancelled by virtue hereof in so far as the above-described land is concerned.

Entered at Las Pinas City
Philippines on the 28th day of August
in the year two thousand and eight
at 10:25 a.m.

ATTEST:

Veraville Bldg., Alabang-Zapote Rd.
Pamplona, Las Pinas City
(Owner's postal address)

JOEL E. PANER
7-16-10
Register of Deeds
CAROLINA B. RAMOS
Register of Deeds

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

XXXXXXXXXX(Cont. of l.d.)

95 m. to pt. 3, thence N. 28 deg. 11'E., 77.00 m. to pt. 4, thence N. 22 deg. 32'E., 54.00 m. to pt. 5, thence N. 29 deg. 06'E., 282.65 m. to pt. 6, thence S. 54 deg. 50'E., 59.84 m. to pt. 7, thence S. 27 deg. 01'W., 270.00 m. to pt. 8, thence S. 27 deg. 01'W., 198.56 m. to pt. 9, thence S. 46 deg. 38'E., 19.82 m. to the pt. of beginning; containing an area of FORTY ONE THOUSAND FIVE HUNDRED SIXTEEN (41,516) SQUARE METERS, more or less. All pts. referred to are indicated on the plan and are marked on the ground as follows, pts. 2 to 5 by Old Pts. and pts. 1 and 6 to 9 by Spike on wall, by P.S. cyl. cgm. mmm. 15 x 60 cms., bearings true, date of original survey, June 7-8, 1907, Resurvey, Nov. 5-7, 1957, and that of the subd. survey, executed by Mariano Lucero, Geodetic Engr., on Aug. 8, 21 & 24, 1979./.

Entry No. 81-72-19- RESOLUTION- Executed by Ada, Genecio O. Ortile, under Consulta no. X147, entitled Borden Retirees Association, et.al., Petitioner v.s. The Register of Deeds, of las Pinas City, Respondent, stating among other things that the notice of Adverse claim which has been denied by this registry and the subject of the present consulta may be registered provided all other registration, requirements are complied with. copy on file in this registry. Date of instrument- October 25, 2001 Date of inscription- Feb. 1, 2002 at 11:55 a.m.

(SGD) GORAZON C. CHAVEZ Register of Deeds

Under/en Consulta. Affidavit of Adverse Claim executed Francisco C. Bana under Entry No. 7414, dtd. Oct. 7, 2006.

Entry No. 7414- AFFIDAVIT OF ADVERSE CLAIM, dtd. Oct. 16, 2006, duly executed by Francisco Bana, raised EN CONSULTA to Land Registration Authority on November 20, 2006.

(SGD) CAROLINA E. RAMOS Astg. Register of Deeds

copied from TCT No. T-32910

JOEL S. PANER Register of Deeds 7.16.10

(Memorandum of Encumbrances contained on Page-B) (Technical Description continued on Additional Sheet Page

NOTHING FOLLOWS All subsequent annotations shall be stored in electronic form in the PHILARES Date 02/12/11

125-00-009-015-001-0000



Republic of the Philippines
CITY OF LAS PINAS

CONTROL NO. **23337**

PROPERTY INDEX NO.

TAX DECLARATION NO. E-009-05924

09039330

DECLARATION OF REAL PROPERTY

OWNER : VAB BUILDERS CORP ADDRESS : VAB BLDG. ALBANO-ZAPOTE RD., LAS PINAS CITY ADMINISTRATOR ADDRESS :				DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY : NATIONAL ROAD CERTIFICATE OF TITLE NO. : 7-111103 BARANGAY : PAMPLONA UNO LOT NO. : A-3-B-4-B SURVEY NO. : P50-19031 BLK NO. BOUNDARIES : NORTH : NE NATIONAL ROAD SOUTH : SW ESTERO DN HOMBRE EAST : SE LOT A-3-B-4-A WEST : NE-BIG GRANDE DE ZAPOTE						
IMPORTANT : Issued for taxation purposes and should not be considered as title to the property.										
LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL)				BUILDING AND OTHER IMPROVEMENTS						
ASSESSOR'S FINDINGS				ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
REST C-4	41,516.00	5,000		207,580,000			1ST STORY	2ND STORY	3RD STORY	FLOOR
MACHINERY										
ASSESSOR'S FINDINGS				ASSESSOR'S FINDINGS						
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE	KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE	
					LAND	RESIDENT	207,580,000	70	41,516,000	
Certified True Copy DIV. USE OF THE CITY ASSESSOR REGISTERED 07/19/2010 CITY OF LAS PINAS							TOTAL ASSESSED FORTY-ONE MILLION FIVE HUNDRED SIXTEEN THOUSAND PESOS ONLY		TOTAL 41,516,000	
RECOMMENDING APPROVAL : ENGR. RAMON S. SAN PEDRO Asst. City Assessor E-009-05288					APPROVED : ROMULO C. GERVACIO City Assessor					
THIS DECLARATION CANCELLED BY TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR _____ AND ENDS WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____ PREVIOUS OWNER OF OWNERSHIP DATE FULL TITLE NO. _____ PREVIOUS ASSESSOR VALUE: LAND _____ IMPROVEMENT _____										
REMARKS:										
Received by : /0013-12/21/2010 7:00:52PM Date :										

RPA Form No. 1

RDO NO. 53 LAS PINAS-MUNTINLUPA

MUNICIPALITY: LAS PINAS

BARANGAY: PAMPLONA UNO (Cont.)

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	10-97 2-May-97 6TH REV. ZV/SQ.M.	26-96 9-May-96 5TH REV. ZV/SQ.M.	114-95 15-Oct-95 4TH REV. ZV/SQ.M.	22-93 30-May-93 3RD REV. ZV/SQ.M.	53-90 18-Nov-90 2ND REV. ZV/SQ.M.	1-89 10-Mar-89 1ST REV. ZV/SQ.M.	85-87 1-Oct-87 INITIAL ZV/SQ.M.
NATIONAL ROAD	PAMPLONA I	CR						1,000.00	1,000.00
PAMPLONA PARKS	BDY TALON ZAROTE	RR	2,300.00	1,900.00	1,300.00	800.00		800.00	800.00
PATRICIA HOMES	REMARVILLE SUBD	RR	2,500.00	1,700.00	1,300.00	1,000.00	600.00	300.00	300.00
PHILIP'S PARK SUBD	GREENVIEW	RR	2,200.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
REMARVILLE 2		RR	2,550.00	2,100.00	1,600.00	1,000.00	600.00	300.00	300.00
SAN ISIDRO SUBD	MANILA SOUTH ROAD	RR	2,400.00	1,850.00	1,400.00	900.00	800.00	400.00	400.00
SIGNATURE HOMES		RR	2,750.00	2,000.00	1,500.00	1,000.00			
TERESA PARK SUBD		RR	2,800.00	2,100.00	1,600.00	1,000.00			
TUAZON SUBD	SAN ISIDRO SUBD	RR	2,200.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
TUNGTING	CASMIRO VILL	RR							
WOODBRIDGE	TUNGTING	RR	5,650.00	4,700.00	3,950.00	2,200.00	600.00	300.00	300.00
ZAROTE ALABANG ROAD	PAMPLONA I	CR	25,400.00	20,500.00	13,000.00	8,000.00	6,000.00		
ALL OTHER STREETS		CR	20,900.00	17,600.00	11,000.00	7,000.00			
		RR	2,000.00	1,650.00	1,250.00	800.00			
		GP	1,700.00	1,350.00	1,000.00	500.00	500.00	250.00	

Mel L. Lopez
MELSON L. BODYCAL, INC.
 DIST. ASST. REVENUE DISTRICT OFFICER

CERTIFIED TRUE COPY

RDO NO. 53 LAS PINAS-MUNTINLUPA

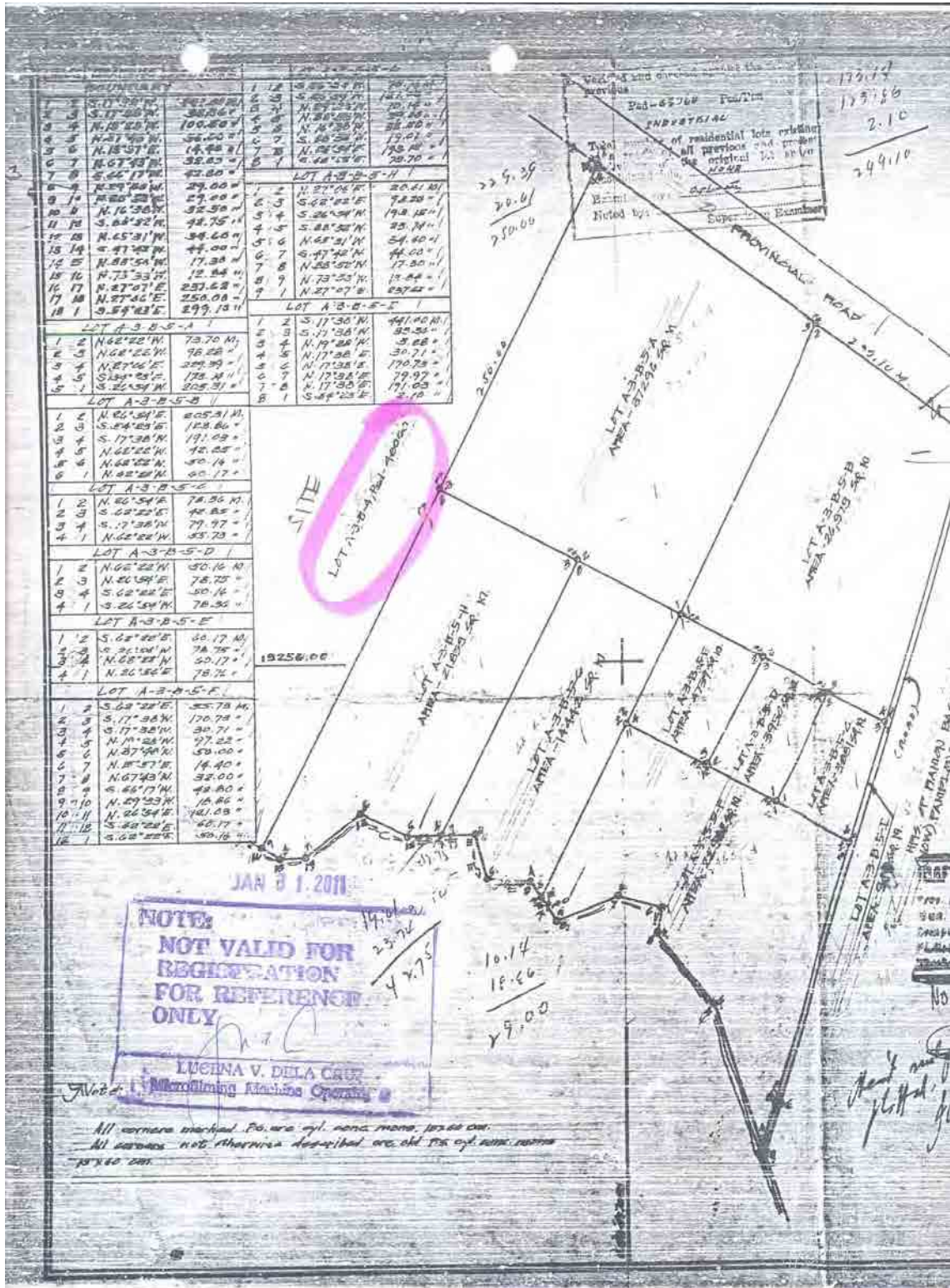
MUNICIPALITY: LAS PINAS

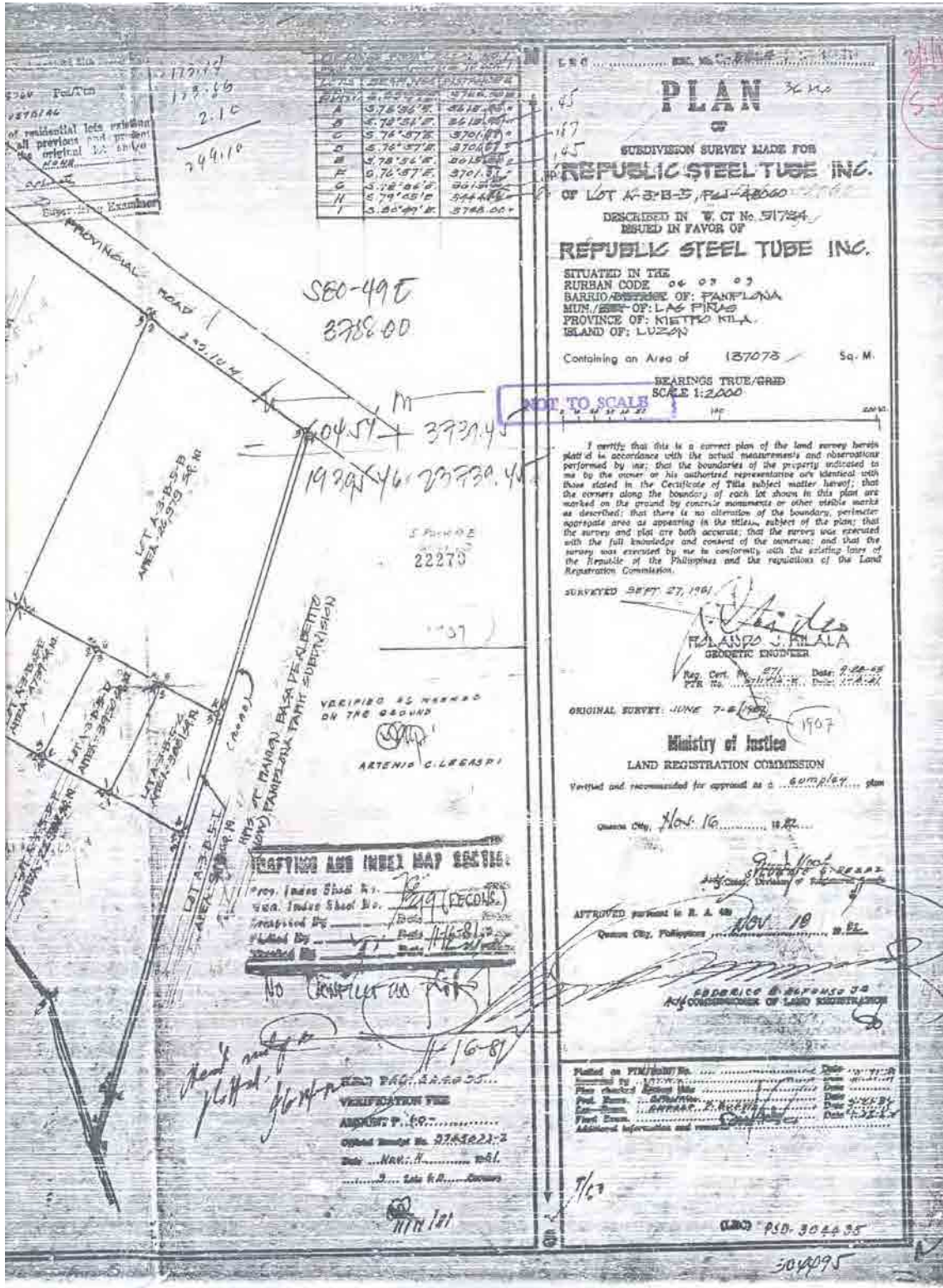
BARANGAY: PAMPLONA UNO (Cont.)

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	DO No. Effect.date	10-97 2-May-97	26-96 9-May-96	114-95 15-Oct-95	22-93 30-May-93	53-90 18-Nov-90	1-89 10-Mar-89	85-87 1-Oct-87
				6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
NATIONAL ROAD	PAMPLONA I	CR								
PAMPLONA PARKS	BDY TALON ZAPOTE	RR		2,300.00	1,900.00	1,300.00	800.00	600.00	1,000.00	1,000.00
PATRICIA HOMES	REMARVILLE SUBD	RR		2,500.00	1,700.00	1,300.00	1,000.00	600.00	800.00	800.00
PHILLIPS PARK SUBD	GREENVIEW	RR		2,200.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
REMARVILLE 2		RR		2,550.00	2,100.00	1,600.00	1,000.00	600.00	300.00	300.00
SAN ISIDRO SUBD	MANILA SOUTH ROAD	RR		2,400.00	1,850.00	1,400.00	900.00	800.00	400.00	400.00
SIGNATURE HOMES		RR		2,750.00	2,000.00	1,550.00	1,000.00	600.00	300.00	300.00
TERESA PARK SUBD		RR		2,800.00	2,100.00	1,600.00	1,000.00	600.00	300.00	300.00
TUAZON SUBD	SAN ISIDRO SUBD	RR		2,200.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
TUNGTONG	CASIMIRO VILL	RR		5,650.00	4,700.00	3,950.00	2,200.00	600.00	300.00	300.00
WOODRIDGE	TUNGTONG	RR		25,400.00	20,500.00	13,000.00	8,000.00	600.00	300.00	300.00
ZAPOTE ALABANG ROAD	PAMPLONA I	CR		20,900.00	17,600.00	11,000.00	7,000.00	6,000.00		
ALL OTHER STREETS		RR		2,000.00	1,650.00	1,250.00	800.00	500.00		
		GP		1,700.00	1,350.00	1,000.00	500.00	250.00		

Abel L. Puy
NELSON L. BOOMALING
11-ASST. REVENUE DISTRICT OFFICER

CERTIFIED TRUE COPY





Lot	Bearing	Distance	Area
A	S 78° 31' E	2618.40	3788.00
B	S 78° 31' E	2618.40	3788.00
C	S 78° 31' E	2618.40	3788.00
D	S 78° 31' E	2618.40	3788.00
E	S 78° 31' E	2618.40	3788.00
F	S 78° 31' E	2618.40	3788.00
G	S 78° 31' E	2618.40	3788.00
H	S 78° 31' E	2618.40	3788.00
I	S 78° 31' E	2618.40	3788.00

PLAN X-10
 SUBDIVISION SURVEY MADE FOR
REPUBLIC STEEL TUBE INC.
 OF LOT A-3-B-3, P-1-42060
 DESCRIBED IN W. CT No. 51734
 ISSUED IN FAVOR OF
REPUBLIC STEEL TUBE INC.
 SITUATED IN THE
 URBAN CODE 06 03 03
 BARRIO/ESTEREO OF: PANGLOSA
 MUN./CITY OF: LAS FERAS
 PROVINCE OF: KIATIKO NLA
 ISLAND OF: LUZON
 Containing an Area of 137073 Sq. M.
 BEARINGS TRUE/GRID
 SCALE 1:2000

I certify that this is a correct plan of the land survey herein
 made in accordance with the actual measurements and observations
 performed by me; that the boundaries of the property indicated to
 me by the owner or his authorized representative are identical with
 those stated in the Certificate of Title subject matter hereof; that
 the corners along the boundary of each lot shown in this plan are
 marked on the ground by concrete monuments or other visible marks
 as described; that there is no alteration of the boundary, perimeter
 or aggregate area as appearing in the title, subject of the plan; that
 the survey and plot are both accurate; that the survey was executed
 with the full knowledge and consent of the owner; and that the
 survey was executed by me in conformity with the existing laws of
 the Republic of the Philippines and the regulations of the Land
 Registration Commission.

SURVEYED SEPT. 27, 1961
FRANCISCO J. MILALA
 GEODETIC ENGINEER
 Reg. Cert. No. 271 Date: 7-22-55
 P.R. No. 11111111111111111111 Date: 11-11-55


ORIGINAL SURVEY: JUNE 7-8, 1957
 Ministry of Justice
 LAND REGISTRATION COMMISSION
 Verified and recommended for approval as a ... compliance ... plan

Quezon City, Nov. 16, 1961
 APPROVED FORWARD TO R. A. 48
 Quezon City, Philippines, Nov. 19, 1961

EDDIE B. DE ROSA JR.
 ASSISTANT COMMISSIONER OF LAND REGISTRATION
 Plotted on P.M./M.D. No. ...
 Examined by ...
 Filed ...
 Additional information and remarks ...

DRAFTING AND INDEX MAP SECTION
 Preceding Sheet No. 76
 This Index Sheet No. 76 (RECONS.)
 Prepared By: [Signature]
 Checked By: [Signature]
 Date: 11-16-61

No. 101
 VERIFICATION FEE
 AMOUNT P. 100
 Official Receipt No. 3743221-3
 Date: Nov. 11, 1961
 [Signature]



Republic of the Philippines
CITY OF LAS PIÑAS

CONTROL NO. **23340**

TAX DECLARATION NO. E-012-05250

125-00-012-031-014-0000
PROPERTY INDEX NO.: 94030359

DECLARATION OF REAL PROPERTY

OWNER : HOME INSURANCE & GUARANTY CORP
ADDRESS : MORNING STAR BLDG 6 PUYAT AVE., MAKATI N.M.
ADMINISTRATOR :
ADDRESS :

IMPORTANT : Issued for taxation purposes and should not be considered as title to the property.

DESCRIPTION AND OTHER PARTICULARS OF PROPERTY

LOCATION OF PROPERTY :
CERTIFICATE OF TITLE NO. : T-64050
LOT NO. : 1-0-2
BLK NO. :
BOUNDARIES :
NORTH : NE-LOT 2
EAST : SE-LOT 1-0-1
SOUTH : SW-LOT 6
WEST : NW-LOT 1-C

BARANGAY : BF INT'L
SURVEY NO. : PSD-007601-028242-0

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL)					BUILDING AND OTHER IMPROVEMENTS						
ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL				MARKET VALUE
							1ST STORY	2ND STORY	3RD STORY	FLOOR	
RESI	3,116.00	1,500		4,674,000							
MACHINERY											
ASSESSOR'S FINDINGS											
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE	KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE		
					LAND	RESIDENTIAL	4,674,000	20	934,800		
TOTAL ASSESSED							TOTAL		934,800		
NINE HUNDRED THIRTY-FOUR THOUSAND EIGHT HUNDRED PESOS ONLY											

RECOMMENDING APPROVAL :

ENGR. RAMON S. SAN PEDRO
Asst. City Assessor
0-012-08543

APPROVED :

ROMULO C. GERVACIO
City Assessor

THIS DECLARATION CANCEL & TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR 2003 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____

PREVIOUS OWNER HOME INSURANCE & GUARANTY CORP PREVIOUS ASSESSED VALUE 476,360 IMPROVEMENT _____

REMARKS: DATED SEPTEMBER 18, 2002

Received by : /0013-12/21/2010 2:02:18PM
Date :

RPA Form No. 1

125-00-012-031-008-0000

PROPERTY INDEX NO.:

94029332



Republic of the Philippines
CITY OF LAS PIÑAS

CONTROL NO. **23339**

TAX DECLARATION NO. E-018-03735

BR

DECLARATION OF REAL PROPERTY

OWNER : HOME INSURANCE & GUARANTY CORP... ADDRESS : MORNING STAR BLDG 6 PUYAT AVE, MAKATI M.N. ADMINISTRATOR : ADDRESS :	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY : ALANZA UNO CERTIFICATE OF TITLE NO. : T-39110 BARANGAY : BF INT'L LOT NO. : 3-B SURVEY NO.: PSD-007601-025955-0 BLK NO. : BOUNDARIES : NORTH : NE-ARCADIO SANTOS SOUTH : SW-ROAD LOT 2 EAST : SE-RENTALIA DE LEON WEST : NW-NICOLAS SANTOS
IMPORTANT : Issued for taxation purposes and should not be considered as title to the property.	
LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL)	BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS					
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
							1ST STORY	2ND STORY	3RD STORY	FLOOR
UNDR	13,314.00	1,500		19,971,000						

MACHINERY				
ASSESSOR'S FINDINGS				
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	19,971,000	20	3,994,200
TOTAL ASSESSED			TOTAL	3,994,200
THREE HILLION NINE HUNDRED NINETY-FOUR THOUSAND TWO HUNDRED PESOS ONLY				

Certified True Copy
 OFFICE OF THE CITY ASSESSOR
 REGISTERED: 11/15/2002
 CITY OF LAS PIÑAS

RECOMMENDING APPROVAL : ALFONSO V. ALLERA L.A.O. U. II ENGR. RAMON S. SAN PEDRO Asst. City Assessor 0 010 04978	APPROVED : ROMULO C. GERVAICIO City Assessor
---	--

THIS DECLARATION CANNOT BE CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR _____ GRADES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____ PREVIOUS ASSESSED VALUE: LAND 2,130,740 IMPROVEMENT _____ PREVIOUS REVISION OF REAL PROPERTY PURSUANT TO SEC. 119 OF R.A. 7160, IMPLEMENTED UNDER CITY ORDINANCE NO. 363-02 REMARK: DATED SEPTEMBER 18, 2002

Received by : /0011-12/21/2010 2:01:40PM
 Date : _____



Republic of the Philippines
CITY OF PARANAQUE
 Metro Manila

Control No. **174410**

PROPERTY BOOK NO. 124-00-001-035-207-0
 440032

TAX DECLARATION NO. 2-901-4871
 58

DECLARATION OF REAL PROPERTY

OWNER: **AGUSTIN TORAL**
 ADDRESS: **227 HILLS RD PASAY CITY**
 ADMINISTRATOR:
 ADDRESS:

DESCRIPTION AND OTHER PARTICULARS OF PROPERTY

LOCATION OF PROPERTY: **SE HILLS PK. 5**
 CERTIFICATE OF TITLE NO. **DAVANAO 27 HILLS 419723 419721**
 LOT NO.
 BLK. NO.
 BOUNDARIES:
 (NORTH) _____
 (EAST) **PROP. OF T. SORIANO**
 (SOUTH) **PROP. OF T. SORIANO**
 (WEST) **PROP. OF T. SORIANO**

IMPORTANT: Intended for taxation purposes and should not be considered as title to the property.

LAND: RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL

BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS					
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
							1ST STORY	2ND STORY	3RD STORY-ROOF	
RES. R-1	26,000.00	1,000	-1,117,100	16,287,900						

MACHINERY

ASSESSOR'S FINDINGS				
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE

Certified True Copy

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASST. LEVEL	ASSESSED VALUE
RES.	RESIDENTIAL	16,287,900	10	1,628,790
TOTAL ASSESSED VALUE				TOTAL
THREE MILLION THREE HUNDRED EIGHTY-SEVEN THOUSAND NINE HUNDRED EIGHTY EIGHT DOLLARS ONLY				1,628,790

OFFICE OF THE CITY ASSESSOR
 BELLUSTE RD 109/100/1444
 CITY OF PARANAQUE

RECOMMENDING APPROVAL: **JOSE MARLEO H. DEL ROSARIO**
Asst. City Assessor

APPROVED: **SOLEDAD E. SAMONTE**
City Assessor

THIS DECLARATION CANCELS TAX NOW IS CANCELLED BY TAX NOS. TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR DECEASES WITH THE YEAR ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR: BY PREVIOUS OWNER PREVIOUS ASSESSED VALUE - LAND IMPROVEMENT CERTIFIED CORRECT GENERAL REVISION

Printed: 2015-11-17/2011-6:52:52PM



Republic of the Philippines
CITY OF PARANAQUE
 Metro Manila

Control No. **174411**

PROPERTY TAX ID NO. : 124-09-001-025-009-001
 0400270

TAX DECLARATION NO. E-001-2679
 TR

DECLARATION OF REAL PROPERTY

OWNER: LAND BANK OF THE PHILIPPINES ADDRESS: 359 DENIGAL DRIVE AND NAVAS CITY ADMINISTRATOR: ADDRESS:	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY: OUTSIDE PERIMITES OF 1 301800 CERTIFICATE OF TITLE NO.: 149312 BARANGAY: (P) HOME LOT NO.: 478 FSD: 120359-BUNGROVEDO EXC. BLK. NO.: BOUNDARIES: NORTH: NO-CREEK SOUTH: 14-PROPERTY OF H. BANTOG EAST: SE-CREEK WEST: 88-PROPERTY OF C. BONG	
	IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.	

LAND: RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL:	BUILDING AND OTHER IMPROVEMENTS:
---	----------------------------------

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS			
GRID	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL	MARKET VALUE
BEST 1-1	126.591 SQ	700		18,611,000			1ST STORY, 2ND STORY, 3RD STORY, ROOF	

MACHINERY

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE
-------------	-------------------	------------------	--------------	--------------

Certified True Copy

RUND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSET LEVEL	ASSESSED VALUE
148	RESIDENTIAL	18,611,000	75	3,722,100
TOTAL ASSESSED VALUE				
THREE MILLION SEVEN HUNDRED TWENTY-TWO THOUSAND SIX HUNDRED PESOS ONLY				
TOTAL				3,722,100

OFFICE OF THE CITY ASSESSOR
 REGISTERED 204/27/2000
 CITY OF PARANAQUE

RECOMMENDING APPROVAL: APPROVED

ORIGINAL SIGNED: JOSE MARLEO P. DEL ROSARIO, Asst. City Assessor
 ORIGINAL SIGNED: SOLEDAD B. SANONTE, City Assessor

THIS DECLARATION CAMELE BY NO. E-001-00173 RECORDED BY DIVISION
 BEING WITH THE YEAR 2014 GRABER WITH THE YEAR ENTERED BY THE REAL PROPERTY ASSESSMENT ROLL FOR 14 BY
 PREVIOUS OWNER: THE EAST & LAND HOLDING INC. PREVIOUS ASSESSED VALUE: LAND 3,722,100 IMPROVEMENT:

CERTIFIED CORRECT: TRANSFER OF OWNERSHIP
 Printed on 10/17/2011 11:55:29 PM



Republic of the Philippines
CITY OF PARAÑAQUE
 Metro Manila

Control No. **174396**

PROPERTY INDEX NO. 124-00-001-081-130-000
 05006436

TAX DECLARATION NO. E-001-27652
 TR

DECLARATION OF REAL PROPERTY

OWNER LUCAS RUFINO S & DEBBIE M SPS ADDRESS 79 N PALMA ST BF HONES SUBD PH 3 PQUE CITY ADMINISTRATOR ADDRESS	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY A PALMA ST BF HONES SUBD PH 3 CERTIFICATE OF TITLE NO. 147845 LOT NO. 24 BLK NO. 79 BOUNDARIES: NORTH LOT 25 SOUTH RD LOT EAST LOT 26 WEST LOT 22
---	---

IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.

LAND / RESIDENTIAL COMMERCIAL INDUSTRIAL SPECIAL	BUILDING AND OTHER IMPROVEMENTS
--	---------------------------------

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS					
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
BEST R-6	280.00	1,000		280,000			1ST STORY	2ND STORY	3RD STORY	ROOF
MACHINERY										

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE
-------------	-------------------	------------------	--------------	--------------

Certified True Copy

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	280,000	20	56,000
TOTAL ASSESSED VALUE:				56,000
FIFTY-SIX THOUSAND PESOS ONLY				

OFFICE OF THE CITY ASSESSOR
 REGISTERED #03/26/2001
 CITY OF PARAÑAQUE

RECOMMENDING APPROVAL: **ANCELLED BY: E-001-36219**

APPROVED:

ORIGINAL SIGNED: JOSE MARLEO P. DEL ROSARIO
 Asst. City Assessor

ORIGINAL SIGNED: SOLEDAD E. SAMONTE
 City Assessor

E-001-22621

THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION
 BEGINS WITH THE YEAR 2012 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____
 PREVIOUS OWNER: PRICHAYEN, DAINE C & MARIN ELENA M SPS PREVIOUS ASSESSED VALUE: LAND 35,000 IMPROVEMENT _____

CERTIFIED CORRECT:

TRANSFER OF OWNERSHIP

Printed on: 09/16/11 5:21:16 PM
 Issued by:

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Republic of the Philippines
CITY OF PARAÑAQUE
 Metro Manila

Control No. **174395**

PROPERTY INDEX NO. 124-00-001-033-020-000
 05007941

TAX DECLARATION NO. E-001-28205
 SD

DECLARATION OF REAL PROPERTY

OWNER: RP HOMES INC	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY		
ADDRESS: OF COMMUNION LOT PASCO DE ROSAS MAKATI CITY	LOCATION OF PROPERTY: RP HOMES PH5	CERTIFICATE OF TITLE NO.: 8-33690	BARANGAY: RP HOMES
ADMINISTRATOR:	LOT NO.: 5-0	PSD: 1360816	
ADDRESS:	BLK NO.:		
IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.	BOUNDARIES:	NORTH: NE L3-A	SOUTH: SW L3-B
	EAST: SE BASALIGSIG RIVER	WEST: NW P/O ER VDA DE LOPEZ	

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS				ASSESSOR'S FINDINGS				
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL	MARKET VALUE
RES1 R-6	13,753.00	1,000		13,753,000			1ST STORY 2ND STORY 3RD STORY ROOF	
MACHINERY								

ASSESSOR'S FINDINGS				
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE

Certified True Copy

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASST. LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	9,627,100	20	1,925,420
TOTAL ASSESSED VALUE :				
ONE MILLION NINE HUNDRED TWENTY-FIVE THOUSAND FOUR HUNDRED TWENTY PESOS ONLY				TOTAL : 1,925,420

OFFICE OF THE CITY ASSESSOR
 REGISTERED #10/18/2007
 CITY OF PARAÑAQUE

RECOMMENDING APPROVAL: APPROVED:

ORIGINAL SIGNED JOSE MARLEO P. DEL ROSARIO SOLEDAD E. SAMONTE
Asst. City Assessor *City Assessor*

THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION
 BEGINS WITH THE YEAR 2002 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____
 PREVIOUS OWNER INTERSTATE ESTATE OF THE STATE ET AL PREVIOUS ASSESSED VALUE LAND 2,280,500 IMPROVEMENT _____

CERTIFIED CORRECT: _____ Printed and Issued by: 0618-17572011 4:19:28PM
 SUBDIVISION: _____ This is a computer-generated form. Not valid if with erasure and without seal.



Republic of the Philippines
CITY OF PARAÑAQUE
 Metro Manila

Control No. **174394**

PROPERTY INDEX NO. 124-00-001-035-019-00
 03007741

TAX DECLARATION NO. E-001-28204
 98

DECLARATION OF REAL PROPERTY

OWNER: BF HOMES INC ADDRESS: BF CONDOMINIUM 101 PASEO DE ROSAS MAKATI CITY ADMINISTRATOR: ADDRESS:	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY: BF HOMES PH5 CERTIFICATE OF TITLE NO.: S-33849 LOT NO.: 1-A BLK NO.: BOUNDARIES: NORTH: NE MASALIGSIG RIVER SOUTH: SW (S-D) EAST: SE MASALIGSIG RIVER WEST: NW P/O GM VDA DE LOPEZ
---	---

IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE	
							1ST STORY	2ND STORY	3RD STORY	ROOF	
RECT R-3	2,551.00	1,000		2,551,000							

MACHINERY

ASSESSOR'S FINDINGS

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE

Certified True Copy

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASGMT LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	1,789,760	20	357,140
TOTAL ASSESSED VALUE THREE HUNDRED FIFTY-SEVEN THOUSAND ONE HUNDRED FORTY PESOS ONLY				TOTAL: 357,140

OFFICE OF THE CITY ASSESSOR
 REGISTERED: 10/18/2001
 CITY OF PARAÑAQUE

RECOMMENDING APPROVAL: ORIGINAL SIGNED JOSE MARLEO P. DEL ROSARIO, City Assessor
 APPROVED: ORIGINAL SIGNED SOLEDAD E. SAMONTE, City Assessor

THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION
 BEGINS WITH THE YEAR 2014 CHANGES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____
 PREVIOUS OWNER: INTERSTATE ESTATE OF THE STATE ET AL PREVIOUS ASSESSED VALUE: LAND 1,789,760 IMPROVEMENT _____

CERTIFIED CORRECT: SUBDIVISION _____ Printed and Issued by: _____ 0018-175/2011 4:19:28PM

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Republic of the Philippines
CITY OF PARANAQUE
 Metro Manila

Control No. **174393**

PROPERTY INDEX NO. 124-00-001-035-002-001
 04000330

TAX DECLARATION NO. E-001-26790
 TR:

DECLARATION OF REAL PROPERTY

OWNER LAND BANK OF THE PHILIPPINES ADDRESS 319 SEN GIL PUYAT AVE MAKATI CITY ADMINISTRATOR ADDRESS	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY BF HOMES SUBD PH 3 CERTIFICATE OF TITLE NO. 144511 BARANGAY BF HOMES LOT NO. LOT 11 BLK NO. BOUNDARIES NORTH NE-CREEK SOUTH SW-LOT 5 EAST SE-14738 C CROZ WEST NW-LOT 7
---	--

IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.

LAND (RESIDENTIAL-COMMERCIAL-INDUSTRIAL-SPECIAL)

BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS					
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
RESI R-9	30,000.00	700		21,000,000			1ST STORY	2ND STORY	3RD STORY	ROOF
MACHINERY										
ASSESSOR'S FINDINGS										
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE						
<div style="font-size: 2em; color: red; opacity: 0.5;">Certified True Copy</div>										
KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSTMT LEVEL	ASSESSED VALUE						
LAND	RESIDENTIAL	21,000,000	20	4,200,000						
TOTAL ASSESSED VALUE :					FOUR MILLION TWO HUNDRED THOUSAND PESOS ONLY			TOTAL		4,200,000

RECOMMENDING APPROVAL : ORIGINAL SIGNED: JOSE MARLEO P. DEL ROSARIO <i>Asst. City Assessor</i>	APPROVED : ORIGINAL SIGNED: SOLEDAD E. SAMONTE <i>City Assessor</i>
--	---

THIS DECLARATION CANCELS TAX NOS. **2000** IS CANCELLED BY TAX NOS. **2000** TAX UNDER THIS DECLARATION
 BEGINS WITH THE YEAR **2000** CEASES WITH THE YEAR **2000** ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 **2000** BY **EMPIRE EAST LAND HOLDINGS INC**
 PREVIOUS OWNER: **EMPIRE EAST LAND HOLDINGS INC** PREVIOUS ASSESSED VALUE: **LAND 4,200,000** IMPROVEMENT
CERTIFIED CORRECT:
 TRANSFER OF OWNERSHIP
 Printed and issued by: **0018-17/572011 4:18:37PM**
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Republic of the Philippines
CITY OF PARANAQUE
 (Metro Manila)

Control No. **174412**

PROPERTY INDEX NO. 124-00-001-070-151-10
 04067824

TAX DECLARATION NO. E-001-27654
 DC

DECLARATION OF REAL PROPERTY

OWNER SAULER, ARANDI R ADDRESS ROSAL ST YAHANAN VILL, PARANAQUE CITY ADMINISTRATOR ADDRESS	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY ROSAL ST YAHANAN VILLAGE CERTIFICATE OF TITLE NO. BARANGAY OF NUNES LOT NO. LRG PCS 15357 COR LOT BLK NO. B15 BOUNDARIES: NORTH SOUTH EAST WEST
---	---

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE	
							1ST STORY	2ND STORY	3RD STORY	ROOF	
					1-8-12 ONE-FAMILY DWELLING HOUSE/1ST/F. CMB. B.L.F.	165.00					4,028,170
					MACHINERY	240.00					
					CARPORT	81.00					
					DRIVEWAY	36.00					
					LAUNDRY AREA	15.00					
					TERRACE	50.00					
					FENCE	64.00					
											4,028,170

Certified True Copy

LOCATED IN THE LAND OF SAULER ET AL., MARIE RHIMAR H UNDER TDW/ANP NO. 1: E-001-17568

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE	KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE
					BLDG.	RESIDENTIAL	4,028,170	40	1,511,280
TOTAL ASSESSED VALUE									
ONE MILLION SIX HUNDRED ELEVEN THOUSAND TWO HUNDRED EIGHTY PESOS ONLY							TOTAL		1,511,280

OFFICE OF THE CITY ASSESSOR (REGISTERED #03/P6/200) CITY OF PARANAQUE

RECOMMENDING APPROVAL: ORIGINAL SIGNED: JOSE MARLEO P. DEL ROSARIO
 Asst. City Assessor

APPROVED: ORIGINAL SIGNED: SOLEDAD E. SAMONTE
 City Assessor

THIS DECLARATION CANCELS TAX NOS. _____ BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR _____ CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____ PREVIOUS OWNER _____ PREVIOUS ASSESSED VALUE _____ LAND _____ IMPROVEMENT _____

CERTIFIED CORRECT. NEW DECLARATION

Printed and Issued by: 0018-175/2011-4:53:34PM

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PARAÑAQUE CITY

RDO NO. 52

BARANGAY: BF HOMES

D.O.# 4-08 14-Apr-08 16-98 14-Apr-98 39-96 20-Jun-96 111-95 14-Oct-95 22-93 30-May-93 53-90 18-Nov-90 1-89 19-Mar-89 85-87 01-Oct-87
Effectivity 1

STREET/SUBDIVISION	V I C I N I T Y	CLASSIFICATION	7TH REV. ZV/SQ.M.	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
AGUIRRE	BF HOMES-PH I	CR	25,000.00	20,000.00	5,000.00	4,700.00	3,200.00	2,500.00	1,000.00	1,000.00
	BF HOMES-PH II	RR	18,000.00	9,000.00	3,900.00	3,000.00	2,200.00	1,800.00	550.00	550.00
	BF HOMES-PH III	RR	25,000.00	7,000.00	3,400.00	3,250.00	2,200.00	1,500.00	580.00	580.00
	PRES. AVE-ELIZALDE	RR	18,000.00	6,000.00	3,400.00	3,250.00	2,200.00	1,500.00	580.00	580.00
	ELIZALDE-GOV. SANTOS	CR	20,000.00	8,000.00	9,000.00	9,000.00	2,200.00	1,500.00	580.00	580.00
	GOV. SANTOS-EL GRANDE	CR	12,000.00	9,000.00	4,400.00	4,400.00	2,200.00	1,200.00	580.00	580.00
	AGUIRRE	RR	8,000.00	9,000.00	2,500.00	2,400.00	1,300.00	1,200.00	580.00	580.00
	BF HOMES I	RR	25,000.00	5,000.00	2,500.00	2,400.00	1,300.00	1,200.00	580.00	580.00
	BF HOMES II	RR	10,000.00	9,000.00	2,500.00	2,400.00	1,300.00	1,200.00	580.00	580.00
	BF HOMES III	RR	8,000.00	7,000.00	3,400.00	3,250.00	2,200.00	1,500.00	580.00	580.00
	BF HOMES IV	RR	7,000.00	6,000.00	3,400.00	3,250.00	2,200.00	1,500.00	580.00	580.00
	BF HOMES V	RR	9,000.00	8,000.00	4,400.00	4,400.00	2,200.00	1,200.00	580.00	580.00
	BF HOMES VI	RR	10,000.00	9,000.00	2,500.00	2,400.00	1,300.00	1,200.00	580.00	580.00
	CAMELIA HOMES	RR	10,000.00	9,000.00	2,500.00	2,400.00	1,300.00	1,200.00	580.00	580.00
	DR. A. SANTOS AVE	CR	25,000.00	5,000.00	2,500.00	2,400.00	1,300.00	1,200.00	580.00	580.00
	EL GRANDE AVE	RR	20,000.00	9,000.00	2,500.00	2,400.00	1,300.00	1,200.00	580.00	580.00
	LOPEZ GATE-KYOTO	RR	6,000.00	6,000.00	2,500.00	2,400.00	1,300.00	1,200.00	580.00	580.00
	GOODWILL 2 & 3	CR	12,000.00	4,000.00	1,950.00	1,850.00	1,200.00	1,000.00	480.00	480.00
	IRENEVILLE SUBD	RR	5,000.00	15,000.00	4,700.00	4,700.00	3,200.00	1,000.00	480.00	480.00
	IRENEVILLE SUBD	CR	15,000.00	4,000.00	1,800.00	1,750.00	1,200.00	1,000.00	580.00	580.00
	JACKIELOU VILLAGE	RR	5,000.00	4,000.00	1,800.00	1,750.00	1,200.00	1,000.00	580.00	580.00
	MASHAT MASVILLE SUCAT	RR	4,000.00	4,000.00	1,800.00	1,750.00	1,200.00	1,000.00	580.00	580.00
	MAYWOOD VILL I	RR	8,000.00	5,000.00	2,100.00	2,000.00	1,200.00	1,060.00	480.00	480.00
	MAYWOOD VILL I	RR	6,000.00	5,000.00	2,100.00	2,000.00	1,200.00	1,060.00	480.00	480.00

CERTIFIED TRUE COPY

[Signature]
REGINA G. DELA CRUZ
ASST. REV. DISTRICT OFFICER
TIN: 134-085-523



RDO NO. 53 LAS PINAS-MUNTINLUPA

MUNICIPALITY: LAS PINAS

BARANGAY: INTERNATIONAL VILLAGE

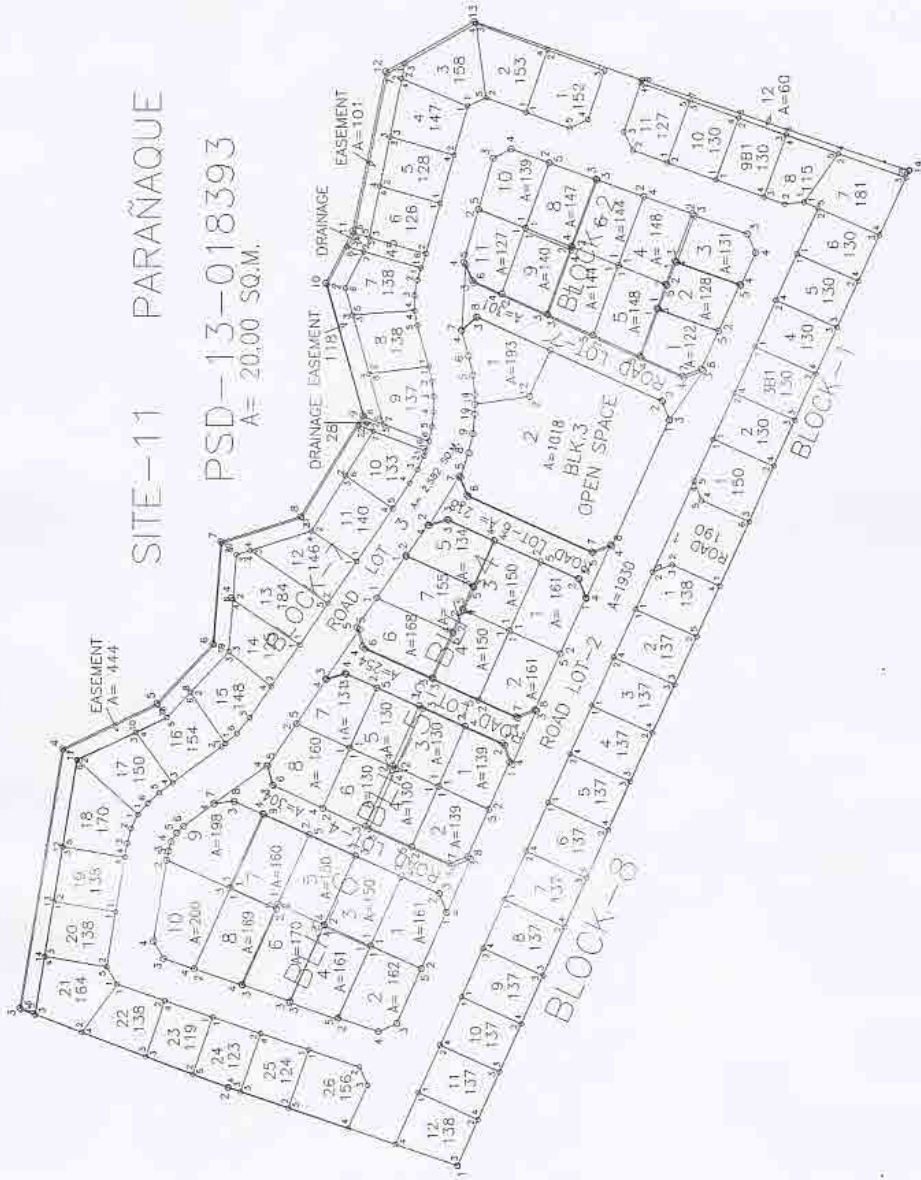
DO No. 10-97 26-96 114-95 22-93 53-90 1-89 85-87
Effect.date 2-May-97 9-May-96 15-Oct-95 30-May-93 18-Nov-90 10-Mar-89 1-Oct-87

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
BF EXEC IV, V	PARAMOUNT SUBD	RR	4,600.00	3,400.00	2,500.00	2,200.00	1,200.00	600.00	600.00
CAA	SAN ANTONIO VAL 7	RR	4,300.00	2,600.00	1,950.00	1,200.00	1,000.00	500.00	500.00
CITADELLA		RR	3,950.00	2,700.00	2,500.00	2,200.00	1,800.00		
ALL OTHER STREETS		RR	3,000.00	2,525.00	1,950.00	1,200.00			
		CR	5,500.00	5,000.00					
		GP	1,000.00	825.00	600.00	500.00	500.00	250.00	

Carl L. Puy
NELSON L. BOONSANG
 ASST. REVENUE DISTRICT OFFICER

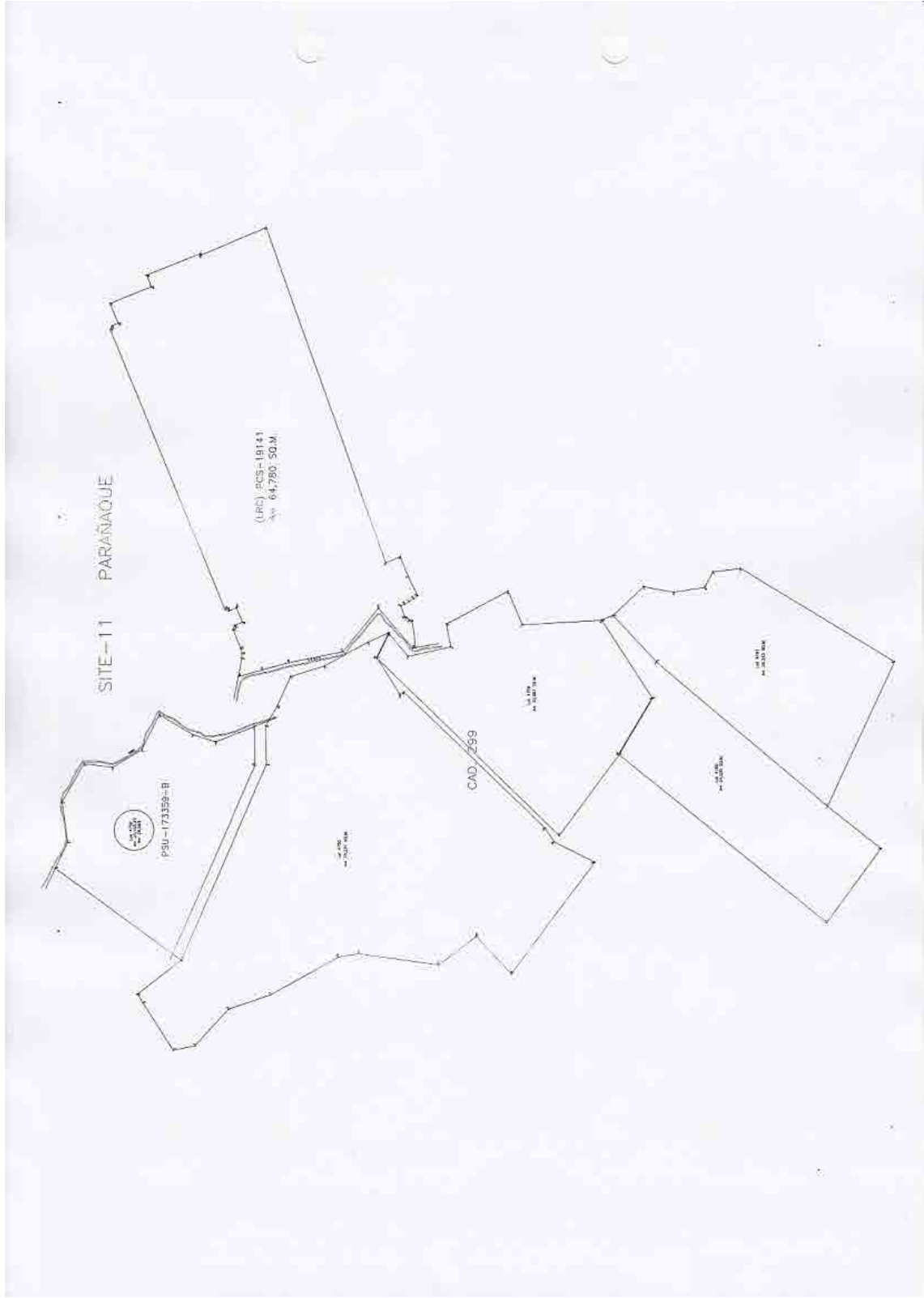
CERTIFIED TRUE COPY

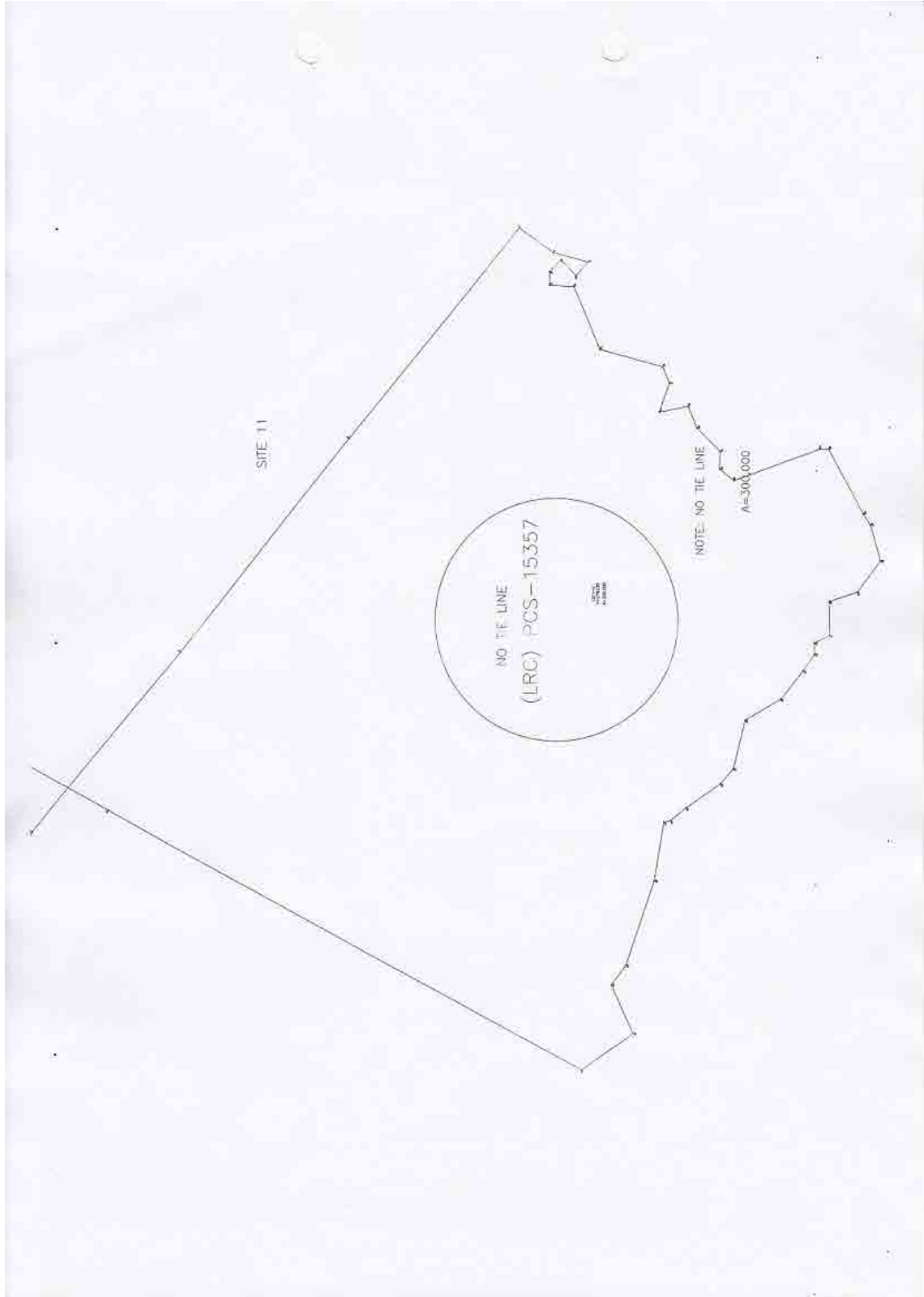




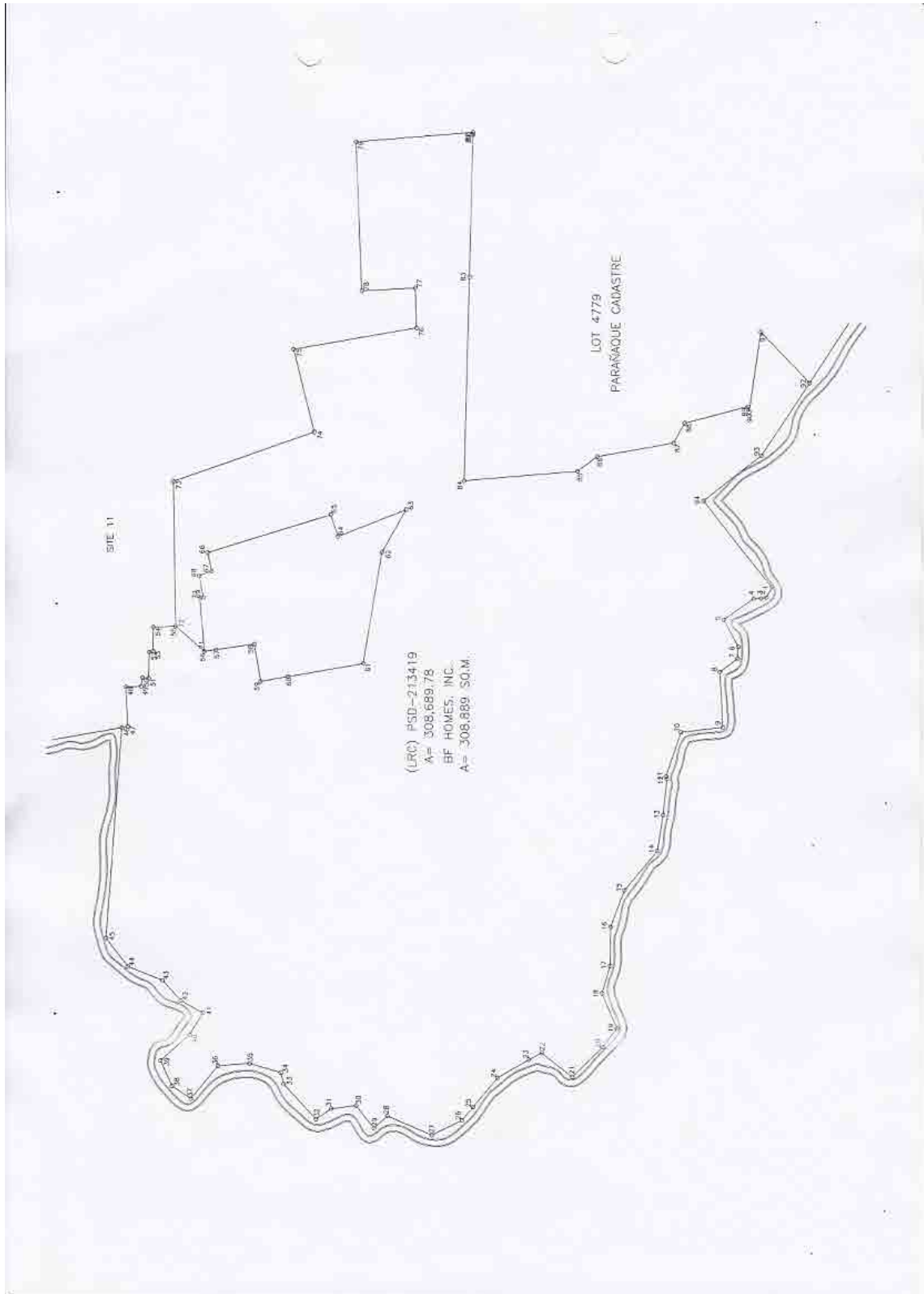
SITE-11 PARAÑAQUE

PSD-13-018393
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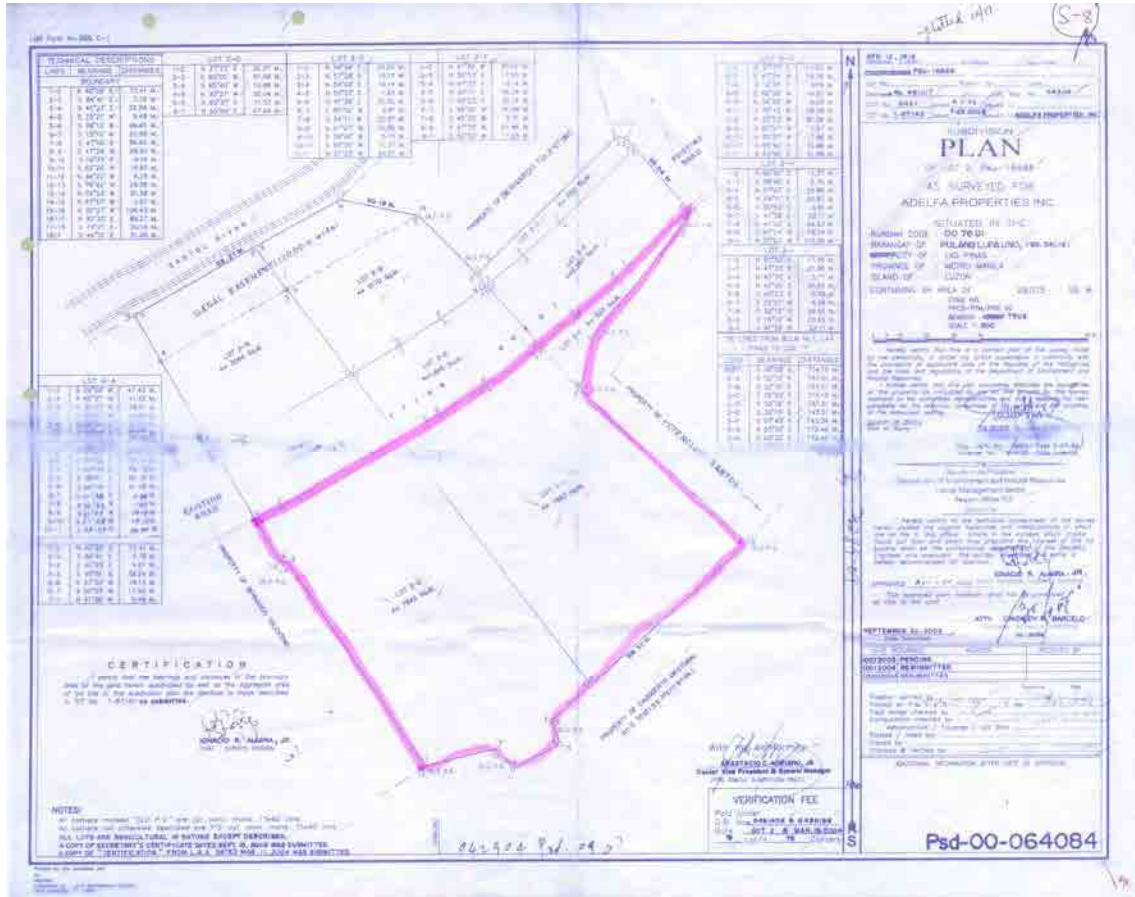


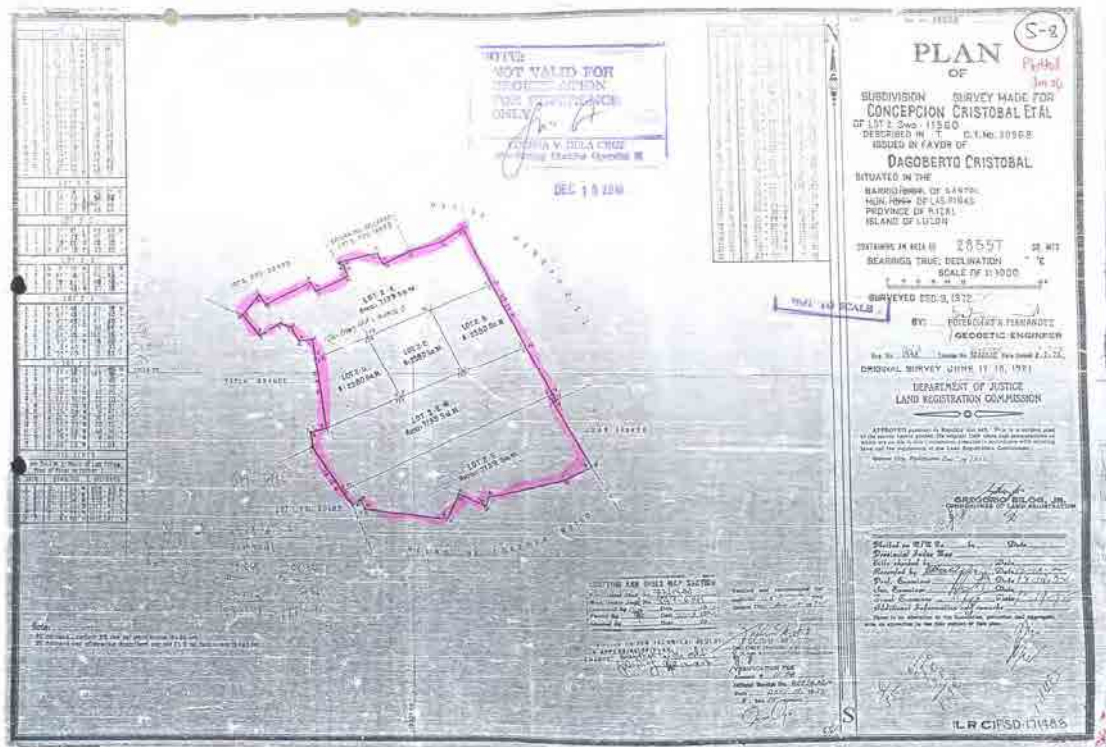


AP-523



L-6





125-00-005-020-142-0000
PROPERTY INDEX NO.:



Republic of the Philippines
CITY OF LAS PIÑAS

CONTROL NO. **23336**

TAX DECLARATION NO. E-005-00571

DECLARATION OF REAL PROPERTY

OWNER: GOLDEN HAVEN MEMORIAL PARK INC. ADDRESS: CAPELLA CENTRE NATIONAL ROAD, TALON, LPO ADMINISTRATOR: ADDRESS:				DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY: CERTIFICATE OF TITLE NO.: T-4729 BARANGAY: PULAGLUPA UNO LOT NO.: SURVEY NO.: PSD-200768 BLK NO.: BOUNDARIES: NORTH: NE PROP. OF E. AREVALO SOUTH: SW PROP. OF L. NAVARET EAST: SE PROP. OF D. CRISTOB WEST: NW DACTE RIVER PROP.							
IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.				LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) BUILDING AND OTHER IMPROVEMENTS							
ASSESSOR'S FINDINGS				ASSESSOR'S FINDINGS							
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL				MARKET VALUE
CORN	6,768.00	1,500		10,152,000			1ST STORY	2ND STORY	3RD STORY	FLOOR	
MACHINERY											
ASSESSOR'S FINDINGS											
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE	KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE		
					LAND	COMMERCIAL	10,152,000	50	5,076,000		
Certified True Copy OFFICE OF THE CITY ASSESSOR REGISTERED: 11/15/2002 CITY OF LAS PIÑAS ALFREDO V. PILLERA S.A.O. U.T.							TOTAL ASSESSED FIVE MILLION SEVENTY-SIX THOUSAND PESOS ONLY TOTAL 5,076,000				
RECOMMENDING APPROVAL: ENGR. RAMON S. SAN PEDRO Asst. City Assessor						APPROVED: ROMULO C. GERVAICIO City Assessor					
THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR 2003 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 10 _____ BY _____ PREVIOUS OWNER GOLDEN HAVEN MEMORIAL PARK INC. PREVIOUS ASSESSED VALUE: LAND 2,707,200 IMPROVEMENT _____ REMARKS: GENERAL REVISION OF REAL PROPERTY PURSUANT TO SEC. 219 OF R.A. 7160, IMPLEMENTED UNDER CITY ORDINANCE NO. 563-02 DATED SEPTEMBER 18, 2002 Received by: /0013-157917610 2:00-1224 Date: _____											

RPA Form No. 1

RDO NO. 53 LAS PINAS-MUNTINLUPA

MUNICIPALITY: LAS PINAS

BARANGAY: PULANGLUPA UNO

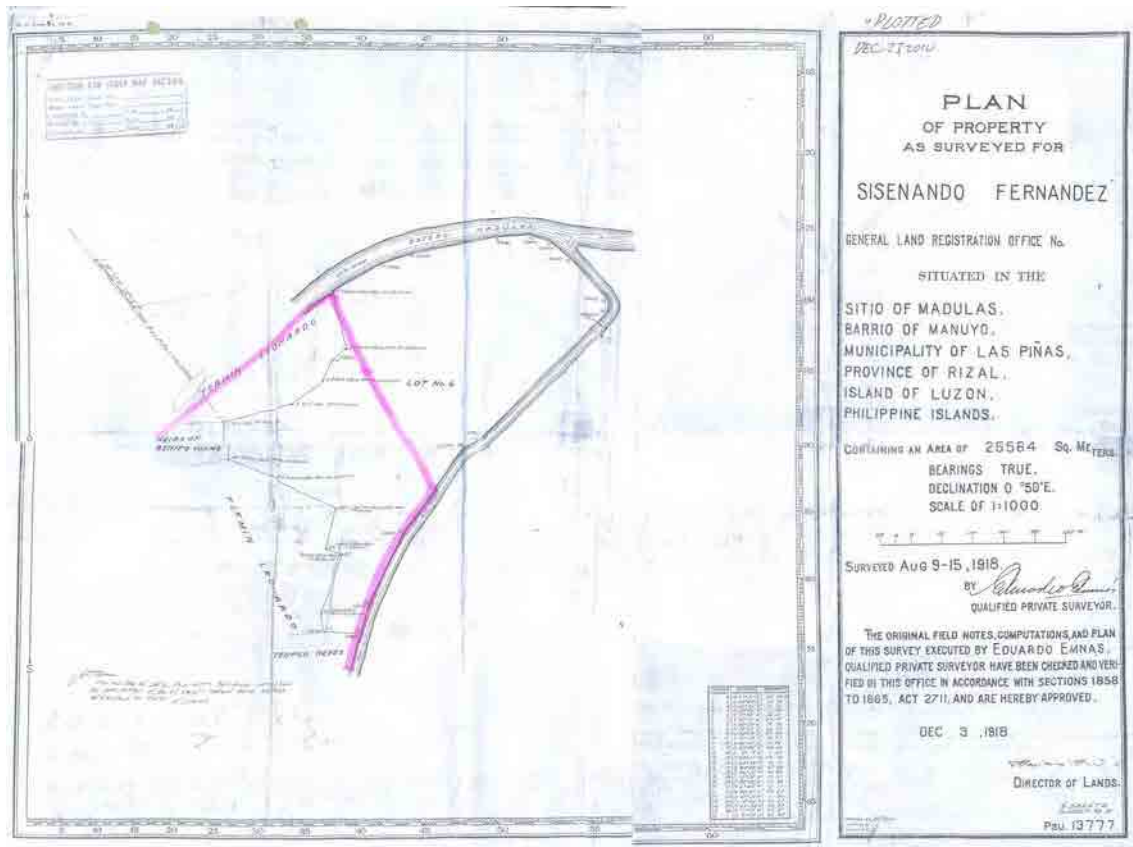
STREET/SUBDIVISION	VICINITY	CLASSIFICATION	10-97		26-96		114-95		22-93		53-90		1-89		85-87	
			6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.	Effect.date	Effect.date	Effect.date	Effect.date	Effect.date	Effect.date	
GABRIEL CPD	PERPETUAL VILL	RR	2,900.00	2,250.00	1,700.00	1,000.00	800.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00
MANILA BAY HOMES	PERPETUAL VILL	RR	2,900.00	2,250.00	1,700.00	1,000.00	800.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00
PERPETUAL VILL	QUIRINO AVE	RR	3,100.00	2,250.00	1,700.00	1,000.00	800.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00
PULANGLUPA PRO	QUIRINO AVE	RR	3,450.00	2,750.00	2,000.00	1,100.00	1,000.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
REAL	QUIRINO AVE	RR	4,000.00	3,400.00	2,500.00	1,500.00	1,300.00	650.00	650.00	650.00	650.00	650.00	650.00	650.00	650.00	650.00
REAL	PERPETUAL VILL	CR	13,300.00	10,800.00	8,000.00	5,000.00	4,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00

Carl L. Bay
NELSON BOONADIN
 ASST. REVENUE DISTRICT OFFICER

CERTIFICATE TRUE COPY



L-C



AP-530

125-00-001-022-001-0000
PROPERTY INDEX NO.



Republic of the Philippines
CITY OF LAS PIÑAS

CONTROL NO. **23339**

TAX DECLARATION NO. **E-004-01759**
TR

DECLARATION OF REAL PROPERTY

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE	
							1ST STORY	2ND STORY	3RD STORY	FLOOR	
AGRI	12,267.00	200		2,453,400							
MACHINERY											
ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE	KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSTMT LEVEL	ASSESSED VALUE		
					LAND	AGRICULTURAL	2,453,400	40	981,360		
TOTAL ASSESSED								TOTAL ↓			
NINE HUNDRED EIGHTY-ONE THOUSAND THREE HUNDRED SIXTY PESOS ONLY										981,360	
RECOMMENDING APPROVAL :					APPROVED :						
ENGR. RAMON S. SAN PEDRO Asst. City Assessor					ROMULO C. GERVACIO City Assessor						
THIS DECLARATION CANCELS TAX NOS. <u>E-004-01125</u> IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR <u>2006</u> CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 1 st BY _____ PREVIOUS OWNER <u>SAVILBA, ELISFO</u> (PREVIOUS ASSESSED VALUE: LAND <u>981,360</u> IMPROVEMENT _____)											
REMARKS <u>TRANSFER OF OWNERSHIP DATA 3RD QTR. 2004 ORA 25106402, 09/04/2006 N/APOSTOL</u>											
										Received by: _____ Date: <u>0015-12/21/2010 11:59:50PM</u>	

RPA Form No. 1



Republic of the Philippines
CITY OF LAS PIÑAS

CONTROL NO. **23335**

125-00-001-022-007-0000
PROPERTY INDEX NO.

TAX DECLARATION NO. **E-001-02575**

DECLARATION OF REAL PROPERTY

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE	
							1ST STORY	2ND STORY	3RD STORY	FLOOR	
RESJ	25,564.00	800		20,451,200							
MACHINERY											
ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE	KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE		
					RESIDEN	RESIDEN	20,451,200	20	4,090,240		
TOTAL ASSESSED								TOTAL		4,090,240	
FOUR MILLION NINETY THOUSAND TWO HUNDRED FORTY PESOS ONLY											

Certified True Copy
OFFICE OF THE CITY ASSESSOR
REGISTERED: 11/15/2001
CITY OF LAS PIÑAS

ALEONSO V. PILLERA
L.A.O.C. II

RECOMMENDING APPROVAL :
ENGR. RAMON S. SAN PEDRO
Asst. City Assessor

APPROVED :
ROMULO C. GERVACIO
City Assessor

0-001-03246

THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR 2003 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____

PREVIOUS OWNER: FERRER, ADELA & MAXINA PREVIOUS ASSESSED VALUE: LAND 3,067,680 IMPROVEMENT _____

REMARKS: GENERAL REVISION OF REAL PROPERTY PURSUANT TO SEC. 219 OF R.A. 1180, IMPLEMENTED UNDER CITY ORDINANCE NO. 563-02 DATED SEPTEMBER 18, 2002

Received by _____ Date /2013-12/21/2010 2:00:01PM

RDO NO. 53 LAS PINAS-MUNTINLUPA

MUNICIPALITY: LAS PINAS

BARANGAY: MANUYO UNO

DO No. Effect.date 10-97 2-May-97 26-96 9-May-96 114-95 15-Oct-95 22-93 30-May-93 53-90 18-Nov-90 1-89 10-Mar-89 85-87 1-Oct-87

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
CITI HOMES		RR	3,000.00	2,424.00	1,800.00	1,100.00			
MEDINA CPD	TRAMO	RR	2,200.00	1,650.00	1,250.00	800.00	600.00	300.00	300.00
SULTANA ENTIRE	PRIVATE UNDEVELOPED	RR	2,500.00	2,000.00	1,550.00	1,000.00	900.00	450.00	450.00
		A				800.00			
ALL OTHER STREETS		RR	1,900.00	1,250.00	1,250.00				
		CR	3,500.00	3,000.00					
		GP	1,600.00	1,300.00	1,000.00	500.00			

Call L by
NELSON L. BOONALING
M. ASST. DEPUTY DIRECTOR



RDO NO. 53 LAS PINAS-MUNTINLUPA

MUNICIPALITY: LAS PINAS

BARANGAY: MANUYO UNO

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	DO No.	10-97	26-96	114-95	22-93	53-90	1-89	85-87
			Effect date	2-May-97	9-May-96	15-Oct-95	30-May-93	18-Nov-90	10-Mar-89	1-Oct-87
				6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
CITI HOMES		RR		3,000.00	2,424.00	1,800.00	1,100.00			
MEDINA CPD	TRAMO	RR		2,200.00	1,650.00	1,250.00	800.00	500.00	300.00	300.00
SULTANA ENTIRE	PRIVATE UNDEVELOPED	RR		2,500.00	2,000.00	1,550.00	1,000.00	900.00	450.00	450.00
		A					800.00			
ALL OTHER STREETS		RR		1,900.00	1,575.00	1,250.00				
		CR		3,500.00	3,000.00		500.00			
		GP		1,600.00	1,300.00	1,000.00		500.00		

Carl L. By
MELMONT BOONAY
MUNICIPAL ENGINEER

0003769241

SVO-23340
Sheet 3

Lot 6
Psu-13777 Sheet 3
(Eugenio Evangelista and Petrona Lim)

57

AUG 2 1958

12

A parcel of land (Lot 6 described on plan of Psu-13777 Sheet 3, G.L.R.O. Rec. No.), situated in the Sitio of Madulas, Barrio of Manuyo, Municipality of Las Piñas, Prov. of Misal. Bounded on the NE. and SE., by Estero Madulas; on the S., by properties of Teofilo Reyes and Fermin Leonards; on the W., by properties of Fermin Leonards and Heirs of Benito Cosme; and on the NW., by property of Fermin Leonards and Estero Madulas. Beginning at a point marked "1" on plan, being S. 37 deg. 42'E. 1102.68 m. from B.L.L.M. No. 1, Mun. of Las Piñas,

thence N. 77 deg. 01'E. 48.69 m. to point "2";
thence N. 50 deg. 42'E. 23.28 m. to point "3";
thence N. 22 deg. 00'E. 13.16 m. to point "4";
thence N. 50 deg. 55'E. 11.99 m. to point "5";
thence N. 13 deg. 42'W. 36.12 m. to point "6";
thence N. 58 deg. 51'E. 33.15 m. to point "7";
thence N. 69 deg. 28'E. 19.73 m. to point "8";
thence N. 78 deg. 22'E. 56.02 m. to point "9";
thence N. 84 deg. 19'E. 20.58 m. to point "10";
thence S. 71 deg. 13'E. 14.97 m. to point "11";
thence S. 49 deg. 01'E. 15.96 m. to point "12";
thence S. 42 deg. 46'E. 34.56 m. to point "13";
thence S. 4 deg. 19'W. 7.43 m. to point "14";
thence S. 44 deg. 07'W. 113.76 m. to point "15";
thence S. 65 deg. 32'W. 12.17 m. to point "16";
thence S. 34 deg. 29'W. 67.69 m. to point "17";
thence S. 26 deg. 12'W. 48.98 m. to point "18";

SWO-23340
Sheet 3

Lot 6 (Con't.)
Psu-13777 Sheet 5
(Eugenio Evangelista and Petrona Lina)

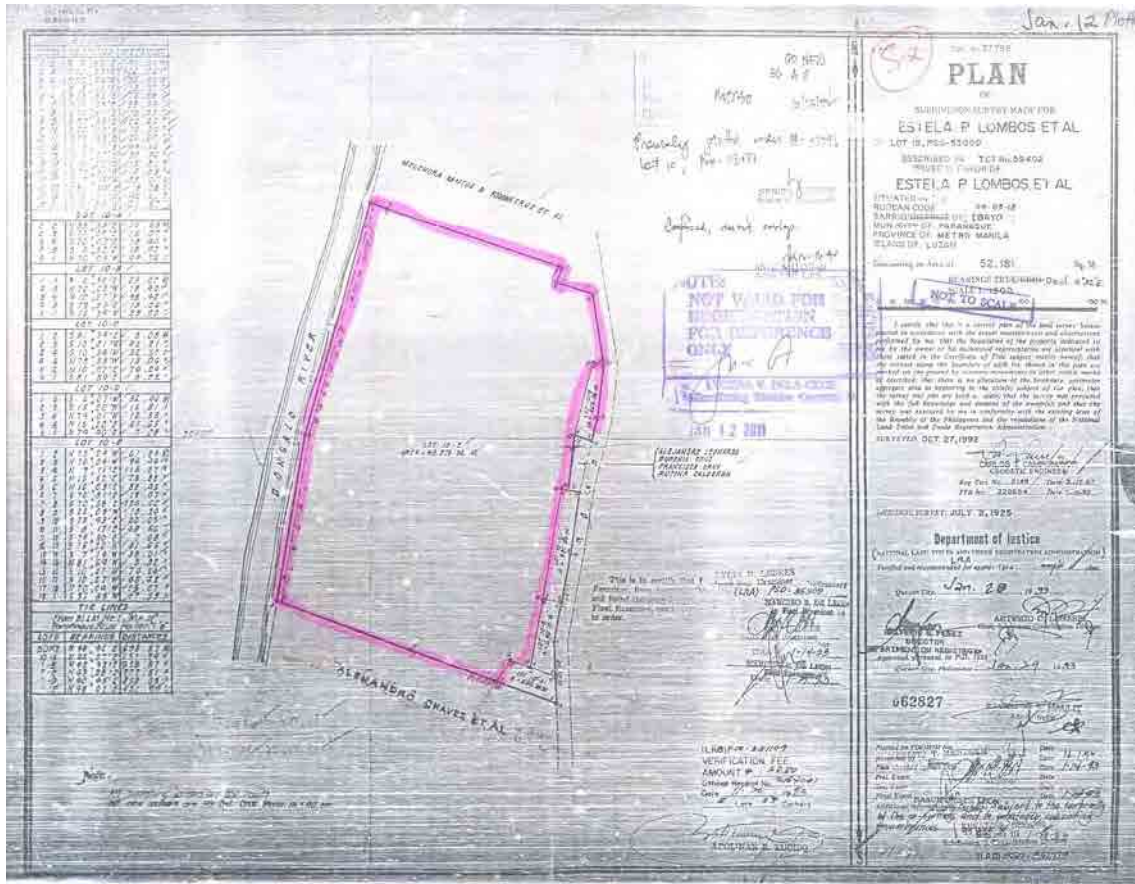


thence S. 15 deg. 31'W. 19.51 m. to point "19";
thence N. 88 deg. 22'W. 23.56 m. to point "20";
thence N. 6 deg. 45'W. 12.17 m. to point "21";
thence N. 20 deg. 51'E. 33.54 m. to point "22";
thence N. 67 deg. 00'W. 11.80 m. to point "23";
thence N. 16 deg. 05'E. 24.57 m. to point "24";
thence N. 53 deg. 54'W. 43.54 m. to point "25";
thence N. 71 deg. 19'W. 35.37 m. to point "26";
thence N. 2 deg. 09'E. 22.58 m. to the point of begin-
ning, containing an area of TWENTY FIVE THOUSAND FIVE HUNDRED
SIXTY FOUR SQUARE METERS (25,564) more or less. All points
referred to are indicated on the plan; and are marked on the
ground as follows: points "1" and "2", by P.L.S. Mons.; points
"3", "5", "6", "21", "22", "23", "25" and "26", by Above Stone Mons.;
point "24", by X and Nail on Tree; and the rest, by Stakes;
bearings true; declination 0 deg. 50'E.; date of survey, Aug.
9-15, 1918 and that of the approval, December 3, 1918.

Prepared by.


ANDRES TUASON
Private Land Surveyor

P-1



AP-537



Republic of the Philippines
CITY OF PARANAQUE
 Metro Manila

Control No. **174383**

PROPERTY INDEX NO.: 124-00-013-026-021-01
 0000144

TAX DECLARATION NO.: E-013-0323
 RD

DECLARATION OF REAL PROPERTY

2

OWNER: COMROS, ESTELA P ET AL	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY		
ADDRESS: 9257 SORIANO AVE TANDU PARANAQUE CITY	LOCATION OF PROPERTY: IRASAM	CERTIFICATE OF TITLE NO.: 175795	BARANGAY: STO NIÑO
ADMINISTRATOR:	LOT NO.: 10-E	LEA FEB 301109- BEN PORTON	
ADDRESS:	BLK NO.:	BOUNDARIES:	
		NORTH: ROAD/PROP OF MELCHORA SANTOS SOUTH: LOT 10-D, LOT 10-E, LOT 10-F	
		EAST: LOT 10-B PROP OF ALEXANDRO LEONARD	

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS

KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE
REG: X-7	41,275.00	200		8,255,000

ASSESSOR'S FINDINGS

DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
		1ST STORY	2ND STORY	3RD STORY	
MACHINERY					

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE
OFFICE OF THE CITY ASSESSOR REGISTERED: 05/12/2009 CITY OF PARANAQUE				

Certified True Copy

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	8,255,000	40	3,302,000
TOTAL ASSESSED VALUE:				3,302,000
THREE MILLION NINE HUNDRED FORTY-TWO THOUSAND PESOS ONLY				

RECOMMENDING APPROVAL: ORIGINAL SIGNED: **JOSE MARLEO P. DEL ROSARIO**
 Asst. City Assessor

APPROVED: ORIGINAL SIGNED: **SOLEDAD E. SAMONTE**
 City Assessor

- 217-0037 -
ADD & RECORDS DIV.

THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION
 BEGINS WITH THE YEAR **2010** CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____
 PREVIOUS OWNER: **SANTOS, NAORA** PREVIOUS ASSESSED VALUE: LAND **4,177,680** IMPROVEMENT _____

CERTIFIED CORRECT: SUBDIVISION CO. OWNERS: **TORRES, JULIE ANNE P; PASCUAL, ANITA S; JULIUS C; CHRISTIAN S; MARISSA S; DARIO B; APOLONIO E**
 Printed and Issued by: **05/19/2011 4:12:28PM**
 This is a computer-generated form. Not valid if not signed and without seal.

RDO NO. 52 PARANAQUE CITY

BARANGAY: STO NINO (IBAYO) (Cont.)

D.O #	4-98 1-4-Apr-98	16-98 14-Apr-98	39-98 20-Jun-98	111-95 14-Oct-95	22-93 30-May-93	53-90 18-Nov-90	1-89 19-Mar-89	85-87 01-Oct-87	CLASS- FEATION	VICINITY	STREET/SUBDIVISION	7TH REV.	6TH REV.	5TH REV.	4TH REV.	3RD REV.	2ND REV.	1ST REV.	INITIAL
												ZV/SQ.M.	ZV/SQ.M.	ZV/SQ.M.	ZV/SQ.M.	ZV/SQ.M.	ZV/SQ.M.	ZV/SQ.M.	ZV/SQ.M.
									RR		CRUZ COMPOUND	5,000.00	2,000.00	1,050.00	1,000.00	1,100.00	800.00	450.00	450.00
									RR		COL E DE LEON (DAMAYARI)	5,000.00	2,500.00	1,750.00	1,200.00	1,100.00	800.00	450.00	450.00
									RR		DANILA	6,000.00							
									RR		DANDAN ST	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
									RR		E DE LEON ST	5,000.00	2,000.00	1,050.00	7,350.00	800.00	600.00	300.00	300.00
									RR		E-RODRIGUEZ AVENUE	6,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
									RR		GREEN TOWERS	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
									CR		N. AQUINO AVE (HELEDA AVENUE)	37,500.00	20,000.00	7,800.00	2,350.00				

No. 9107227

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
Land Registration Authority
QUEZON CITY
PARAÑAQUE CITY

REGISTRY OF DEEDS FOR THE

Transfer Certificate of Title

No. - 175792 -

CITY OF PARAÑAQUE

IT IS HEREBY CERTIFIED that certain land situated in the PHILIPPINES

bounded and described as follows:

A parcel of land (Lot 10-A of the subd. plan (LRA) Pad-351109, approved as a non-subd. project being a portion of Lot 10, Psu-55000, LRG Sec. No. 3779) situated in the Bc. of Ibayo, Mun. of Parañaque, Metro Manila, Is. of Luzon. Bounded on the NE., points 3 to 4 by Lot 10-B of the subd. plan on the E., points 4 to 5 by Road on the SW., points 5 to 1 by the property of Alejandro Cuevas et al on the NW & NE., points 1 to 3 by Lot 10-E of the subd. plan. Beginning at a point marked "1" on plan being N. 48 deg. 07'E., 651.24 m. from BLIM No. 1, Mp. of Parañaque Rizal, thence N. 33 deg. 33'E., 17.53 m. to point 2; thence S. 70 deg. 04'E., 15.07 m. to point 3; thence S. 70 deg. 03'E., 18.40 m. to it registered in accordance with the provisions of the Property Registration Decree in the name of ESTELA P. LOMBOS married to Fabian Lombos; ANITA S. PASCUAL, single; JULIUS C. PASCUAL married to Michelle C. Antenor, all has 1/4 share each; JULIE ANNE P. TORRES married to Sergio Torres, CHRISTIAN B. PASCUAL, married to Eufrocina Estrada, MARISSA S. PASCUAL, single; DARIO B. PASCUAL, JR married to - - - as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of said Decree as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 21st day of Dec. in the year nineteen hundred and 33 in the Registration Book of the Office of the Register of Deeds of Rizal Volume A-29 page 7A as Original Certificate of Title No. 6591 pursuant to Decree No. 519716 issued in L. R. C. Record No. 37795 in the name of Transfer Certificate of Title No. 70118/T-351 which is cancelled by virtue hereof in so far as the above-described land is concerned.

Entered at Parañaque City
Philippines, on the 3rd day of APRIL
in the year two thousand and eight
at 1:29 p.m.

ATTESI:

- 1- 30 Encarnacion St., Magallanes Vill., Makati City
- 2- 0257 Quirino Ave., Tambo, Parañaque City.
- 3- 0258 Quirino Ave., Tambo Parañaque City (postal address)

RAMOS / F
Register of Deeds

*State the civil status, name of spouse if married, age of a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

It is hereby certified that this is a true electronic copy of the document on file in the Registry of Deeds of Parañaque City, which consists of 4 pages.

***MEMORANDUM OF ENCUMBRANCES**

(When necessary use this page for the continuation of the technical description)

Cont. of TD
Entry No. 6836
point 4; thence S. 2 deg. 52'E., 18.47 m. to point 5; thence N. 70 deg. 04'W., 44.76 m. to the point of beginning containing an area of SIX HUNDRED SIXTY SIX (666) SQ. METERS more or less. All points referred to are indicated on the plan and are marked on the ground as follows: points 5 by old points and the rest by PS cyl. conc. mms. 15x50 cm; bearings true decl. 0 deg. 32'E., date of the original survey July 2, 1925 and that of the subd. survey executed by Carlos Caspamayor Geod. Engr. on Oct. 27, 1992.x-x-x-x

Cont. of Registered co-owners:
Rowena Cahigao and APOLONIO N. PASQUAL, single, all has 1/4 share, all of legal age, Philippines

Entry No. 6836- ANTE NUPITAL AGREEMENT - Executed by and between Julian C. Pasqual (one of the heirs of the herein registered owner), whose estate is under administration of Anna E. Pasqual and Michele C. Antenor (latter spouse of the former - Surviving among others that they mutually agreed that their property relation as spouses shall be under the regime of COMPLETE SEPARATION OF PROPERTY during their marriage all their earnings, properties they owned shall remain his/her exclusive property subject to his/her sole disposition and administration including all each spouse earnings from any profession, business and undertakings, which shall take effect upon the celebration of the marriage, in accordance with Dec. No. 16, Page No. 5, Book No. II, Series of 1997 of Nat. Pub. for Makati City, Virgilio P. S. Ochoa, dated 14 Feb 1997. Date of Inscription - 21 Feb. 1997 - 2:43 p.m.

(Sgt) OFELIA E. ABUEG-STA. MARIA
Register of Deeds

Copied from TCE No.

RAYMOND B. RAMOS
Register of Deeds

(Memorandum of Encumbrances continued on Page-B)
(Technical Description continued on Additional Sheet Page)

Register of Deeds

PARANAQUE CITY

RDO NO. 52

BARANGAY: MOONWALK

D.O # 4-08 16-98 111-95 22-93 53-00 1-89 85-87
 Effectivity 14-Apr-08 14-Apr-98 14-Oct-95 30-May-93 18-Nov-90 19-Mar-89 01-Oct-87

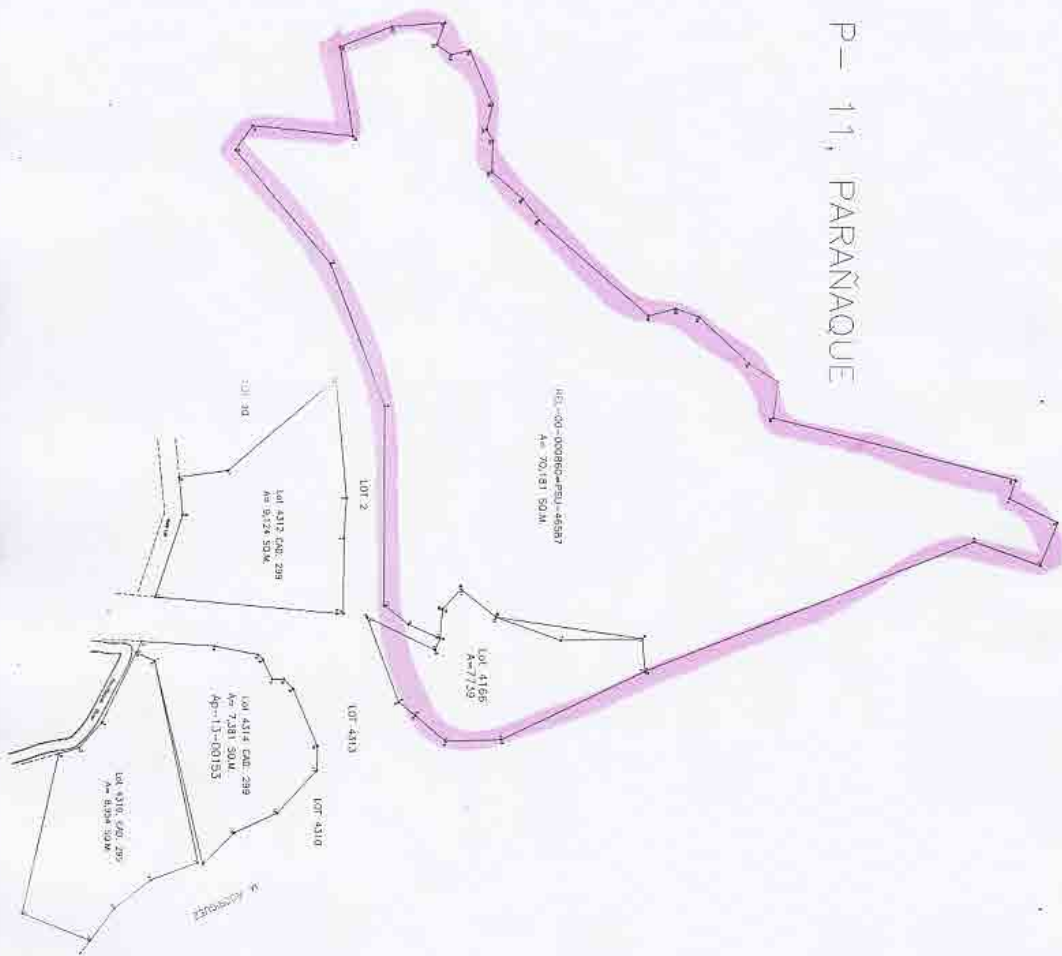
STREET/SUBDIVISION	VICINITY	CLASSIFICATION	7TH REV. ZV/SQ.M.	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
AIRPORT VIEW SUBD		RR	4,500.00	3,200.00	1,600.00	1,500.00				
AIRPORT VILLAGE		RR	4,500.00							
ARMSTRONG VILLAS		RR	6,500.00							
BRICKTOWN SUBD	MOONWALK	RR	5,000.00	5,200.00	2,700.00	2,550.00	1,500.00	1,000.00	380.00	380.00
CECILIA VILLAGE		RR	5,000.00							
CHRISTINA VILLAGE		RR	6,000.00							
DAMANG BAYANG		RR	4,500.00	3,200.00	1,600.00	1,500.00				
DONNASVILLE SUBD		RR	4,000.00							
E. RODRIGUEZ (EAST BOUND)		RR	4,000.00	3,200.00	1,600.00	1,500.00				
ERIBERTA COURT (BALUARTE)		RR	4,000.00							
ERIBERTA VILLAGE		RR	6,000.00							
HIYASVILLE SUBD		RR	5,000.00							
KODAK CAMP		RR	4,500.00							
MOONWALK 1, 2 & 3	BRICKTOWN	RR	5,500.00	4,000.00	1,950.00	1,850.00	1,300.00	1,000.00	400.00	400.00
MULTINATIONAL VILL PHH		RR	12,000.00	10,000.00	3,250.00	3,100.00	2,000.00			
MULTINATIONAL VILL B		RR	7,500.00							
ANNEX EAST	MOONWALK SUBD	RR	7,000.00	6,500.00	3,250.00	3,100.00	2,000.00	1,500.00	700.00	700.00
SCARLET SUBD		CR	12,000.00	10,000.00	3,700.00	3,550.00	2,500.00			
PAPA COMPOUND		RR	4,500.00							
SILVERLAND HOMES I (SILVERLAND HOMES)		RR	5,000.00	5,000.00	2,650.00	2,550.00	1,800.00	1,500.00		
SILVERLAND HOMES II		RR	7,000.00							
ST. FRANCIS SUBD		RR	6,500.00	4,000.00	1,950.00	1,850.00	1,300.00			
TRIUMPH		RR	9,000.00	8,000.00	2,400.00	2,300.00	1,500.00			
VELARDE COMPOUND		RR	4,500.00							
ALL OTHER STREETS		RR	4,000.00	3,200.00	2,000.00	1,900.00	1,300.00			
		CR	9,000.00	8,000.00	3,150.00	3,000.00	2,000.00			
		GP	4,000.00	3,000.00	800.00	750.00	500.00			

CERTIFIED TRUE COPY



[Signature]
REGINA B. DELA CRUZ
 ASST. REV. DISTRICT OFFICER
 TIN: 134-085-523

P- 11, PARANAQUE



(S-11)

NOTE: HD PLAN

Book	Page	Sta. Cor.	3		4	5	6		7	8	9		10	11	12		13		14	15		
			Azimuth	Distance			Latitude	Northings			Departure (E)	Line			Latitude	D.M.D.	Dep. / Lat.	Lat / Dep.			Dep. / Lat.	Sin / Cos
		1					187347	206627	30	206627	206627	206627		187347	206627					S26-22E	1412.27	+
		2					187762	692064	08	08	08	08		187762	692064					N25-48E	810.2	+
		3					187526	206653	06	06	06	06		187526	206653					S67-46E	20.48	+
		4					187149	206519	7	7	7	7		187149	206519					S19-10	40.48	+
		5					18526	207268	5	5	5	5		18526	207268					S21-41E	203.66	+
		6					185249	207083	0	0	0	0		185249	207083					S86-20	18.59	+
		7					18417	207098	9	9	9	9		18417	207098					S01-19E	46.84	+
		8					18440	206963	7	7	7	7		18440	206963					S19-09	39.68	+
		9					98420	20680	9	9	9	9		98420	20680					S38-09	25.55	+

Address, if not same as location of land

Province: N. Municipality/City: San Francisco

Geometric Engineer: Francisco Felap

Date Surveyed: 007-25-1988

Sheet: 1/1

Survey Sym. & No.: 201-00-000 860

L. R. C. No.: BOUNDARY

Rel. to: Rel. to

Sq. Meters

Area: Original Computed by: [Signature] Date: [Date]

Checked Computed by: [Signature] Date: [Date]

Checked Original by: [Signature] Date: [Date]

No. 5234375

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
Land Registration Authority
QUEZON CITY

PARANAQUE, METRO MANILA

REGISTRY OF DEEDS FOR THE

Transfer Certificate of Title

No. 135668

IT IS HEREBY CERTIFIED that certain land situated in the Municipality of Paranaque, Manila, Philippines bounded and described as follows:

A parcel of land (Lot 2, of the cons. subd. plan Pen-00-007174, being a portion of Lot 4214-A, Pen-00-032204 and Lot 4313-A, Pen-00-039295, LRC Recd. No. N-62478 and 62479) situated in the Regy. of La Puente, Mun. of Paranaque, Prov. of Riz., Is. of Luzon. Bounded on the W, along line 1-2 by Lot 3 of the cons. subd. plan, on the N, along line 2-3 by Creek, on the E, along lines 3-4-5 by Creek (bridge) and on the S, along line 5-6 by Lot 3986, along line 6-1 by Lot 4310, both of Paranaque Cad. Beginning at a point marked "1" on plan being S. 25 deg. 04'E., 1013.91 m. from SLLP No. 1, Paranaque Cad. thence S. 7 deg. 34'E., 110.24 m. to point 2; S. 45 deg. 29'E., 42.53 m. to point 3;

is registered in accordance with the provisions of the Property Registration Decree in the name of THE ADAMA IDEAN SOCIETY INC., a domestic corp. duly organized and existing under and by virtue of the Phil. laws

as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of said Decree as may be subsisting; and to

IT IS FURTHER CERTIFIED that said land was originally registered in the 29th, 7th day of June, 1971 in the year nineteen hundred and 71 & 98, in the Registration Book of the Office of the Registrar of Deeds of Manila, Volume 1-2, page 211, as Original Certificate of Title No. 241 & 261, pursuant to Decree No. 202269 & N-202714 issued in L.R.C. N-162, N-170 Record No. N-62478 & N-62479 in the name of This certificate is a transfer from Adama Idean Society Certificate of Title No. 13542278-675 which is cancelled by virtue hereof in so far as the above-described land is concerned.

Entered at Paranaque, Metro Manila
Philippines, on the 21st day of June, 1998
in the year nineteen hundred and ninety-eight
at 11:05 a.m.

ATTEST:

118 Amorsolo St., Legaspi Vill.,
Makati City (owner's postal address)

WILLIAM ANTONIO MARI
(Registrar of Deeds)

*State the civil status, name of spouse if married; age if a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

Entry No. Cont. of TD

S. 0 deg. 50'E., 53.14 m. to point 4; S. 35 deg. 15'W., 17.36 m. to point 5;
S. 24 deg. 00'W., 3.00 m. to point 6; S. 78 deg. 01'W., 27.16 m. to point 2
beginning containing an area of TWO THOUSAND SEVEN HUNDRED EIGHTY SIX (2,786)
80. METERS more or less. All points referred to are indicated on the plan and
are marked on the ground by 85 cyl. conc. mons. 15x60 cm; except points 3, 4, 5,
& 6 by old 85 cyl. conc. mons. 15x60 cm; bearings true date of original survey
Feb. 20, 1957 and that of the conc. suud. survey, April 19, 1956, approved
on May 2, 1956. x-x-x

164
9

OFELIA E. BURE STA. MARIA
Register of Deeds

(Memorandum of Encumbrances continued on Page -B)
(Technical Description continued on Additional Sheet Page -J)

Register of Deeds



Republic of the Philippines
CITY OF PARAÑAQUE
 Metro Manila

Control No. **174390**

PROPERTY INDEX NO. 124-00-008-033-195-00
 04035500

TAX DECLARATION NO. E-008-06687
 BR

DECLARATION OF REAL PROPERTY

OWNER: RODRIGUEZ, CARMEN E. ADDRESS: 111 BA SANCKET ST. GREENHEIGHTS SUBD. PARAÑAQUE CITY ADMINISTRATOR: ADDRESS:					DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY: BUL. I CERTIFICATE OF TITLE NO.: OCT. 312 LOT NO.: BLK NO.: BOUNDARIES: NORTH: LL SOUTH: RD. 11 EAST: WEST: LLB					
IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.					LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL): BUILDING AND OTHER IMPROVEMENTS:					
ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS					
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
0001	7,185.88	040		7,719,970			1ST STORY	2ND STORY	3RD STORY	ROOF
MACHINERY										
ASSESSOR'S FINDINGS										
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE						
Certified True Copy										
KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASMT LEVEL	ASSESSED VALUE						
LAND	AGRICULTURAL	7,719,970	40	3,086,399						
OFFICE OF THE CITY ASSESSOR REGISTERED 109/307/1996 CITY OF PARAÑAQUE				TOTAL ASSESSED VALUE: THREE MILLION EIGHTY-SIX THOUSAND THREE HUNDRED NINETY PESOS ONLY		TOTAL		3,086,399		
RECOMMENDING APPROVAL:					APPROVED:					
ORIGINAL SIGNED: JOSE MARLEO P. DEL ROSARIO Asst. City Assessor 0-008-13871					ORIGINAL SIGNED: SOLEDAD E. SAMONTE City Assessor					
THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION										
BEGINS WITH THE YEAR 1977 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 10 _____ BY _____										
PREVIOUS OWNER: _____ PREVIOUS ASSESSED VALUE: LAND _____ IMPROVEMENT _____										
CERTIFIED CORRECT: _____					Printed on: 1/15/2011 4:17:17PM Issued by:					
GENERAL DIVISION										
This is a computer-generated form. Not valid if with signature and without seal.										



Republic of the Philippines
CITY OF PARAÑAQUE
 Metro Manila

Control No. **174389**

PROPERTY INDEX NO. 124-00-006-035-194-000
 04064314

TAX DECLARATION NO. E-008-06688
 BR

DECLARATION OF REAL PROPERTY

6

OWNER: PASCUAL ET AL. LEONARDO ADDRESS: SAN BUNISLO PARAÑAQUE CITY ADMINISTRATOR: ADDRESS:	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY: MULTINATIONAL VILLAGE CERTIFICATE OF TITLE NO.: OCT 290 LOT NO.: 4314 BLK NO.: BOUNDARIES: NORTH: 1.4310 EAST: 1.4310 SOUTH: PARAÑAQUE RIVER WEST: 1.4310
---	--

IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS

KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL				MARKET VALUE
							1ST STORY	2ND STORY	3RD STORY	ROOF	
REST R-5	7,317.00	000		6,314,280							

ASSESSOR'S FINDINGS

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE
MACHINERY				

Certified True Copy

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASMT LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	6,314,280	20	1,262,860

OFFICE OF THE CITY ASSESSOR REGISTERED+09730/1796 CITY OF PARAÑAQUE	TOTAL ASSESSED VALUE ONE MILLION TWO HUNDRED SIXTY-TWO THOUSAND EIGHT HUNDRED SIXTYT PESOS ONLY TOTAL 1,262,860
---	---

RECOMMENDING APPROVAL: ORIGINAL SIGNED: JOSE MARLEO P. DEL ROSARIO Asst. City Assessor	APPROVED: ORIGINAL SIGNED: BOLEDAD E. SAMONTE City Assessor
--	---

7-008-111231 ADD & RECORDS

THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR 1997 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 10 BY _____ PREVIOUS OWNER: SANE NARE PREVIOUS ASSESSED VALUE: LAND 289,550 IMPROVEMENT _____

CERTIFIED CORRECT:
 GENERAL REVISION _____ Printed and Issued by: 7-008-17572011 4117117PW

This is a computer-generated form. Not valid if with measure and without seal.



Republic of the Philippines
CITY OF PARAÑAQUE
 Metro Manila

Control No: **174391**

PROPERTY INDEX NO.: 124-00-008-033-262-000
 04069259

TAX DECLARATION NO. E-008-14423
 80

DECLARATION OF REAL PROPERTY

OWNER DELARDE, MARIANO Z ADDRESS 110 ANDRESOLO ST LEGASPI VILL NAVATE CITY ADMINISTRATOR ADDRESS					DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY PATATDO CERTIFICATE OF TITLE NO. BARANGAY ROSNALLY LOT NO. L4314-3 PARCEL NO PORTION BLK NO. BOUNDARIES NORTH L4314-4 SOUTH WIDE RIVER EAST L4310 99W RODRIGUEZ WEST L4312 CAD 20Y PAWE CAD					
IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.										
LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL)					BUILDING AND OTHER IMPROVEMENTS					
ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS					
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
REBT X-9	5,437.73	400		2,235,100			1ST STORY	2ND STORY	3RD STORY	ROOF
MACHINERY										
ASSESSOR'S FINDINGS										
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE						
OFFICE OF THE CITY ASSESSOR REGISTERED: 04/21/1998 CITY OF PARAÑAQUE										
					KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASST LEVEL	ASSESSED VALUE	
					LAND	RESIDENTIAL	2,235,100	20	451,020	
					TOTAL ASSESSED VALUE :			TOTAL ₱		
					FOUR HUNDRED FIFTY-ONE THOUSAND TWENTY PESOS ONEY			451,020		
RECOMMENDING APPROVAL					APPROVED					
ORIGINAL SIGNED JOSE MARLEO P. DEL ROSARIO Asst. City Assessor E-010-07779					ORIGINAL SIGNED SOLEDAD E. SAMONTE City Assessor ALMA L. LLIZO C. MENDITA ADD IN RECORDS DE					
THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR 1999 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____ PREVIOUS OWNER PASCUAL, LEONARDO L. ET AL. PREVIOUS ASSESSED VALUE: LAND 350,000 IMPROVEMENT _____										
CERTIFIED CORRECT SUBDIVISION _____					Printed and Issued by: 0110-1/3/2011 0118100FR					
This is a computer-generated form. Not valid if with erasure and without seal.										

Certified True Copy

RDO NO. 52 PARANAQUE CITY
 BARANGAY: MOONWALK

STREET/SUBDIVISION	CITY	CLASSIFICATION	D.O. #										INITIAL ZV/SQ.M.	
			14-Apr-88	4-08	16-98	39-96	11-95	22-93	53-90	1-89	85-87			
			Effectivity 1	Effectivity 1	Effectivity 1	Effectivity 1	Effectivity 1	Effectivity 1	Effectivity 1	Effectivity 1	Effectivity 1	Effectivity 1	Effectivity 1	Effectivity 1
ABRPORT VIEW SUBD		RR	4,500.00		3,200.00	1,600.00	1,500.00							
ABRPORT VILLAGE		RR	4,500.00											
ARMSTRONG VILLAS		RR	6,500.00		5,200.00	2,700.00	2,550.00	1,500.00	1,000.00	380.00	380.00			
BRICKTOWN SUBD	MOONWALK	RR	5,500.00											
CECILIA VILLAGE		RR	5,000.00											
CHRISTINA VILLAGE		RR	6,000.00		5,000.00	2,600.00	2,500.00							
DARANG BATANG		RR	4,500.00		3,200.00	1,600.00	1,500.00							
DONIASVILLE SUBD		RR	4,000.00											
E. RODRIGUEZ (EAST BOUND)		RR	4,000.00		3,200.00	1,600.00	1,500.00							
EBERTIA COURT (BALAJANTE)		RR	4,000.00											
EBERTIA VILLAGE		RR	6,000.00		5,000.00	2,600.00	2,500.00							
HIVASVILLE SUBD		RR	5,000.00											
KODAK CHRD		RR	4,500.00											
MOONWALK 1, 2 & 3	BRICKTOWN	RR	5,500.00		4,000.00	1,950.00	1,850.00	1,300.00	1,600.00	400.00	400.00			
MULTINATIONAL VILL PHA		CR	12,000.00		10,000.00	3,250.00	3,100.00	2,000.00	2,000.00					
MULTINATIONAL VILL S	MOONWALK SUBD	RR	7,500.00		6,500.00	3,250.00	3,100.00	2,000.00	1,500.00	700.00	700.00			
ANNEX EAST		CR	12,000.00		10,000.00	3,700.00	3,550.00	2,500.00						
PAPA COMPOUND		RR	4,500.00											
SCARLET SUBD		RR	5,000.00		5,000.00	2,650.00	2,550.00	1,800.00	1,500.00					
SILVERLAND HOMES I (SILVERLAND HOMES)		RR	5,000.00											
SILVERLAND HOMES II		RR	7,000.00		4,000.00	1,950.00	1,850.00	1,300.00						
ST. FRANCIS SUBD		CR	9,000.00		8,000.00	2,400.00	2,300.00	1,500.00						
TRIUMPH		RR	5,000.00		3,200.00									
VELARDE COMPOUND		RR	4,500.00		3,200.00	2,000.00	1,900.00	1,300.00	500.00	250.00	250.00			
ALL OTHER STREETS		CR	4,000.00		8,000.00	3,150.00	3,000.00	2,000.00						
		GP	4,000.00		3,000.00	800.00	750.00	500.00						

CERTIFIED TRUE COPY

REGINA DELA CRUZ
 ASST. REVENUE OFFICER
 TIN: 134-685-523

LOT DATA COMPUTATION

Plotted
Jan 24

5-6

4155 1
LOT NO. 12033 E
SHEET NO.

NO. DATE TR.
20151
DATE SURVEYED
CM 1429 N
SURVEY NUMBER

SURVEY PARTY 7E
NAME OF SURVEYOR
GAB 399 04
ADDRESS OF CLAIMANT

NAME OF CLAIMANT
BENIGNITO PARRAQUE RIZAL
ADDRESS OF CLAIMANT

NAME OF CLAIMANT
BENIGNITO PARRAQUE RIZAL
ADDRESS OF CLAIMANT

TRAVERSE STATION ACQUIRED	TRAVERSE STATION COORDINATES		SIDE SHOT		CORNER NO.	LOT CORNER COORDINATES		LOT BOUNDARY LINE	
	NORTHING	EASTING	DISTANCE	BEARING		NORTHING	EASTING	DISTANCE	BEARING
BLLM 1 CAD 299					TP	2000000	2000000	1414	2762522E
1873474	2062739				1	1873474	2062739	3103	N2545E
1876265	2064085				2	1876269	2064085	2642	S5746E
1875267	2066536				3	1675367	2066536	4048	S1945W
1871447	2065197				4	1871447	2065197	2026	S2141E
1852815	2072685				5	1852815	2072685	1855	S8620W
1832436	2070530				6	1852436	2070530	4804	S0154E
1842813	2070253				7	1847813	2070539	3350	S1903W
1844065	2069537				8	1844065	2069537	2555	S3200W
1842005	2068059				9	1842056	2068059	1344	S470E
1841001	2069192				10	1841001	2069192	1050	S5489E
1840956	2070046				11	1840856	2070840	1044	S2305W
1839068	2070084				12	1839068	2070084	1771	S3752W
1837670	2068997				13	1837670	2068997	1124	S8954W
1837649	2057530				14	1837649	2057650	0203	S5910W
1834573	2049510				15	1834573	2049510	0423	S5023W
		13 CP	4154		16	1829201	2043024	1686	N5423W

Date: _____
Checked by: _____
Date: _____

LOT DATA COMPUTATION

Plotted
Jan 24

5-6

4155 1
LOT NO. 12033 E
SHEET NO.

NO. DATE TR.
20151
DATE SURVEYED
CM 1429 N
SURVEY NUMBER

SURVEY PARTY 7E
NAME OF SURVEYOR
GAB 399 04
ADDRESS OF CLAIMANT

NAME OF CLAIMANT
BENIAVENTURA ANDRES
ADDRESS OF CLAIMANT
SAN BIONIBIO PARRAQUE RIZAL

TRAVERSE STATION COORDINATES
NORTHING EASTING
1 CAD 299
1873474 2062739
1876265 2064085
1875267 2066536
1871447 2065197
1852815 2072685
1832436 2070530
1842813 2070253
1844065 2069537
1842005 2068059
1841001 2069192
1840856 2070046
1839068 2070084
1837670 2068997
1837649 2067530
1834573 2049510

TRAVERSE STATION ACQUIRED	TRAVERSE STATION COORDINATES		SIDE SHOT		CORNER NO.	LOT CORNER COORDINATES		LOT BOUNDARY LINE	
	NORTHING	EASTING	DISTANCE	BEARING		NORTHING	EASTING	DISTANCE	BEARING
BLLM	1 CAD 299				TP	2000000	2000000	1414	2762522 E
	1873474	2062739			1	1873474	2062739	3103	N2543 E
	1876265	2064085			2	1876269	2064085	2642	S5746 E
	1875267	2066536			3	1675367	2066536	4048	S1945 W
	1871447	2065197			4	1871447	2065197	2026	S2141 E
	1852815	2072685			5	1852815	2072685	1855	S8620 W
	1832436	2070530			6	1852495	2070530	4804	S011 E
	1842813	2070253			7	1847813	2070539	3350	S1903 W
	1844065	2069537			8	1844065	2069537	2553	S3800 W
	1842005	2068059			9	1842056	2068059	1344	S470 E
	1841001	2069192			10	1841001	2069192	1050	S5489 E
	1840856	2070046			11	1840856	2070840	1044	S2305 W
	1839068	2070084			12	1839068	2070084	1771	S3752 W
	1837670	2068997			13	1837670	2068997	1124	S8954 W
	1837649	2067530			14	1837649	2057650	0203	S4910 W
	1834573	2049510			15	1834573	2049510	0423	S5023 W
			13 CP	4154	16	1829201	2043024	1686	N5432 W

Checked by PK Date 2015

LOT DATA COMPUTATION

S-6

4160 2

DATE SURVEYED
CM 9 N E

LOT NO. 6 SHEET NO. 2

SURVEY NUMBER

NAME OF SURVEYOR

ADDRESS OF CLAIMANT

QUADRANGLE

EASTING

NORTHING

TRAVERSE STATION COORDINATES

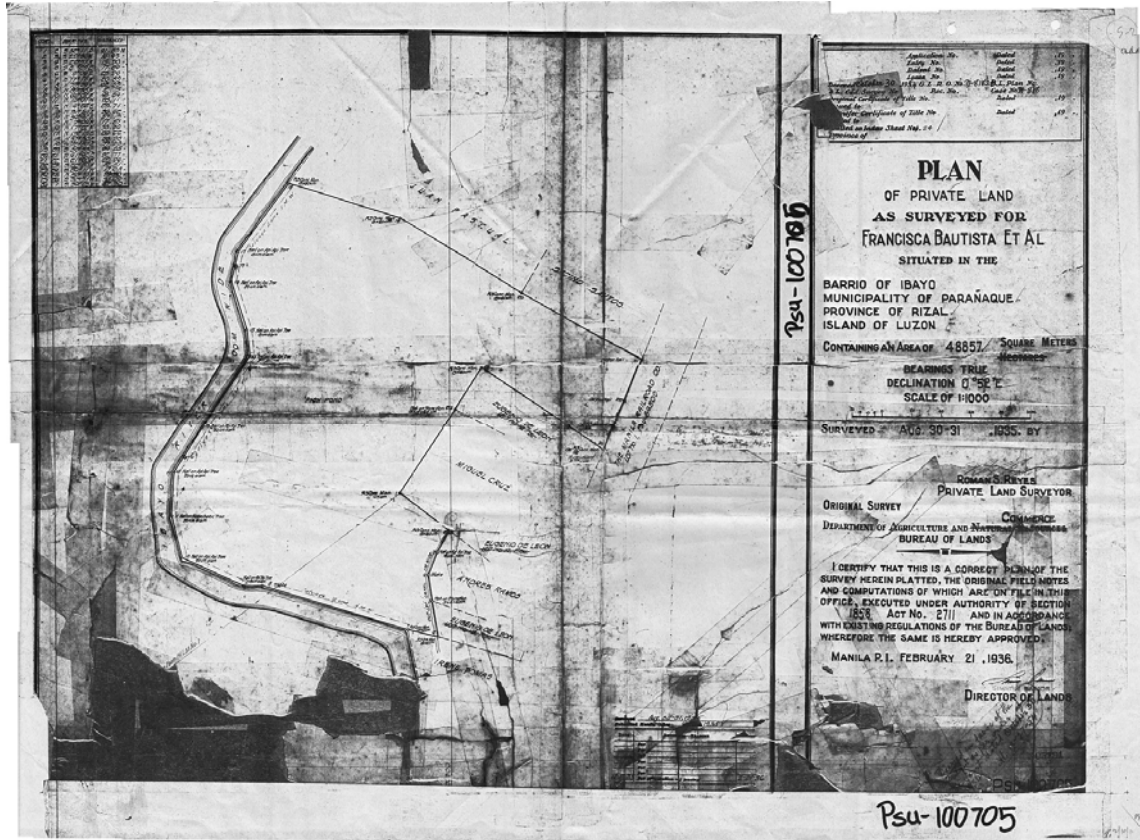
SIDE S.W.O.T

TRAVERSE STATION OCCUPIED	TRAVERSE STATION COORDINATES		DISTANCE	BEARING	CORNER NO.	LOT CORNER COORDINATE		LOT BOUNDARY LINE	
	NORTHING	EASTING				NORTHING	EASTING	DISTANCE	BEARING
			12	4164	17	18301.83	20410.54	56	S340552E
			11	4164	18	18358.12	20422.32	51	S38147W
			10	4164	19	18350.73	20371.25	31	S2216W
			9	4164	20	18379.99	20353.20	30	S20431W
			8	4164	21	18410.35	20356.85	13	S56946E
18405.63	20353.66				22	18405.63	20366.66	10	S332E
18413.85	20373.53				23	18413.85	20375.63	11	S1550W
18424.07	20372.09				24	18424.07	20372.09	33	S0701E
18437.74	20403.93				25	18437.74	20403.93	14	S57641E
18434.39	20418.09				26	18434.39	20418.09	7	S6048E
18438.05	20426.71				27	18438.05	20426.71	17	S8747E
18437.42	20442.09				28	18437.42	20442.09	25	S4933E
18455.28	20457.36				29	18455.28	20457.36	15	S5326E
18464.65	20465.33				30	18464.65	20465.33	8	S4934E
18527.71	20524.15				31	18527.71	20524.15	16	S3315W
18543.22	20519.92				32	18543.22	20519.92	14	S1901E
18564.52	20524.72				33	18564.52	20524.72	38	S4230E

Checked by _____ Date _____

SITE 6, PARAÑAQUE





RDO NO. 52

PARANAQUE CITY

BARANGAY: STO NINO (IBAYO)

D.O # 4-08 16-98 39-96 111-95 22-93 53-90 1-61 85-87
Effectivity 14-Apr-08 14-Apr-98 20-Jun-96 14-Oct-95 30-May-93 18-Nov-90 19-Mar-89 01-Oct-87

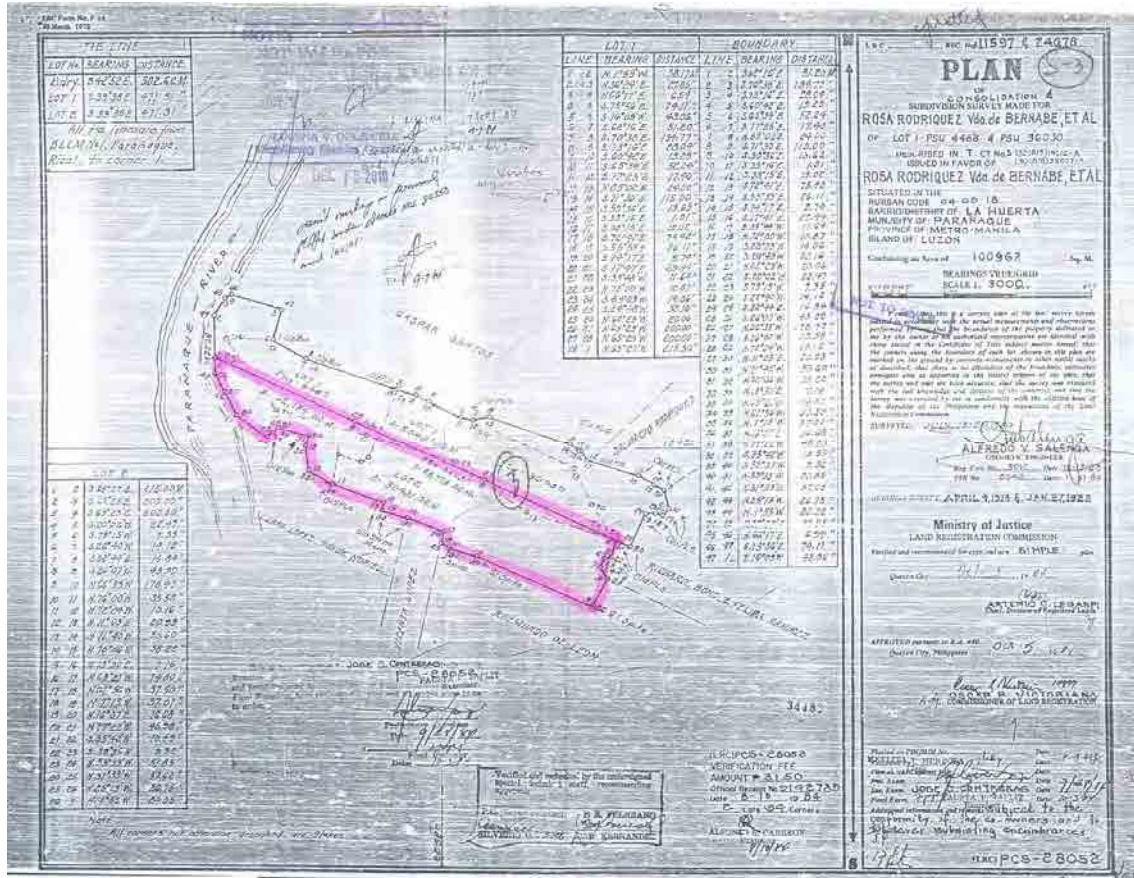
STREET/SECTION	VICINITY	CLASSIFICATION	7TH REV. ZV/SQ.M.	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
15T ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
2ND ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
3RD ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
4TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
5TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
6TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
7TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,000.00	800.00	600.00	300.00	300.00
8TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	7,450.00	800.00	600.00	300.00	300.00
9TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	7,450.00	800.00	600.00	300.00	300.00
10TH ST	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,000.00	800.00	600.00	300.00	300.00
11TH ST	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,000.00	800.00	600.00	300.00	300.00
12TH ST	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,000.00	800.00	600.00	300.00	300.00
13TH ST	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,200.00	800.00	600.00	300.00	300.00
14TH ST	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,200.00	800.00	600.00	300.00	300.00
15TH ST	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,200.00	800.00	600.00	300.00	300.00
16TH - 21ST ST	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,200.00	800.00	600.00	300.00	300.00
ALLEY 1 TO 5	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,200.00	800.00	600.00	300.00	300.00
AIRPORT VIEW SUBD	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,200.00	800.00	600.00	300.00	300.00
B. AQUINO AVE	COL E DE LEON	RR	5,000.00	2,000.00	1,050.00	1,200.00	800.00	600.00	300.00	300.00
BERNARDO COMPOUND	NEW MIA	T	30,000.00	30,000.00	7,800.00	2,400.00	1,500.00	3,300.00	1,500.00	1,500.00
BULL	DAMPAYAN	CR	37,500.00	30,000.00	7,800.00	4,800.00	4,500.00	1,000.00	500.00	300.00
	BALTAO SUBD	CR	5,000.00	5,000.00	1,300.00	1,000.00	800.00	600.00	300.00	300.00
		CR	12,000.00	12,000.00	5,050.00	1,200.00	3,200.00	2,300.00	1,500.00	1,500.00

CERTIFIED TRUE COPY

REGINA C. DELA CRUZ
ASST. REVENUE DISTRICT OFFICER
TIN: 134-005-523

87,732

P-3



AP-558

RDO NO. 52

PARANAQUE CITY

BARANGAY: STO NINO (IBAYO)

D.O # 4-08
Effectivity 14-Apr-08

16-98 14-Apr-98 39-96 20-Jun-96 111-95 14-Oct-95 22-93 30-May-93 53-90 18-Nov-90 1-89 19-Mar-89 85-87 01-Oct-87

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	7TH REV. ZV/SQ.M.	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
1ST ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
2ND ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
3RD ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
4TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
5TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
6TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,300.00	1,200.00	800.00	600.00	300.00	300.00
7TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
8TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
9TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
10TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
11TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
12TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
13TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
14TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
15TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
16TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
17TH ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
18TH - 21ST ST	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
ALLEY 1 TO 6	COL E DE LEON	RR	5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
AIRPORT VIEW SUBED	NEW RFA	RS	20,000.00	20,000.00	7,800.00	2,400.00	4,500.00	3,500.00	1,500.00	1,500.00
B. AQUINO AVE	NEW RFA	RS	5,000.00	20,000.00	7,800.00	4,800.00	4,500.00	3,500.00	1,500.00	1,500.00
BERNARDO COMPOUND	DAMAYAN	CR	37,000.00	20,000.00	7,800.00	4,800.00	4,500.00	3,500.00	1,500.00	1,500.00
BULL	DAMAYAN	GP	37,000.00	20,000.00	7,800.00	4,800.00	4,500.00	3,500.00	1,500.00	1,500.00
	DAMAYAN	RR	5,000.00	2,500.00	1,300.00	1,000.00	800.00	600.00	300.00	300.00
	DAMAYAN	RR	5,000.00	5,000.00	2,550.00	1,700.00	1,600.00	1,500.00	730.00	730.00
	DAMAYAN	CR	12,000.00	12,000.00	5,050.00	1,200.00	3,200.00	2,500.00	4,500.00	1,500.00

CERTIFIED TRUE COPY

REGINA C. DELA CRUZ
ASST. REV. DISTRICT OFFICER
TIN: 134-645-525



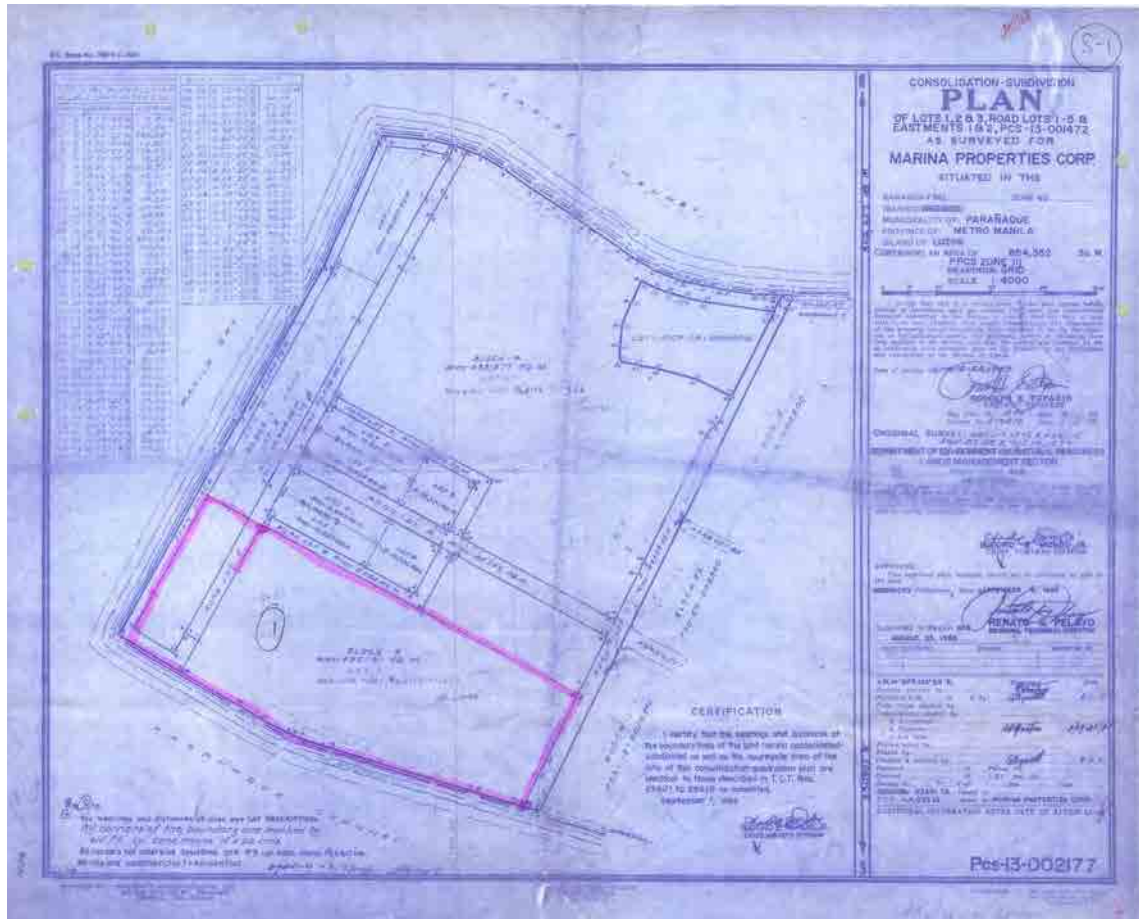
PARAÑAQUE CITY

RDO NO. 52

BARANGAY: SIO NINO (IBAYO) (Cont.)

D.O.#	Effectivity	CLASSIFICATION	VICINITY	STR./SUBDIVISION	4-08	16-98	39-96	111-05	22-93	53-90	1-89	85-87
					14-Apr-08	14-Apr-98	20-Jun-96	14-Oct-95	30-May-93	18-Nov-90	19-Mar-89	01-Oct-87
					7TH REV. ZV/SQ.M.	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
		RR			5,000.00	2,000.00	1,050.00	1,000.00				
		RR	ISAROG		5,000.00	2,500.00	1,750.00	1,200.00	1,100.00	900.00	450.00	450.00
		RR			6,000.00							
		RR	DE LEON		5,000.00	2,500.00	1,300.00	1,200.00	900.00	600.00	300.00	300.00
		RR			3,000.00	2,000.00	1,050.00	7,450.00	800.00	600.00	300.00	300.00
		RR	COL. E. DE LEON		6,000.00	2,500.00	1,300.00	800.00	800.00	600.00	300.00	300.00
		RR			5,000.00	2,500.00	1,250.00	1,200.00	800.00	600.00	300.00	300.00
		CR	4TH ST		37,500.00	30,000.00	7,800.00	2,550.00				
			N. AQUINO AVE (PIL. DA AVENUE)									

P-6



AP-561



Republic of the Philippines
CITY OF PARANAQUE
 Metro Manila

Control No. **174459**

PROPERTY INDEX NO.: (24-00-004-039-045-000)
 08066261

TAX DECLARATION NO.: E-004-03767
 TR

DECLARATION OF REAL PROPERTY

OWNER BRAL PORTFOLIO INVESTMENTS (BPIV-INC) INC. ADDRESS C/O 197F 300 PLAZA 8737 PASQUIL DE ROSAS MAKATI CITY ADMINISTRATOR ADDRESS	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY MANILA MARINA DAYTON WEST CERTIFICATE OF TITLE NO. 177674 LOT NO. 3 BLK NO. BOUNDARIES NORTH NO LOT 3 SOUTH NO LOT 3 EAST NO LOT 3 WEST NO LOT 3
--	--

IMPORTANT: Issued for taxation purpose and should not be considered as title to the property.

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE	
							1ST STORY	2ND STORY	3RD STORY	ROOF	
RES (R-3)	18,381.00	1,000		78,244,000							
MACHINERY											

ASSESSOR'S FINDINGS				
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE
MACHINERY				

Certified True Copy

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT. LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	78,244,000	20%	15,648,800
TOTAL ASSESSED VALUE: FIFTEEN MILLION SIX HUNDRED FORTY-EIGHT THOUSAND EIGHT HUNDRED PESOS ONLY				TOTAL ₱ 15,648,800

RECOMMENDING APPROVAL: ORIGINAL SIGNED: JOSE MARLEO R. DEL ROSARIO, Asst. City Assessor

APPROVED: ORIGINAL SIGNED: SOLEDAD E. SAMONTE, City Assessor

THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR 2007 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR THE YEAR _____ BY _____

PREVIOUS OWNER: PHILIPPINE NATIONAL BANK PREVIOUS ASSESSED VALUE: LAND 10,932,500 IMPROVEMENT _____

CERTIFIED CORRECT: _____

TRANSFER OF OWNERSHIP: _____

Printed and Issued By: _____

This is a computer-generated form. Not valid if with separate and without seal.

O.P. 926 3295 9/20/11 11411



Republic of the Philippines
CITY OF PARANAQUE
 Metro Manila

Control No: **174463**

PROPERTY INDEX NO.: 124-00-004-039-053-001
 09002233

TAX DECLARATION NO.: E-004-04143
 TR

DECLARATION OF REAL PROPERTY

OWNER PAROLA BAY BLUEWATER DEVELOPMENT, CORPORATION ADDRESS 842 ST0 BUKINGO ST STA MESA HEIGHTS NOZON CITY ADMINISTRATOR ADDRESS	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY JACKSON AVE MANILA MARINA BAYTOWN WEST CERTIFICATE OF TITLE NO. 181283 BARANGAY BUN GULO LOT NO. B-A-3-B-1 PCS-00 040798 BLK NO. BOUNDARIES NORTH RD LOT 7 SOUTH LOT 9 EASEMENT EAST LOT B-A-3-B WEST LOT B-B-3-B-2
IMPORTANT Issued for taxation purposes and should not be considered as title to the property.	

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) **BUILDING AND OTHER IMPROVEMENTS:**

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE	
							1ST STORY	2ND STORY	3RD STORY	ROOF	
RES	10,000.00	4,000		40,000,000							
MACHINERY											

ASSESSOR'S FINDINGS

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE
<div style="color: red; font-size: 2em; opacity: 0.5;">Certified True Copy</div>				

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSTMT LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	40,000,000	20	8,000,000
TOTAL ASSESSED VALUE :				TOTAL ₱
EIGHT MILLION PESOS ONLY				8,000,000

RECOMMENDING APPROVAL **APPROVED**

ORIGINAL SIGNED: JOSE MARLEO P. DEL ROSARIO (Asst. City Assessor) *Soledad E. Samonte* 11/6/11
 ORIGINAL SIGNED: SOLEDAD E. SAMONTE (City Assessor)

ADD & RECORDS

E-004-02249

THIS DECLARATION CANCELS TAX NOS. _____ (IS CANCELLED BY TAX NOS. _____) TAX UNDER THIS DECLARATION
 BEGINS WITH THE YEAR 2019 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____
 PREVIOUS OWNER: PAROLA PROPERTIES CORPORATION PREVIOUS ASSESSED VALUE: LAND 8,000,000 IMPROVEMENT _____
CERTIFIED CORRECT
 TRANSFER OF OWNERSHIP _____ Printed and Issued by: 2018-11/6/2011 10:20:15AM
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Republic of the Philippines
CITY OF PARAÑAQUE
 Metro Manila

Control No. **174462**

PROPERTY INDEX NO. 124-00-004-029-054-01
 06005819

TAX DECLARATION NO. E-004-03106
 TR

DECLARATION OF REAL PROPERTY

OWNER: LEGACY VENTURES REALTY AND DEVELOPMENT INC	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY		
ADDRESS: 112 RIZ DEL VAY SURD CANARIN CALUCAN CITY	LOCATION OF PROPERTY: PANILA MARINA WATLOWN COASTAL ROAD	BARANGAY: DON GALO	
ADMINISTRATOR:	CERTIFICATE OF TITLE NO: 168946	PSD NO: 240770	
ADDRESS:	LOT NO:	BLK NO:	
IMPORTANT: Issued for taxation purposes and should not be considered as title to the property.	BOUNDARIES:	NORTH: NE RD 17	
	EAST: SE LB-A-3-R-1	SOUTH: SW LB-ESBENEH	
	WEST: NW LB-B RD WIDENING		

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS					
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
REST R-1	10,000.00	4,000		40,000,000			1ST STORY	2ND STORY	3RD STORY	ROOF
MACHINERY										

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE
OFFICE OF THE CITY ASSESSOR REGISTERED: 10/19/2006 CITY OF PARAÑAQUE				

Certified True Copy

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	40,000,000	20	8,000,000
TOTAL ASSESSED VALUE - EIGHT MILLION PESOS ONLY				TOTAL ₱ 8,000,000

RECOMMENDING APPROVAL: ORIGINAL SIGNED JOSE MARLEO P. DEL ROSARIO
 Asst. City Assessor

APPROVED: ORIGINAL SIGNED SOLEDAD E. SAMONTE
 City Assessor

THE DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR 2011 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____

PREVIOUS OWNER: MARINA PROPERTIES CORPORATION PREVIOUS ASSESSED VALUE: LAND _____ IMPROVEMENT: _____

CERTIFIED CORRECT: _____

TRANSFER OF OWNERSHIP: _____

Printed on 2011-12-20 10:20:01AM
 issued by _____

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Republic of the Philippines
CITY OF PARAÑAQUE
 Metro Manila

Control No. **174458**

PROPERTY INDEX NO. 124-00-004-019-042-001
 0000261

TAX DECLARATION NO. E-004-03756
 TR

DECLARATION OF REAL PROPERTY

OWNER: OPAL PORTFOLIO INVESTMENTS (OPV-HMC) INC. ADDRESS: C/O 197F 000 PLAZA 8327 PASO DE ROYAS MAKATI CITY ADMINISTRATOR: ADDRESS:	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY: MANILA MARINA BAYTOWN WEST CERTIFICATE OF TITLE NO.: 177477 LOT NO.: BLK NO.: BOUNDARIES: NORTH: RD LOT 3 PCS 13 002177 SOUTH: ROL 01 7 PCS 13 011461 EAST: RD LOT 1 PCS 12 11466 WEST: LOT 1 R.R. WIDENING
--	--

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL) BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS					
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
RESID R-1	15,515.00	4,000		62,060,000			1ST STORY	2ND STORY	3RD STORY	ROOF

MACHINERY

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE
-------------	-------------------	------------------	--------------	--------------

Certified True Copy

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSTMT LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	62,060,000	20	12,412,000
TOTAL ASSESSED VALUE TWELVE MILLION FOUR HUNDRED TWELVE THOUSAND PESOS ONLY			TOTAL	12,412,000

RECOMMENDING APPROVAL: ORIGINAL SIGNED **JOSÉ MARLEO P. DEL ROSARIO**
Asst. City Assessor

APPROVED: ORIGINAL SIGNED **SOLEDAD E. SAMONTE**
City Assessor

THIS DECLARATION CANCELS TAX NOS. _____ (IS CANCELLED BY TAX NOS. _____) TAX UNDER THIS DECLARATION
 BEGINS WITH THE YEAR 2007 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 13 BY _____
 PREVIOUS OWNER PHILIPPINE NATIONAL BANK (PNB) PREVIOUS ASSESSED VALUE LAND 8,685,000 IMPROVEMENT _____
 CERTIFIED CORRECT: _____
 TRANSFER OF OWNERSHIP: _____
 Issued by: _____
 Printed on: 1/5/2011 10:17:25AM

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No. 2099990

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
Land Registration Authority
QUEZON CITY
PARARAQUE CITY

REGISTRY OF DEEDS FOR THE

Transfer Certificate of Title

No. -168946-

IT IS HEREBY CERTIFIED that certain land situated in the City of Pararaque
Philippines more particularly bounded and described as follows:
A parcel of land (Lot 8-A-3-B-2 of the subd. plan, Fed-00-040798, being
a portion of Lot 8-A-3-B of the subd. plan, Fed-00-039409, LRC Rec. No. 496), situated in Brgy.
Taabo, Mun. of Pararaque, Metro Manila, Island of Luzon, bounded on the SE.,
along line 1-2 by Lot 8-A-3-B-1 of the subd. plan, on the SW., along lines
2-4 by Lot 9, Easement Fed-13-011469, on the NW., along lines 4-6 by Lot 6-B
Fed-13-013411 Road Widening and on the NE., along lines 6-7-8-9-10-11-1 by
Road Lot 7, Fed-13-011469. Beginning at a point marked "1" on plan, - - -
is registered in accordance with the provisions of section 103 of the Property Registration Decree in
the name of
LEADROY VERMEREZ BEALTY AND DEVELOPMENT, INC., a domestic corp.
duly organized and existing under the laws of the Republic of the Phils.

subject to the provisions of the said Property Registration Decree and the Public Land Act, as well as
to those of the Mining Laws, if the land is mineral, and subject, further, to such conditions contained
in the original title as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 20th day
of Oct. in the year nineteen hundred and 78
in Registration Book No. 77-10-24 page 17-18 of the Office of the Register of Deeds
of Pararaque as Original Certificate of Title No. 113197 pursuant to
a Special patent, in the name of _____ granted by the President of the
Philippines, on the 77th day of May in the year nineteen
hundred and 77 under Act No. 196

This certificate is a transfer from Transfer Certificate of Title No. 113197/T-566
which is cancelled by virtue hereof in so far as the above described land is concerned.

Entered in Pararaque City
Philippines on the 16th day of August
in the year two thousand and six
at 3:47 P. m.

[Signature]
Register of Deeds

12813 Del Rey Subd., Marun, Calocan City
(Owner's Postal Address)

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered
owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the
name of the conjugal partnership, state the citizenship of both spouses.

KE 946 + 2151746

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

Entry No. Conts. of TD

being S. 20 deg. 46'W., 4420.97 m. from BLM No. 11 Swo-41755, thence S. 24 deg. 58'W., 56.59 m. to point 2; N. 63 deg. 44'W., 50.74 m. to point 3; N. 58 deg. 23'E., 137.95 m. to point 4; N. 28 deg. 50'E., 50.37 m. to point 5; N. 75 deg. 14'E. 4.00 m. to point 6; S. 58 deg. 23'E., 122.69 m. to point 7; S. 59 deg. 52'E., 11.27 m. to point 8; S. 62 deg. 52'E., 11.27 m. to point 9; S. 62 deg. 52'E., 11.27 m. to point 10; S. 65 deg. 55'E., 11.27 m. to point 10; S. 65 deg. 55'E., 11.27 m. to point 11; S. 70 deg. 24'E., 14.46 m. to the point of beginning, containing an area of TEN THOUSAND (10,000) SQ. METERS, more or less. All points referred to are indicated on the plan and are marked on the ground by PS & Old PS cyl. conc. mons., 15 x 60 cm., bearings true; date of original survey, Dec. 1-17, 1976 (Swo-41755) and that of the subd. survey, May 24, 1996, approved 22 July 1996. x x x



Entry No. 5107-Letter Request filed by CARLOS WILFREDO B. PINEDA, President MANILA PRIME LAND HOLDINGS, INC., requesting for the annotation of the change in name of Legacy Ventures Realty and Dev. Inc. to Manila Prime Land Holdings Inc., copy of Amended Articles of Incorporation hereto attached. Date of instrument-Sept. 01, 2009 Date of inscription-Sept. 02, 2009 9:00 a.m.

ARNOLD A. BAUTISTA
Dep. Reg. of Deeds

(Memorandum of Encumbrances continued on Page -B)
(Technical Description continued on Additional Sheet Page -)

Register of Deeds

RDO NO. 52

PARAÑAQUE CITY

BARANGAY: DONGALO

Effectivity 1 14-Apr-08 4-08 16-08 14-Apr-98 39-96 11-95 22-93 53-96 1-89 95-87
 D.O.# 14-Apr-08 4-08 16-08 14-Apr-98 20-Jun-96 14-Oct-95 30-May-93 18-Nov-90 19-Mar-89 01-Oct-87

STREET/SUBDIVISION	CLASSIFICATION	VALUATION	7TH REV. ZV/SQ.M.	8TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
189 6TH STREET (ALLEY)	RR	4,500.00	4,500.00	4,000.00	1,750.00	1,650.00	1,200.00	800.00	400.00	400.00
A. DE GUZMAN ST (S)	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	800.00	400.00	400.00
A. MERRI ST	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	800.00	400.00	400.00
AGUINALDO HT-WAY	CR	40,000.00	40,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	900.00	500.00
BUENSUCESO ST	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
D CAMPO ST (ALLEY)	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
DR J GABRIEL	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
F. BALAITAS	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
F. BALAITAS	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
GEN LUNA ST (ALLEY)	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
MA. DDMATIBANGAN ST	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
MALVAR ST	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
MARINA SUBDIVISION	CR	40,000.00	40,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
MAYUGA ST	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
BUY DON GALO	RR	40,000.00	40,000.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
MALABAY RECL-AREA	RR	25,000.00	25,000.00	35,000.00*	5,150.00	4,900.00	7,000.00	8,000.00	8,000.00	8,000.00
N MAYUGA ST (ALLEY)	RR	4,500.00	4,500.00	4,000.00	1,750.00	1,650.00	1,200.00	1,000.00	500.00	500.00
QUIRINO AVE	CR	30,000.00	30,000.00	25,000.00	8,300.00	7,950.00	6,200.00	5,000.00	1,400.00	1,400.00
REGALADO ST (ALLEY)	RR	25,000.00	25,000.00	10,000.00	6,000.00	5,750.00	4,500.00	3,500.00	800.00	800.00
SIX MONICA	RR	4,500.00	4,500.00	4,000.00	1,750.00	1,650.00	1,200.00	800.00	400.00	400.00
WATAWAT ST (ALLEY)	RR	5,000.00	5,000.00	4,000.00	1,750.00	1,650.00	1,200.00	800.00	400.00	400.00
ALL OTHER STREETS	CR	7,500.00	7,500.00	6,000.00	2,100.00	2,000.00	1,500.00	1,000.00	500.00	500.00
	RR	4,500.00	4,500.00	4,000.00	1,750.00	1,650.00	1,200.00	800.00	400.00	400.00
	GP	3,500.00	3,500.00	3,000.00	1,050.00	1,000.00	500.00	550.00	275.00	275.00

NOTE : * Valuation is excessive. It was agreed during the STCRPV meeting that ZV is 25,000.00 for Marina reclaimed areas located at Bgy. Dongalo and Tambo

CERTIFIED TRUE COPY

REGINA G. DELA CRUZ
 ASSISTANT CLERK OFFICER
 TIN: 134 05/5-527

LOT DESCRIPTIONS

Jan. 14
Plotted
Jan. 17

Survey No. PSD-13-01469 Case No. _____ Mun. of PARANAQUE Prov. of METRO MANILA

Lot No.	BEARINGS AND DISTANCES						Area In Sq. Meters	
	Claimant	Mon. to Corner 1	Line 1-2	Line 2-3	Line 3-4	Line 4-5		Line 5-6
1	<i>Handwritten</i>	S.23°06'W, 4147.74M.	N.73°50'E, 9.00M.	S.01°10'E, 89.39M.	S.16°10'E, 9.00M.	S.28°50'W, 824.32M.	S.75°31'W, 9.00M.	20,932
2		S.21°56'W, 9387.09M.	N.19°54'W, 84.93M.	N.28°50'E, 9.00M.	N.73°50'E, 220.03M.	S.01°10'E, 9.00M.	S.16°10'E, 89.39M.	
		S.28°50'W, 228.32M.	S.01°13'W, 9.00M.	N.70°29'W, 3.16M.	N.68°59'W, 3.97M.	N.65°53'W, 3.96M.		20,858
3		S.20°06'W, 4175.44M.	N.73°50'E, 9.00M.	S.01°10'E, 89.39M.	S.16°10'E, 9.00M.	S.28°50'W, 808.22M.	S.08°07'W, 9.00M.	
			N.72°42'W, 53.03M.	N.70°29'W, 32.82M.	N.20°47'W, 9.00M.	N.28°50'E, 219.01M.		19,562
4		S.13°33'W, 4194.93M.	N.73°50'E, 9.00M.	S.01°10'E, 89.39M.	S.16°10'E, 9.00M.	S.28°50'W, 179.76M.	S.07°48'W, 9.00M.	
			N.72°42'W, 86.14M.	N.21°53'W, 9.00M.	N.28°50'E, 197.55M.			17,477
5		S.15°47'W, 4233.57M.	S.16°10'E, 9.00M.	S.28°50'W, 155.27M.	S.07°48'W, 9.00M.	N.72°42'W, 30.39M.	N.21°53'W, 9.00M.	
			N.28°50'E, 175.11M.	N.73°50'E, 9.00M.	S.01°10'E, 89.39M.			17,079
6		S.18°27'W, 4172.98M.	N.10°10'W, 9.00M.	N.28°50'E, 89.93M.	N.73°50'E, 9.00M.	S.01°33'E, 318.93M.	S.17°37'E, 9.00M.	
			S.26°27'W, 96.65M.	S.72°39'W, 9.00M.	N.01°10'W, 322.63M.			32,083
7		S.15°29'W, 4291.59M.	N.73°50'E, 9.00M.	S.01°10'E, 33.87M.	S.17°45'E, 9.00M.	S.26°27'W, 129.92M.	S.06°27'W, 9.00M.	
			N.72°42'W, 101.23M.	N.21°42'W, 9.00M.	N.28°50'E, 150.60M.			19,800
8	<i>Handwritten</i>	S.23°26'W, 4309.94M.	S.58°23'E, 147.60M.	S.59°52'E, 11.27M.	S.02°52'E, 11.27M.	S.05°55'E, 11.27M.	S.08°59'E, 11.28M.	30,791
			S.70°09'E, 68.96M.	S.72°42'E, 910.30M.	S.23°18'E, 9.00M.	S.26°27'W, 53.65M.	N.72°42'W, 174.51M.	
			N.72°42'W, 208.86M.	N.03°44'W, 72.03M.	N.03°44'W, 71.77M.	N.58°23'W, 159.96M.	N.28°50'E, 53.25M.	
9 (EASEMENT)		S.17°43'W, 4470.67M.	S.26°28'W, 12.14M.	N.78°41'W, 22.07M.	N.72°42'W, 68.88M.	N.72°42'W, 12.32M.	N.72°42'W, 69.30M.	
			N.72°42'W, 209.18M.	N.03°43'W, 63.33M.	N.03°43'W, 3.62M.	N.03°44'W, 0.07M.	N.03°44'W, 67.52M.	
			N.03°44'W, 5.04M.	N.58°23'W, 44.97M.	N.58°23'W, 114.96M.	N.28°51'E, 12.00M.	S.58°23'E, 153.66M.	

CERTIFIED CORRECT: Note: All corners are from B.L.M. 11, SWD-41765

October 24, 1989. Copied by _____ 19____. Surveyed Sept. 9-10, 1989
 Checked by _____ 19____. by Rodolfo E. Topacio
 Chief, Surveys Division, Region Checked by _____ 19____. Geodetic Engineer

By: Ernesto S. Erive ASST. CHIEF, SURVEYS DIVISION & CONC. CHIEF, ORIG. & ISOLATED SURVEY SEC. October 30, 1989. Sheet No. 1 of 3 sheets
 Printed by PRUDENCE MERCHANDISING, INC. 228 San Vicente, Alabang, Manila

LOT DESCRIPTIONS

Survey No. Pad-13-011469 Case No. Mun. of PARANAQUE Prov. of METRO MANILA

Lot No.	BEARINGS AND DISTANCES						Area In Sq. Meters	
	Claimant	Mon. to Corner 1	Line 1-2	Line 2-3	Line 3-4	Line 4-5		Line 5-6
3			S 63°49'E 71.77 M.	S 63°49'E 72.03 M.	S 72°42'E 203.86 M.	S 72°42'E 179.51 M.	8,180	
ROAD LOTS								
1		S 21°56'W 4387.09 M.	N 58°23'W 25.70 M.	N 75°31'E 9.00 M.	N 28°50'E 229.32 M.	N 16°10'W 9.00 M.	S 61°10'E 25.68 M.	9,620
2		S 20°09'W 4175.99 M.	S 28°50'W 219.61 M.	S 20°47'E 9.00 M.	N 70°23'W 25.98 M.	N 61°13'E 9.00 M.	N 28°50'E 223.32 M.	9,561
3		S 18°33'W 4129.93 M.	S 28°50'W 107.65 M.	S 21°53'E 9.00 M.	N 72°42'W 31.20 M.	N 68°07'E 9.00 M.	N 28°50'E 203.22 M.	5,160
4		S 17°22'W 4208.09 M.	S 61°10'E 25.66 M.	S 73°50'W 9.00 M.	S 28°50'W 175.11 M.	S 21°53'E 9.00 M.	N 72°42'W 26.12 M.	3,679
5		S 17°22'W 4208.09 M.	N 61°10'W 29.34 M.	N 61°10'W 2.83 M.	N 28°50'E 22.63 M.	S 16°10'E 39.00 M.	S 61°10'E 322.63 M.	6,588
6		S 15°27'W 4233.67 M.	S 61°10'E 25.66 M.	S 73°50'W 9.00 M.	S 28°50'W 150.60 M.	S 21°42'E 9.00 M.	N 72°42'W 26.13 M.	3,180
7		S 23°20'W 4339.94 M.	N 28°50'E 27.78 M.	S 19°57'E 9.00 M.	S 58°23'E 89.93 M.	S 58°23'E 25.70 M.	S 58°23'E 35.02 M.	
			S 58°51'E 9.96 M.	S 62°57'E 9.06 M.	S 65°53'E 9.96 M.	S 68°59'E 9.97 M.	S 70°29'E 9.16 M.	
			S 70°23'E 25.08 M.	S 70°29'E 32.82 M.	S 72°42'E 53.09 M.	S 72°42'E 31.26 M.	S 72°42'E 86.17 M.	
			S 72°42'E 26.12 M.	S 72°42'E 36.34 M.	S 72°42'E 26.13 M.	S 72°42'E 101.23 M.	N 66°27'W 9.06 M.	
			S 26°27'W 31.95 M.	N 23°18'W 9.00 M.	N 72°42'W 916.30 M.	N 70°27'W 68.96 M.	N 68°57'W 11.28 M.	

CERTIFIED CORRECT: Note: All Tie Lines are from B.L.M. 11, SWO-91755

October 24, 1989 Copied by 19..... Surveyed Sept 9-10, 1988
 Checked by 19..... by RODOLFO B. TOPACIO
 Geodetic Engineer
 ISIDORO E. MUNDO, JR.
 Chief, Surveys Division, Region Checked by 19.....
 By: ERNESTO S. ERIVE Certified by Al. Quinto October 30, 1989. Sheet No. 2 of 3 sheet
 Asst. Chief, Surveys Division & Conc. Chief, Orig. & Isolated Survey, etc.
 Printed by PRUDENCE MERCHANDISING, INC.
 228 San Vicente, Bonocdo, Manila

No. 3086689

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
Land Registration Authority
QUEZON CITY
PASAYANQUE, METRO-MANILA

LTEP
9
SCANNED BY

REGISTRY OF DEEDS FOR THE

Transfer Certificate of Title

No. - 80241 -

IT IS HEREBY CERTIFIED that certain land situated in the Municipality of Pasayaque, Metro Manila, Philippines bounded and described as follows:

A parcel of land (Lot 1, of the subdiv. plan sub-15-014225, being a portion of PWD-120912, LRC Dec. No. 3-4500) situated in Argy (Don Galo) Ubayo, Man, of Pasayaque, Metro Manila, Is. of Luzon, bounded on the SW & NW, along lines 1-2-3 by Maruague River (20-40 m.w.) on the NE, along line 3-4 by Maximiliano Rodriguez, and on the SE, along line 4-1 by Lot 2, of the subdiv. plan. Beginning at a point marked "10" on plan being S. 67 deg. 22'E., 281.82 m. from B.M. No. 1, Pasayaque thence N. 54 deg. 11'W., 89.56 m. to point 2; S. 55 deg. 29'W., 150.91 m. to point 3; S. 74 deg. 11'E., 75.45 m. to point 4; S. 16 deg. 19'W., 41.27 m. to point of beginning, containing an area of TWO THOUSAND ONE HUNDRED 5 registered in accordance with the provisions of the Property Registration Decree in the name of LINDA E. CORREJO, married to Armando Cornejo, both of legal age, Filipina

is owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of said Decree as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 6th day of Sept. in the year nineteen hundred and 54 in the Registration Book of the Office of the Register of Deeds of Rizal Volume 5-44 page 111 as Original Certificate of Title No. 777 pursuant to Decree No. 161225 issued in L. R. C. 401 Record No. 1-1508 in the name of This certificate is a transfer from Transfer Certificate of Title No. (242395) 63607 which is cancelled by virtue hereof in so far as the above-described land is concerned.

Entered at Pasayaque, Metro Manila Philippines on the 24th day of August in the year nineteen hundred and at 11:40 a.m.

ATTEST:

5809 St., de Guzman St., Dangala Pasayaque (Owner's postal address)

OPHELIA B. ABREG STA. MARTA (Register of Deeds)

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

Entry No. Cont. of 11
FOUR TWO (2,122) sq. METERS more or less. all points referred to are indicated on the plan and are marked on the ground by old 215 cyl. conc. mon. 15x60 mm; except cor. 4 by P3 cyl. conc. mon. 15x60 cm; bearings true, date of original survey, Oct. 11, 1955 that of the subd. survey, May 7, 1990 as survey by Engr. Ronnie S. Farnan, and approved on June 14, 1990.x-x-x-x

ROSITA ANTONETA MARIA
Surveyor of Deeds

(Memorandum of Encumbrances continued on Page-B)
(Technical Description continued on Additional Sheet Page-)

Register of Deeds



Republic of the Philippines
CITY OF PARAÑAQUE
 Metro Manila

Control No. **174388**

PROPERTY INDEX NO. 124-00-013-031-002-000
 04047373

TAX DECLARATION NO. E-013-04946
 RC

DECLARATION OF REAL PROPERTY

OWNER: BERNARDO CELESTINO C. MOGON C. FRANCISCA C. MAXIMO C. MARIA ROSARIO A. CORREJO LUNA R.		DESCRIPTION AND OTHER PARTICULARS OF PROPERTY									
ADDRESS: 3954 S. DE BUZMAN ST. DON BALDO PARAÑAQUE CITY		LOCATION OF PROPERTY: MULTINATIONAL DRIVE MANDALAY CITY									
ADMINISTRATOR:		CERTIFICATE OF TITLE NO.:									
ADDRESS:		BARANGAY: 3RD WING									
IMPORTANT: <i>Issued for taxation purposes and should not be considered as title to the property.</i>		LOT NO.:									
		ALK NO.:									
		BOUNDARIES:									
		NORTH: LOT MAXIMO V. BORTISQUEZ									
		SOUTH: PARAMARQUE RIVER									
		EAST: 13									
		WEST: 11									
LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL):		BUILDING AND OTHER IMPROVEMENTS:									
ASSESSOR'S FINDINGS		ASSESSOR'S FINDINGS									
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE	
IND	2,142.00	1,000		2,142,000			1ST STORY	2ND STORY	3RD STORY	ROOF	
MACHINERY											
ASSESSOR'S FINDINGS											
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE							
Certified True Copy											
KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSTY LEVEL	ASSESSED VALUE							
LAND	INDUSTRIAL	2,142,000	50	1,071,000							
OFFICE OF THE CITY ASSESSOR REGISTERED: 01/18/2008 CITY OF PARAÑAQUE				TOTAL ASSESSED VALUE : ONE MILLION SEVENTY-ONE THOUSAND PESOS ONLY							
				TOTAL ₱			1,071,000				
RECOMMENDING APPROVAL:						APPROVED:					
ORIGINAL SIGNED: JOSE MARLEO P. DEL ROSARIO <i>Asst. City Assessor</i>						ORIGINAL SIGNED: SOLEDAD E. SAMONTE <i>City Assessor</i>					
E-013-02914						ADD IN RECORDS DIV.					
THIS DECLARATION CANCELS TAX NOS. _____ (IS CANCELLED BY TAX NOS. _____) TAX UNDER THIS DECLARATION											
BEGINNING WITH THE YEAR 2009 CEASING WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 13 BY _____											
PREVIOUS OWNER: BERNARDO ET AL. CELESTINO C. PREVIOUS ASSESSED VALUE: LAND IMPROVEMENT _____											
CERTIFIED CORRECT:											
RECLASSIFICATION FROM RESIDENTIAL TO INDUSTRIAL, VALUE ADJUSTED AS PER ACTUAL LOCATION. CHECK IF PREVIOUS PAYMENTS PAID BY _____											
BEEN MADE PRIOR TO RE-CLASS. <small>This is a computer-generated form. Not valid if with erasure and without seal.</small>											

RDO NO. 52

PALANQUETE CITY

BARANGAY: STO NINO (IBAYO)

D.O # 4-08 16-96 39-96 111-95 22-93 53-90 1-89 85-87
 Effectivity 14-Apr-08 14-Apr-98 20-Jun-96 14-Oct-95 30-May-93 18-Mar-90 19-Mar-89 01-Oct-87

STREET/SUBDIVISION	VILLAGE	CLASSIFICATION	7TH REV. ZV/SQ.M.	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
1ST ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
2ND ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
3RD ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
4TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
5TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
6TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
7TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
8TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
9TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
10TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
11TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
12TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
13TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
14TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
15TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
17TH ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
18TH - 21ST ST	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
ALLEY JTD 6	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
AIRPORT VIEW SUBD	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
S. AQUINO AVE	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
NEVADA	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
BERNARDO COMPOUND	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
SULLI	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
DAVILA	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00
BALTAO SUBD	COL. DE LEON	RR	5,000.00	2,500.00	1,300.00	1,300.00	800.00	500.00	300.00	300.00

CERTIFIED TRUE COPY

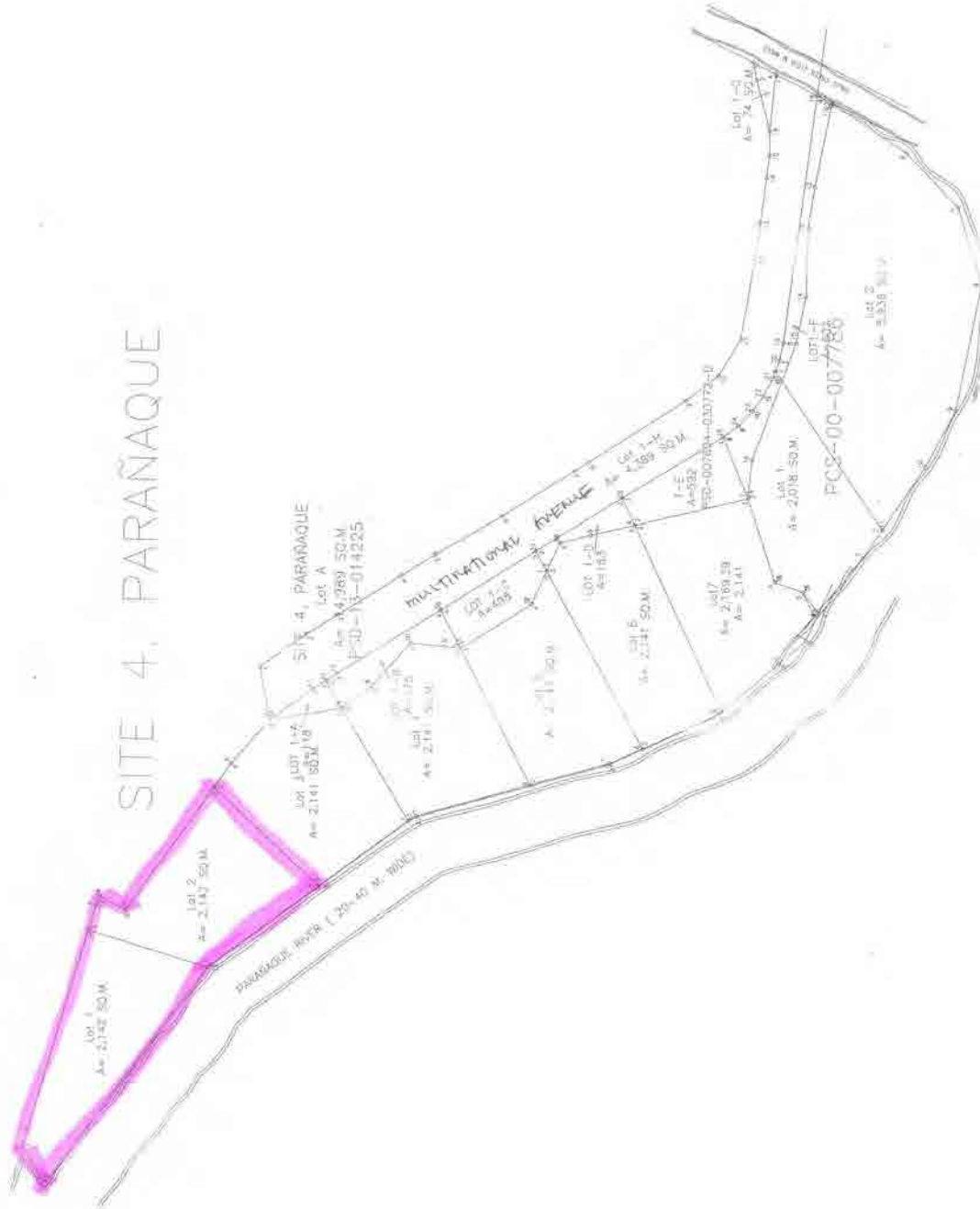
REGINA C. DELA CRUZ
 ASST. REV. DISTRICT OFFICER
 TIN: 134-065-523

RDO NO. 52 PARANAQUE CITY


BARANGAY: STO NINO (IBAYO) (Cont.)

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	4-08		16-98		39-96		111-95		53-90		1-89		85-87	
			7TH REV. ZV/SQ.M.	14-Apr-08 Effectivity I	6TH REV. ZV/SQ.M.	16-Apr-98	3TH REV. ZV/SQ.M.	20-Jun-96	4TH REV. ZV/SQ.M.	14-Oct-65	3RD REV. ZV/SQ.M.	30-May-93	2ND REV. ZV/SQ.M.	18-Nov-90	1ST REV. ZV/SQ.M.	15-Mar-89
CRUZ COMPOUND		RR	5,000.00		2,000.00	1,050.00	1,000.00									
COL. E DE LEON (DAMAYAN)	ISARDG	RR	5,000.00		3,500.00	1,750.00	1,200.00									
DANILA		RR	5,000.00		2,500.00	1,300.00	1,200.00									
DANDAN ST	DE LEON	RR	5,000.00		2,000.00	1,050.00	7,450.00									
E DE LEON ST		RR	5,000.00		2,500.00	1,300.00	800.00									
E RODRIGUEZ AVENUE	COL. E DE LEON	RR	5,000.00		2,500.00	1,300.00	800.00									
GREEN TOWERS		RR	5,000.00		3,500.00	1,250.00	1,200.00									
N. AQUINO AVE (MELDA AVENUE)	4TH ST.	CR	37,500.00		35,000.00	7,800.00	2,550.00									

SITE 4, PARAÑAQUE



PS-2

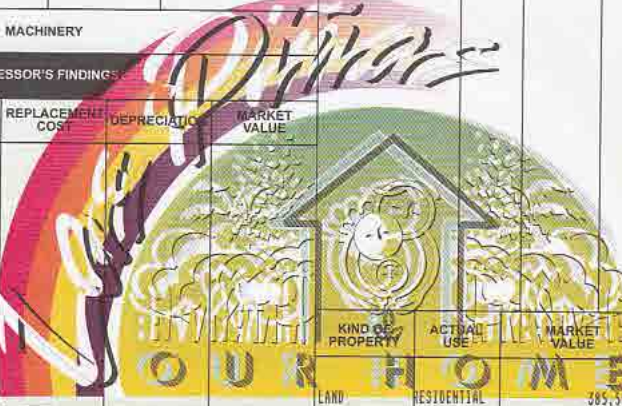


Republic of the Philippines
CITY OF LAS PINAS

CONTROL NO. **03415** 13
TAX DECLARATION NO. **E-014-17119**

123056 INDEX NO. 00-026-0000

DECLARATION OF REAL PROPERTY

OWNER: 0000667 ADDRESS: RP GUARDIANS SECURITY AGENCY INC. ADMINISTRATOR: 3RD FLOOR PILAR BLDG. 148 AMORSOLO ST., LEGASPI VILL., MAKATI ADDRESS:		DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY: BF RESORT VILLAGE CAGAYAN, POS CERTIFICATE OF TITLE NO.: T-70700 SURVEY NO.: TALON 005 BLK NO.: 18 PCS-13-000175 BOUNDARIES: NORTH: EAST: LOT 17 WEST: SW-ROAD LOT 14 SOUTH: LOT 19								
LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL)				BUILDING AND OTHER IMPROVEMENTS						
ASSESSOR'S FINDINGS				ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE
RESI	257.00	1,500		385,500			1ST STORY	2ND STORY	3RD STORY	FLOOR
MACHINERY										
ASSESSOR'S FINDINGS										
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE						
					KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE	
					LAND	RESIDENTIAL	385,500	20	77,100	
Certified True Copy								TOTAL ASSESSED		
OFFICE OF THE CITY ASSESSOR								SEVENTY-SEVEN THOUSAND ONE HUNDRED PESOS ONLY		TOTAL
REGISTERED: 11/15/2002										77,100
CITY OF LAS PINAS										
RECOMMENDING APPROVAL: ADELINA R. BERNARDO TIC-RECORDS SECTION CHIEF					APPROVED: ROMULO C. GERVACIO City Assessor					
ENGR. RAMON S. SAN PEDRO Asst. City Assessor										

THIS DECLARATION CANCELS TAX NOS. 0-014-26339 IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR 2003 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19____ BY _____

PREVIOUS OWNER RP GUARDIANS SECURITY AGENCY INC. PREVIOUS ASSESSED VALUE: LAND 41,120 IMPROVEMENT _____

REMARKS: GENERAL REVISION OF REAL PROPERTY PURSUANT TO SEC. 219 OF R.A. 7160, IMPLEMENTED UNDER CITY ORDINANCE NO. 563-02 DATED SEPTEMBER 18, 2002

Received by: _____
Date: 0078-2/21/2011 11:34:02AM

RPA Form No. 1

AP-581

125-00-017-039-002-0000
 PROPERTY INDEX NO.:
 94043584



Republic of the Philippines
 CITY OF LAS PIÑAS

CONTROL NO. **23342**
 TAX DECLARATION NO. E-017-08755
 GR

DECLARATION OF REAL PROPERTY

OWNER : ARCHIPELAGO REALTY CORP. ADDRESS : 3RD FLOR, ECJ BUILDING REAL ST. INTRAURUGOS, M.L.A. ADMINISTRATOR : ADDRESS :	DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY : HOONWALK VILL. CERTIFICATE OF TITLE NO. : S-108472 LOT NO. : 10 BLK NO. : 43 BOUNDARIES : NORTH : PROP OF HRS OF NARCI EAST : LOT 11 SOUTH : RD. LOT 38 WEST : LOT 9 BARANGAY : TALON CINCO SURVEY NO. : PCS-14212
---	---

IMPORTANT : Issued for taxation purposes and should not be considered as title to the property.

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL)	BUILDING AND OTHER IMPROVEMENTS
---	---------------------------------

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL				MARKET VALUE
							1ST STORY	2ND STORY	3RD STORY	FLOOR	
RESI.	188.00	1,300		234,000							

MACHINERY

ASSESSOR'S FINDINGS				
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE

DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE	KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE
					LAND	RESIDENTIAL	234,000	20	46,800
TOTAL ASSESSED								TOTAL	46,800
FORTY-SIX THOUSAND EIGHT HUNDRED PESOS ONLY									

Certified True Copy
 OFFICE OF THE CITY ASSESSOR
 REGISTERED: 11/15/2002
 CITY OF LAS PIÑAS

RECOMMENDING APPROVAL : ENGR. RAMON S. SAN PEDRO <i>Ast. City Assessor</i> 0-017-12501	APPROVED : ROMULO C. GERVACIO <i>City Assessor</i>
--	---

THIS DECLARATION CANCELLED BY TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR _____ WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____

PREVIOUS OWNER REVISION OF REAL PROPERTY PURSUANT TO SEC. 475 OF RA 4766 IMPLEMENTED UNDER CITY ORDINANCE NO. 543-02 IMPROVEMENT _____

REMARKS: DATED SEPTEMBER 18, 2002

Received by: _____ /0013-12/21/2010 2:03:15PM
 Date: _____

RDO NO. 53 LAS PINAS-MUNTINLUPA
 MUNICIPALITY: LAS PINAS
 BARANGAY: TALON SINGKO

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	DO No. Effect.date							INITIAL ZV/SQ.M.
			10-97 2-May-97	25-95 9-May-96	114-95 15-Oct-95	22-93 30-May-93	53-90 18-Nov-90	1-89 10-Mar-89	85-87 1-Oct-87	
C LEONCIA SUBD	MIKSELL SUBD	RR	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00	
DEL NOR SUBD	MIKSELL SUBD	RR	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00	
GOLDEN ACRES SUBD	MOONWALK SUBD	RR	2,400.00	2,000.00	1,450.00	800.00	600.00	300.00	300.00	
GREENVALLEY	MIKSELL SUBD	RR	2,600.00	2,000.00	1,450.00	800.00	600.00	300.00	300.00	
HERMANDEZ CPD	MAPULA DOCTORS VILL	RR	2,600.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00	
METROCOR	MOONWALK	RR	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00	
MIKSELL SUBD	DEL NOR SUBD	RR	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00	
MOONWALK SUBD	BFRAMES P-IV	RR	2,500.00	2,100.00	1,550.00	900.00	800.00	400.00	400.00	
RAINBOW VILL	GOLDEN ACRES	RR	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00	
SOLDIERS HILLS	RAINBOW VILL	RR	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00	
ST SCHOLASTICA	MIKSELL SUBD	RR	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00	
VAA - TH MARCOS ALVAREZ	MANILA SUBD.	RR	2,100.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00	
VILLA LUNINGNING	MANILA SUBD.	RR	2,500.00	2,100.00	1,550.00	1,000.00	900.00	450.00	450.00	
ALL OTHER STREETS	NEAR DONA LEONCIA	RR	2,400.00	2,000.00	1,450.00	800.00	500.00	250.00	250.00	
		CR	3,800.00	3,200.00	2,500.00	1,500.00	1,500.00			
		GP	2,400.00	1,500.00	1,400.00	500.00	500.00			

Alfred S. Bay
 FIELD ENGINEERING
 REGISTERED ELECTRICAL ENGINEER
 No. 14332-E

CERTIFIED TRUE COPY

08759239



Republic of the Philippines
CITY OF LAS PIÑAS

CONTROL NO. **03411**

PROPERTY INDEX NO.:
125-00-014-100-009-0000

TAX DECLARATION NO. **13**

DECLARATION OF REAL PROPERTY

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE	
							1ST STORY	2ND STORY	3RD STORY	FLOOR	
RESTI	349.00	1,500		523,500							
MACHINERY											
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE	KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASMT LEVEL	ASSESSED VALUE		
					RESIDENTIAL		523,500	20	104,700		
TOTAL ASSESSED									TOTAL	104,700	

Certified True Copy

OFFICE OF THE CITY ASSESSOR
REGISTERED: 11/23/2006
CITY OF LAS PIÑAS
RECOMMENDING APPROVAL: **ENGR. RAMON S. SAN PEDRO**
Asst. City Assessor

ADELANA R. BERNARDO
DIE-RECORDS SECTION CHIEF

APPROVED: **ROMULO C. GERVACIO**
City Assessor

ONE HUNDRED FOUR THOUSAND SEVEN HUNDRED PESOS ONLY

REMARKS: RP GUARDIAMS SECURITY AGENCY INC.
TRANSFER OF OWNERSHIP PAID FULL 2006 OR# 9117384 10/24/05 W/A#04495

Received by: _____
Date: _____

RDO NO. 53 LAS PINAS-MUNTINLUPA

MUNICIPALITY: LAS PINAS

BARANGAY: PULANGLUPA DOS

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	DO No. Effect.date	10-97 2-May-97 6TH REV. ZV/SQ.M.	26-96 9-May-96 5TH REV. ZV/SQ.M.	11-95 15-Oct-95 4th REV. ZV/SQ.M.	22-93 30-May-93 3rd REV. ZV/SQ.M.	53-90 18-Nov-90 2nd REV. ZV/SQ.M.	1-89 10-Mar-89 1st REV. ZV/SQ.M.	85-87 1-Oct-87 INITIAL ZV/SQ.M.
AIRMENS VILLAGE	MARTIN VILLE	RR		2,800.00	2,100.00	1,600.00	900.00	700.00	350.00	350.00
AZALEA HOMES	MAPAYAPA VILL	RR		2,600.00	1,875.00	1,450.00	800.00	600.00	300.00	300.00
BELISARIO	CASIMIRO VILL	RR		2,600.00	1,875.00	1,450.00	800.00	700.00	350.00	350.00
CAMELLA HOMES	ST JOSEPH SUBD	RR		2,500.00	2,100.00	1,500.00	800.00	700.00	350.00	350.00
CAMELLA II D V	ST JOSEPH SUBD	RR		4,650.00	3,275.00	3,150.00	2,000.00	1,000.00	500.00	500.00
CAMELLA VGV	VERGONVILLE	RR		2,900.00	2,400.00	1,850.00	1,100.00	1,000.00	500.00	500.00
LAS PINAS ROYALE	CITADELLA	RR		5,100.00	4,225.00	3,450.00	1,100.00	1,000.00	500.00	500.00
COUNTRY HOMES	MAPAYAPA	RR		3,000.00	2,425.00	1,850.00	1,100.00	1,000.00	500.00	500.00
DONA ISABELITA SUBD	ST JOSEPH SUBD	RR		2,300.00	1,750.00	1,350.00	800.00	700.00	350.00	350.00
DBP SUBD	LOZADA CPD	RR		2,550.00	1,750.00	1,350.00	800.00	700.00	350.00	350.00
DONA JULIETA	MAPAYAPA VILL	RR								
DONA PAZ SUBD.	ST JOSEPH SUBD	RR								
GUINTO SUBD	ST JOSEPH SUBD	RR								
JULIO CPD	MAPAYAPA VILL	RR								
LOZADA CPD	DBP SUBD	RR								
MICHE LABOR UNION VILL		RR								
MAPAYAPA VILL	TRAMO NAGA ROAD	RR		2,300.00	1,750.00	1,350.00	1,000.00	700.00	350.00	350.00
MARTINVILLE	AIRMENS VILL	RR		2,400.00	1,900.00	1,450.00	900.00	800.00	400.00	400.00
MOUNT CREST SUBD	ST JOSEPH SUBD	RR		2,300.00	1,750.00	1,350.00	800.00	700.00	350.00	350.00
SAN ANTONIO V 7	MARTINVILLE	RR		2,300.00	1,750.00	1,350.00	800.00	700.00	350.00	350.00
ST JOSEPH PARK	GUINTO SUBD	RR		2,300.00	1,750.00	1,250.00	800.00	700.00	350.00	350.00
VAA PHASE III	MAPAYAPA VILL	RR		2,300.00	1,750.00	1,250.00	800.00	700.00	350.00	350.00
VERGONVILLE	GREENVIEW SUBD	RR		2,800.00	2,250.00	1,700.00	1,000.00	900.00	430.00	430.00
CITADELLA		RR		2,500.00	2,000.00	1,500.00	800.00	700.00	350.00	350.00
ALL OTHER STREETS		CR		4,500.00	3,000.00					
				2,300.00	1,750.00					
				3,500.00	3,000.00					

Carla L. B...
NELSON L. BOONALING
 AL. ASST. REVENUE COLLECTOR

CEMENTED COPY



No. 3051403

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE

Land Registration Authority
QUEZON CITY

LAS PINAS METRO MANILA

REGISTRY OF DEEDS FOR THE

Transfer Certificate of Title

No. T-39110

IT IS HEREBY CERTIFIED that certain land situated in the Municipality of Las Pinas,
bounded and described as follows:
A PORTION OF LAND (Lot 3-A of the subdiv. plan 100-007501-023, 54-3, being a
portion of Lot 3, sub-13-013223, L.R.C. Rec. No. R-4, 707), situated in Bgy.
of Pampang (Pangaya), B. Informations, Mun. of Las Pinas, Metro Manila, Island of
Luzon. Bounded on the NW., along line 1-2 by Nicolas Santos; on the SE., along
line 2-3 by Arcadio Santos; on the SW., along lines 3-5 by Romulo de Leon
before Tomas T. Aquino (now); on the NE., along lines 5-7 by Lot 2, sub-13-013223,
Tropical Ave., and on the NW., along line 17-1 by Lot 3-A of the
subdiv. plan, beginning at a pt. marked "1" on plan, being 8.85 m. x 0.3 m., 4494
66 sq. m. From TRM No. 1, Pampang, Las Pinas, thence N. 37 deg. 30 min. 56.48 s. E.

is registered in accordance with the provisions of the Property Registration Decree in the name of
HOME INSURANCE AND GUARANTY CORPORATION, a government owned and controlled
corporation, duly organized and existing by virtue of Rep. Act No. 580
as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of
said Decree as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 26th day
of October, in the year nineteen hundred and seventy, in the
Registration Book of the Office of the Register of Deeds of Las Pinas, Volume 2-1
page 167572, as Original Certificate of Title No. T-35511/150, pursuant to Decree No. 167572
issued in L. R. C. Record No. R-167572, in the name of
This certificate is a transfer from Certificate of Title No. T-35511/150, which
is cancelled by virtue hereof in so far as the above-described land is concerned.

Entered at Las Pinas, Metro Manila
Philippines, on the 21st day of August
in the year nineteen hundred and twenty-two,
at 11:00 a.m.

ATTEST:

Morning Star Bldg. 347 Gen. Mil. J. Puyat
Ave., Manila, Metro Manila
(Owner's postal address)

[Signature]
ALBERTO S. VILLARAYA
(Register of Deeds)

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the
registered owner. If the owner is a married woman, state also the citizenship of her husband. If the
land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

EXHIBIT

AUG 25 2004

T-39110

-P2

196
110

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

Entry No.
 to point 2; S. 53 deg. 30' W., 97.36 m. to pt. 3; S. 37 deg. 00' E., 69.94 m. to point 4; S. 39 deg. 49' W., 82.98 m. to point 5; S. 31 deg. 35' W., 7.49 m. to point 6; N. 31 deg. 52' W., 8.07 m. to pt. 7; S. 32 deg. 39' W., 5.19 m. to pt. 8; N. 34 deg. 59' W., 9.07 m. to pt. 9; N. 35 deg. 29' W., 8.85 m. to pt. 10; N. 36 deg. 17' W., 8.98 m. to pt. 11; N. 36 deg. 58' W., 8.71 m. to pt. 12; N. 38 deg. 11' W., 8.71 m. to pt. 13; N. 39 deg. 03' W., 9.27 m. to pt. 14; N. 39 deg. 28' W., 9.17 m. to pt. 15; N. 39 deg. 45' W., 9.28 m. to pt. 16; N. 40 deg. 42' W., 1.77 m. to point 17; S. 37 deg. 50' E., 66.50 m. to the pt. of beginning containing an area of **THIRTEEN THOUSAND SEVEN HUNDRED FORTYFOUR (13,314.00) SQ. METERS**, more or less, all pts. referred to are indicated on the plan and are marked on the ground by T.S. & Old In. Cyl. Cons. Rems. 15 x 60 mm. bearings true, date of original survey, May 17, 1950-Nov. 24, 1959 (T-170052), and that of the subd. survey July 31, 1992. Approved on April 5, 1993.

[Signature]
 ALFONSO S. VILLANUEVA
 Register of Deeds

Entry No. 9125-10- NOTICE OF LIS PENDENS. In favor of SP HOMES INSURANCE CO. EDUARDO S. SOLER (Intervenor-Petitioner)- notice is hereby given that the ownership, interest and participation of the defendants covering the parcel of land described herein is subject to lis pendens in the SAC Case No. 2693 entitled SP HOMES INC. HEWANY A. RODRIGUEZ v. SP HOMES INC and FLORENCIO B. GRENDAIN, Rehabilitation Receiver, HOMES INSURANCE & GUARANTY CORP. LEGAL SUPERIOR OF THE FINANCIAL SISTERS OF THE IMMACULATE PHILIPPINES INC. and FINE PROPERTY INC., filed by CRISPIN L. REYES, Counsel for Derivative Suits of Securities and Exchange Commission. Copy on file in this Registry. Date of Instrument- May 18, 1994 Date of inscription- May 27, 1994 at 9:45 a.m.

[Signature]
 ALFONSO S. VILLANUEVA
 Register of Deeds

Entry No. 4606-13: NOTICE OF LIS PENDENS filed by ANNA MIRABEL C. SANTIAGO, counsel for SP Homes, Inc. that a case has been commenced and filed under Civil Case No. 96-76733 entitled SP Homes, Inc. versus Homes Insurance Guaranty Corporation, Florencio B. Grendain, John Does and Jane Does, defendants, in KIV -Manila, Branch XVII affecting this Certificate of title. Copy on file in this Registry. Date of the Instrument- January 30, 1996 Date of the inscription- March 13, 1996 at 4:30 p.m.

[Signature]
 EDUARDO C. CASTRO
 Acting Register of Deeds

(Memorandum of Encumbrances continued on Page-B)
 (Technical Description continued on Additional Sheet Page-)


.....
 Register of Deeds

(Continuation of the Memorandum of Encumbrances from Page — A)

ENTRY NO. 5000-27-CANCELLATION- of Notice of Lis Pendens under Entry No. 9125-10-~~12-12-05~~, by virtue of the Petition filed by CORAEN G. CORPUZ, affiant, Vice-President for Finance Group of Home Guaranty Corporation. Subscribed and sworn to before the Rotary Public for Makati City, Atty. Lamberto Tagayuna, under Doc. No. 11, Page No. 4, Book No. 11, Series of 2006. Copy on file in this registry.
Date of Instrument - July 23, 2006
Date of Inscription- Aug. 28, 2006 at 3:00 p.m.



CAROLINA R. RAMOS
Actg. Reg. of Deeds

ENTRY NO. 6027-27-OMNIBUS ORDER- dated November 7, 1994 executed by JUANITO B. ALFOSA, JR., YSOBEL S. YASAY-MURILLO AND MA. LOURDES S. ESTES, Hearing Officer, of Securities and Exchange Commission, under SEC. CASE NO. 2693, entitled "IN THE STATE OF THE PHILIPPINES For REHABILITATION AND FOR A DECLARATION IN A STATE OF SUSPENSION OF PAYMENTS UNDER SECTION 4, of D.O. NO. 1758, BY HOMER INDEPENDIDO, Petitioner," stating among other things:
"Accordingly and as a consequence of the denial of the Motion for leave the Cancellation of the Notice of Lis Pendens which covent-intervenor had caused to be annotated on the certificate of titles of BPHI maybe taken up with the appropriate Register of Deeds, who are the propartfore therefor".
Copy on file with this Registry. And with WRIT OF JUDGMENT under Entry No. 6028-27, dated Sept. 15, 2006 at 11:50 a.m.
Date of Instrument - Nov. 7, 1994
Date of Inscription- Sept. 15, 2006 at 11:50 a.m.


CAROLINA R. RAMOS
Actg. Reg. of Deeds

ENTRY NO. 6079-27-DECISION- issued by the SECURITIES AND EXCHANGE COMMISSION, Commission En Banc in SEC AD NO. 523 and SEC AB NO. 514, dated May 8, 1997, entitled "EDUARDO S. RODRIGUEZ, Appellant, versus, S.F. HOMES, INC., ET. AL., Appellees, and S.F. HOMES, INC., Petitioner, versus, H.O. JUANITO B. ALFOSA, JR., et.al., Respondents", for Appeal and Petition for Certiorary which arose from SEC Case No. 2693, the dispositive portion of which reads as follows:

"WHEREFORE, premises considered, the decision of the hearing panel denying the motion for intervention of Mr. Eduardo Rodriguez is hereby AFFIRMED.~~xxxx~~".
signed by Perfecto S. Yasay, Jr. Chairman, Fe Eloisa C. Gloria, Edifer A. Martinez, Rosalina Casiguran and Danilo L. Concepcion, all Associate Commissioners.
Copy on file in this registry.
Date of Instrument - May 8, 1997
Date of Inscription- Sept. 15, 2006 at 4:20 p.m.


CAROLINA R. RAMOS
Actg. Reg. of Deeds

(Continued on Page -C)
Register of Deeds

No. 2871143

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
Land Registration Authority
QUEZON CITY

REGISTRY OF DEEDS FOR THE LAS PIÑAS METRO MANILA

Transfer Certificate of Title

No. T-37921

IT IS HEREBY CERTIFIED that certain land situated in the Municipality of Las Piñas, Metro Manila, Philippines, bounded and described as follows:
A parcel of land (Lot 1-B of the subd. plan (LRG) Ped-287455, approved as a non-subd. project, being a portion of Lot 1, Psu-160964, LRG Rec. No. N-14708) situated in the Bc. of Tungtong, Mun. of Las Piñas, Prov. of Metro Manila, Is. of Luzon. Bounded on the NE., pts. 3 to 7, by Lot 1-B of the subd. plan; on the SE., pts. 7 to 8 & 8 to 1, by National Road; on the SW., pts. 1 to 2, by Lot 1-C of the subd. plan; & on the NW., pts. 2 to 3 by property of Pablo Santos. Beginning at a pt. marked "1" on plan, being S. 75 deg. 38' E., 2598.01 m. from BLBM 1, Bc. of Pamplona, Las Piñas, Rizal; thence S. 72 deg. 45' W., 33.47 m. to pt. 2; thence N. 29 deg. 12' E., 50.29 m. to pt. 3; thence S. 69

is registered in accordance with the provisions of the Property Registration Decree in the name of ALFREDO PASCUAL, married to Lydia Martin M; JULIAN PASCUAL, married to Julita San Miguel M; NOLITO PASCUAL, married to Elvira Razo M; ESTELA PASCUAL, married to Conrado Malibol M, all of legal age, all Filipinos, (1/4 share each).
as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of said Decree as may be subsisting, and to the right of any other legal heirs or claims of any creditor of the deceased VICTORIANO PASCUAL should there be any within the period of two (2) yrs. as provided for by Sec. 4, Rule 74 of the Rules of Court.

IT IS FURTHER CERTIFIED that said land was originally registered on the 16th day of Dec. in the year nineteen hundred and fifty-nine in the Registration Book of the Office of the Register of Deeds of Rizal, Volume A-51, page 167, as Original Certificate of Title No. 2167, pursuant to Decree No. N-74480 issued in L.R.C. Case No. N-1786 and No. N-14708 in the name of Transfer Certificate of Title No. (20771) T-24585 which is cancelled by virtue hereof in so far as the above-described land is concerned.

VERIFIED BY:
12/27/93

Entered at Las Piñas, M.N., Philippines, on the 1st day of December in the year nineteen hundred and ninety-three, at 9:01 a. m.

ATTEST:

ANTONIO L. LEACHON III
Actg. Register of Deeds

Bacoar, Cavite
(Owner's postal address)

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

VERIFIED BY:
[Signature]
BYENTONED
AUG 24 2004

T-37921

- p.2

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MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

~~Entrance~~ deg. 32'E., 12.09 m. to pt. 4; thence S. 36 deg. 55'E., 2.16 m. to pt. 5; thence S. 58 deg. 30'E., 25.03 m. to pt. 6; thence S. 67 deg. 37'E., 2.94 m. to pt. 7; thence S. 42 deg. 24'W., 31.60 m. to pt. 8; thence S. 34 deg. 06'W., 21.99 m. to pt. of beginning; containing an area of TWO THOUSAND AND FORTY (2,040) SQUARE METERS, more or less. All pts. referred to are indicated on the plan & are marked on the ground by PS. cyl. conc. mons. 15 x 60 cm., bearings true; date of the original survey, Jan. 8, 1957, & that of the subd. survey, executed by Ricardo F. Reyes, Geod. Engr., on March 15, 1979.

A parcel of Land, (Lot 1-E (LRC) Psd-287455 of the subd. plan (LRC) Psd-287455, approved as a non-subd. project, being a portion of Lot 1, Psu-160964, LRC Rec. No. N-14708), situated in the Bo. of Tungtong, Mun. of Las Piñas, Prov. of Metro Manila, Is. of Luzon, bounded on the NE., E., pts. 1 to 5, by Lot 1-A of the subd. plan; on the SE., pts. 5 to 6, by National Road; on the SW., pts. 6 to 10, by Lot 1-B of the subd. plan; & on the NW., pts. 10 to 1, by property of Pablo Santero. Beginning at a pt. marked "1" on plan, being S. 77 deg. 10'E., 253.25 m. from BLM 1, Bo. of Pamplona, Las Piñas, Rizal; thence S. 65 deg. 16'E., 15.47 m. to pt. 2; thence N. 89 deg. 43'E., 2.02 m. to pt. 3; thence S. 57 deg. 49'E., 23.08 m. to pt. 4; thence S. 47 deg. 07'E., 4.03 m. to pt. 5; thence S. 42 deg. 24'W., 10.00 m. to pt. 6; thence N. 67 deg. 37'W., 2.94 m. to pt. 7; thence N. 58 deg. 30'W., 25.03 m. to pt. 8; thence N. 36 deg. 55'W., 2.16 m. to pt. 9; thence N. 29 deg. 12'E., 10.00 m. to the pt. of beginning; containing an area of FOUR HUNDRED & FIFTY FOUR (454) SQ. METERS, more or less. All pts. referred to are indicated on the plan & are marked on the ground by PS. cyl. conc. mons. 15x60 cm., bearings true; date of the original survey, Jan. 8, 1957, & that of the original survey, executed by Ricardo R. Reyes, Geodetic Engr., on March 15, 1979.

x x x x x x x x x x

ANTONIO L. LEACHON III
Actg. Register of Deeds

ENTRY NO. 2381- 10 - R E Q U E S T - A request by the registered owners of this certificate of title, stating that Lot 1-E be issued another title, executed by Emiliano M. Ocampo, and in lieu hereof TCT No. T-38112 is issued. Date of instrument - Dec. 13, 1993 Date of inscription- Dec. 21, 1993 at 1:22 p.m.

ANTONIO L. LEACHON III
Actg. Reg. of Deeds

MICROFILMED ON:

Date: _____
Page: _____
Sheet: _____

(Memorandum of Encumbrances continued on Page -B)
(Technical Description continued on Additional Sheet Page -)

Register of Deeds

No. 9172496

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
Land Registration Authority
QUEZON CITY

LAS PIÑAS CITY

REGISTRY OF DEEDS FOR THE

Transfer Certificate of Title

No. 2-116092

IT IS HEREBY CERTIFIED that certain land situated in the City of Las Piñas,
Metro Manila, Philippines, bounded and described as follows:
A parcel of land (Lot 1-B-2-A-1) of the subdiv. plan, P-3-00-074670 being a
portion of Lot 1-B-2-A, (LRC) Pat-281306, LRC Rec. No. 330, situated in Brgy.
of Talon Cuatro, City of Las Piñas, Metro Manila, Is. of Luzon, bounded on the
SW. along line 1-2 by Lot 1-B-2-A-2 of the subdiv. plan; on the NE. along line
2-1 by Lot 1-A, (LRC) Pat-247969 (Alvarez Avenue); on the NE. along line 3 to 8
by Lot 1-B-2-B, (LRC) Pat-281306; on the SE. along line 8-9 by Talon River; and
on the SW. along lines 9 to 11 by Pat-97886 (Reira of Marcio Mayara); along
line 11-12 by Antonio Bisan; and on the NW. along line 12-1 by Lot 1-B-2-A-2
of the subdiv. plan. Beginning at a pt. marked "1" on plan, being S. 51 deg. 34"
is registered in accordance with the provisions of the Property Registration Decree in the name of

INVERSIPTED HOLDINGS, INC., a corporation duly organized and existing under
and by virtue of the laws of the Philippines.
as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of
said Decree as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 4th day
of November in the year nineteen hundred and forty in the
Registration Book of the Office of the Register of Deeds of Las Piñas, Volume 1041
page 44, as Original Certificate of Title No. 34, pursuant to Decree No. 3739
issued in L.R.C. Record No. 224 in the name of
This certificate is a transfer from Francisco Certificate of Title No. 34-2/72 which
is cancelled by virtue hereof in so far as the above-described land is concerned.

Entered at Las Piñas City
Philippines, on the 29th day of August
in the year two thousand and eight
at 1:28 p.m.

ATTEST

MIMELARGO O. VILLENA
Register of Deeds

151 Narra St., Ayala Ave., Manila, Metro Manila
(Owner's postal address)

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

EXEMPTION (Cont. of T.D.)

E. 0661.45 m. from EDM No. 1, Pasigona, Lao Pina; thence N. 64 deg. 41'W., 38.07 m. to pt. 2; N. 25 deg. 20'E., 78.05 m. to pt. 3; S. 61 deg. 35'E., 81.07 m. to pt. 4; S. 58 deg. 52'E., 15.93 m. to pt. 5; S. 53 deg. 52'E., 15.93 m. to pt. 6; S. 50 deg. 52'E., 70.29 m. to pt. 7; S. 50 deg. 52'E., 5.13 m. to pt. 8; S. 22 deg. 38'W., 43.23 m. to pt. 9; N. 73 deg. 03'W., 1401 m. to pt. 10; N. 71 deg. 03'W., 101.33 m. to pt. 11; N. 88 deg. 41'W., 48.20 m. to pt. 12; N. 25 deg. 19'E., 23.04 m. to pt. of beginning, containing an area of THIRTEEN THOUSAND AND NINETY SQUARE DECIMITERS (13,000) more or less. All pts. referred to are indicated on plan and marked on the ground but Pt. 1, cont. comp. 15 x 40 cm. except pt. 3 to 11 by Old PS cvl. cont. comp. 15 x 60 cm. Bearings, true; date of original survey, April 13, 1922; that of the sub. survey, July 29, 2008, and approved on Aug. 8, 2008, ROFR: Lot 1427-A-1st 50760, Scale-500-1, Peter's Cad. Mapping.

EDM NO. 2064-7-NORONIA-In favor of BANK OF THE PHILIPPINE ISLANDS covering the parcel of land described in this cert. of title for the sum of SEVEN MILLION PESOS (P7,000,000.00) subject to the conditions stipulated in the contract of mortgage, executed before the Notary Public for Makati, Metro Manila, Atty. Ladislao Arago (Doc. No. 106; Page No. 023; Book No. III; Series of 1992). Copy on file in this registry.

Date of instrument-Jan. 30, 1992
Date of inscription-Jan. 31, 1992 at 10:40 a.m.

(SGN)ALEXANDRO S. VILLARDO
Register of Deeds

EDM NO. 2270-10-NORONIA-In favor of BANK OF THE PHILIPPINE ISLANDS, mortgage covering the parcel of land described herein in the amount of FIVE MILLION PYS (P5,000,000.00) subject to the conditions stipulated in the mortgage contract, acknowledged before the Not. Pub. for Makati, Atty. Emilio U. Cayasa, under Doc. No. 280; Page No. 07; Book No. III; S. of 1994. Copy on file in this registry.

Date of instrument-Mar. 31, 1994
Date of inscription-Mar. 11, 1994 at 11:21 p.m.

(SGN)ALEXANDRO S. VILLARDO
Register of Deeds

EDM NO. 2325-15-NORONIA-In favor of BANK OF THE PHILIPPINE ISLANDS the mortgage inscribed under entry No. 290-7 has been amended to read as follows from this cert. to secure the loan obligation of OLIVERIO M. JARA and JERONIMO M. JARA, in accordance with Doc. No. 157, and No. 21, Book No. III, Series of 2000 of Notary Public for Makati City, Atty. Emilio U. Indarior.

Date of instrument-Dec. 07, 2000
Date of inscription-Dec. 14, 2000 at 11:55 p.m.

(SGN)OLIVERIO M. JARA
Page 200 of Deeds

(Memorandum of Encumbrances continued on Page
(Technical Description continued on Additional Sheet Page)

EDM NO. 2325/23-NORONIA-In favor of BANK OF THE PHILIPPINE ISLANDS, mortgage covering the parcels of land described in this cert. of title, in the amount of SEVEN MILLION ONE HUNDRED THOUSAND PESOS (P7,100,000.00) subject to the conditions stipulated in the contract of mortgage, acknowledged before Notary Public for Makati City, Atty. Emilio U. Indarior, under Doc. No. 157, Page No. IV.

Date of instrument-Dec. 23, 2000
Date of inscription-Dec. 29, 2000 at 11:55 a.m.

(SGN)OLIVERIO M. JARA
Register of Deeds



Republic of the Philippines
CITY OF LAS PIÑAS

CONTROL NO. **23345**

125-00-017-000-02526-0000

PROPERTY INDEX NO.:

TAX DECLARATION NO. E-017-19841

98002039

DECLARATION OF REAL PROPERTY

SD

OWNER : DIVERSIFIED HOLDINGS INC.
ADDRESS : 131 HARRA ST. AYALA AVE. HUNTIKLUPA CITY
ADMINISTRATOR :
ADDRESS :

DESCRIPTION AND OTHER PARTICULARS OF PROPERTY

LOCATION OF PROPERTY : B. ALVAREZ AVE.
CERTIFICATE OF TITLE NO. : T-110087 BARANGAY : TALON CINGO
LOT NO. : 1-B-2-A-1 SURVEY NO. : PSD-00-074670
BLK NO. :
BOUNDARIES :
NORTH : NE-LOT 1-B-2-B SOUTH : SW-LOT 1-B-2-A-2, PSU-97886
EAST : SE-TALON RIVER WEST : NW-LOT 1-A

IMPORTANT : Issued for taxation purposes and should not be considered as title to the property.

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL)

BUILDING AND OTHER IMPROVEMENTS

ASSESSOR'S FINDINGS				ASSESSOR'S FINDINGS							
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL	MARKET VALUE			
							1ST STORY	2ND STORY	3RD STORY	FLOOR	
COMM C-3	13,090.00	2,000		26,180,000							



MACHINERY				
ASSESSOR'S FINDINGS				
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE
LAND	COMMERCIAL	26,180,000	50	13,090,000
TOTAL ASSESSED:			TOTAL	13,090,000
THIRTEEN MILLION NINETY THOUSAND PESOS ONLY				

Certified True Copy

OFFICE OF THE CITY ASSESSOR
REGISTERED: 10/13/2008
CITY OF LAS PIÑAS

ALFONSO V. PALLERA
L.A.O.U.J. e

RECOMMENDING APPROVAL :

APPROVED :

ENGR. RAMON S. SAN PEDRO
Asst. City Assessor

ROMULO C. GERVACIO
City Assessor

E-017-05304

THIS DECLARATION CANCELLED BY TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR _____ CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____ PREVIOUS CONVERSION / PAID FULL VALUE 2008 0022635444 R 00/21/2008 0022635444

REMARKS:

Received by : /0013-12/21/2010 2:04:37PM
Date :

RDO NO. 53 LAS PINAS-MUNTINLUPA

MUNICIPALITY: LAS PINAS

BARANGAY: TALON SINGKO

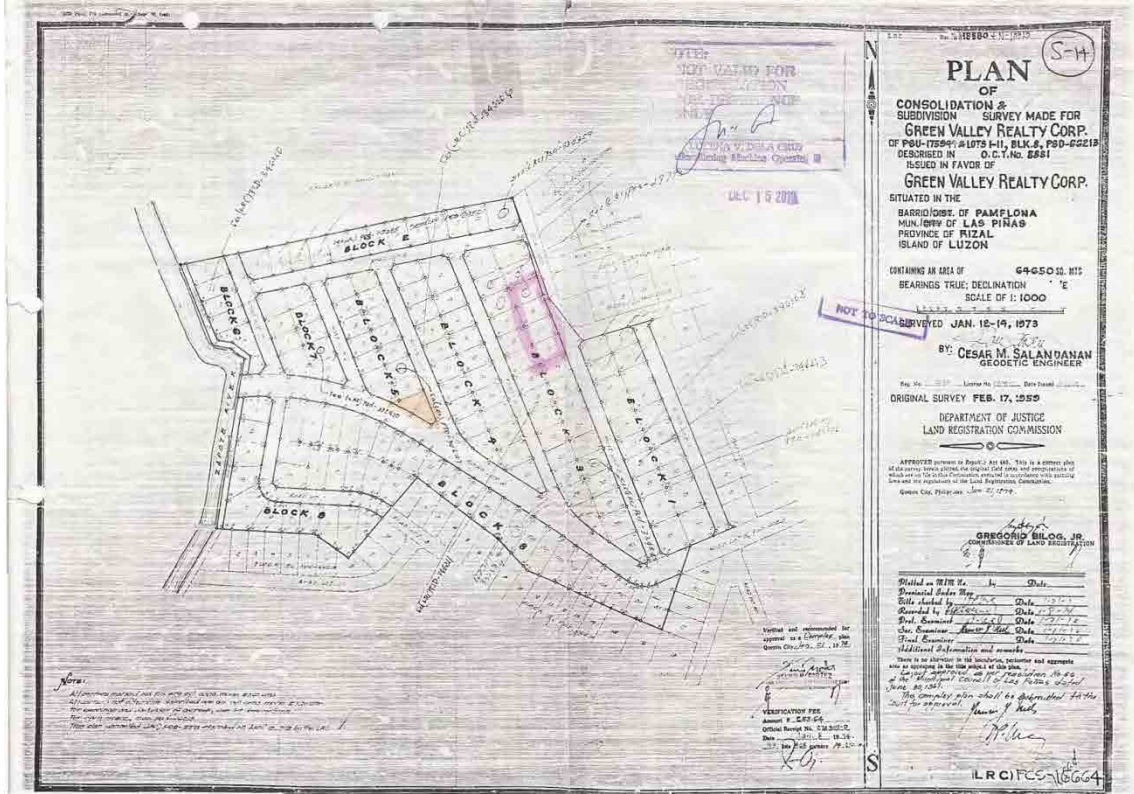
DO No. Effect.date	10-97 2-May-97	26-96 9-May-96	114-95 15-Oct-95	22-93 30-May-93	53-90 18-Nov-90	1-89 10-Mar-89	85-87 1-Oct-87
CLASSI- FICATION	6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3rd REV. ZV/SQ.M.	2nd REV. ZV/SQ.M.	1st REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
C LEONCIA SUBD	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
DEL NOR SUBD	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
GOLDEN ACRES SUBD	2,400.00	2,000.00	1,450.00	800.00	600.00	300.00	300.00
GREENWALLEY	2,600.00	2,000.00	1,450.00	800.00	600.00	300.00	300.00
HERNANDEZ CPD	2,600.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
METROCOR	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
MIKESELL SUBD	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
MOONWALK SUBD	2,500.00	2,100.00	1,550.00	900.00	800.00	400.00	400.00
RAINBOW VILL	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
SOLDIERS HILLS	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
ST SCHOLASTICA	2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
VAA - TH MARCOS ALVAREZ	2,100.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
VILLA LUNINGNING	2,300.00	2,100.00	1,550.00	1,000.00	900.00	450.00	450.00
NEAR DONA LEONCIA	2,400.00	2,000.00	1,450.00	800.00	800.00	400.00	400.00
ALL OTHER STREETS	3,800.00	3,300.00	2,500.00	1,500.00	500.00	250.00	250.00
GP	2,400.00	1,900.00	1,400.00	500.00	500.00	250.00	250.00

Atty. L. P. ...
NELSON L. BOOTHALING
ASST. REVENUE DISTRICT OFFICER



CERTIFIED TRUE COPY

PS-3



AP-598

No. 1347493 REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF JUSTICE
NATIONAL LAND TITLES AND DEEDS REGISTRATION ADMINISTRATION
(Land Registration Commission)

LAS PINAS CITY, MANILA

REGISTRY OF DEEDS FOR THE

Transfer Certificate of Title

No. 7-1157

IT IS HEREBY CERTIFIED that certain land situated in the Municipality of Las Pinas, Metro Manila, Philippines, bounded and described as follows:
A parcel of land (Lot 12, Block 4 of the cons.-subd. plan (LRC) Pcn-16664, being a portion of the cons. of the land described on plan Pcn-175944 & lots 1-11, Block 3, Pcn-66213, LRC Rec. No. M-10880-M-18113), situated in the Co. of Pampanga, Com. of Las Pinas, Province of Rizal, Island of Luzon, bounded on the NE., points 3 to 4 by Road Lot 3; on the SE., points 4 to 1 by Lot 14; on the SW., points 1 to 2 by Lot 13; and on the NW., points 2 to 3 by Lot 10, all of Block 4, all of the cons.-subd. plan, beginning at a point marked "1" on plan, being N. 14 deg. 49' N., 903.23 m. from P.M. No. 59, Imus Estate; thence N. 22 deg. 39' W., 14.00 m. to pt. 2; thence R. 67 deg. 21' S., 29.00 m. to pt. 3; thence S.

SPS. ROCELIO O. ALFARO and JALINA D. ALFARO, both of legal age, Filipinos,

as owner thereof in fee simple, subject to such of the encumbrances mentioned in Section 44 of said Decree as may be subsisting, and to

IT IS FURTHER CERTIFIED that said land was originally registered on the 26th day of August in the year nineteen hundred and eighty nine in the Registration Book of the Office of the Register of Deeds of Las Pinas, Volume 1-55, page 81, as Original Certificate of Title No. 8881, pursuant to Decree No. 134826 issued in L.R.C. No. 2843, Record No. M-18880, in the name of Transfer. This certificate is a transfer from Transfer Certificate of Title No. 101295 (T-18523) which is cancelled by virtue hereof in so far as the above-described land is concerned. 53-A

Entered at Las Pinas, Philippines, on the 25th day of September in the year nineteen hundred and eighty nine at 2:04 p.m.

ATTEST:

1645 D. Benito St., Makati, MM.
(Owner's postal address)

[Signature]
ALFARO, M. VILLANAR
(Register of Deeds)

*State the civil status, name of spouse if married, age if a minor, citizenship and residence of the registered owner. If the owner is a married woman, state also the citizenship of her husband. If the land is registered in the name of the conjugal partnership, state the citizenship of both spouses.

T-11507

-P2

MEMORANDUM OF ENCUMBRANCES

(When necessary use this page for the continuation of the technical description)

Entrada 22 deg. 19' E., 14.00 m. to pt. 4; thence S. 67 deg. 21' N., 20.00 m. to the point of beginning; containing an area of TWO HUNDRED EIGHTY (280) SQUARE METERS, more or less. All points referred to are indicated on the plan and are marked on the ground by 30 cyl. conc. cons., 15 x 60 cm., bearings true; date of the original survey, Feb. 17, 1959, and that of the cons.-subd. survey, executed by Cesar M. Salazar, Geodetic Engineer, on Jan. 12-14, 1973.

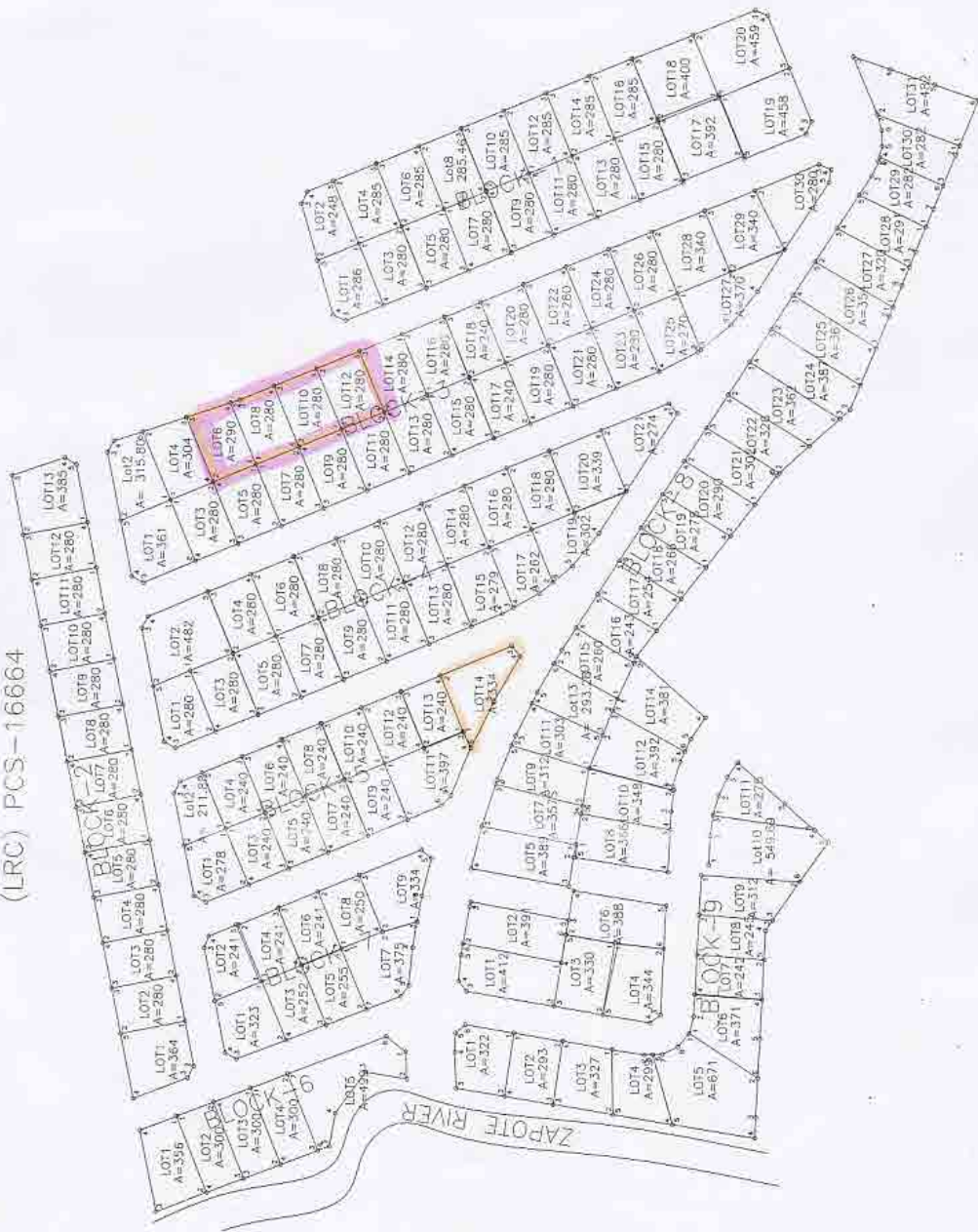
ALEXANDRO R. VILLARREYA, Register of Deeds

MICROFILMED IN
Date: _____
Roll No. _____
Entered on _____

(Memorandum of Encumbrances continued on Page -B)
(Technical Description continued on Additional Sheet Page -)

Register of Deeds

SITE 14; LAS PIÑAS
(LRC) PCS-16664





Republic of the Philippines
CITY OF LAS PIÑAS

125-00-017-055-052-0000
PROPERTY INDEX NO:

CONTROL NO. **23343**
TAX DECLARATION NO. E-017-07306

DECLARATION OF REAL PROPERTY

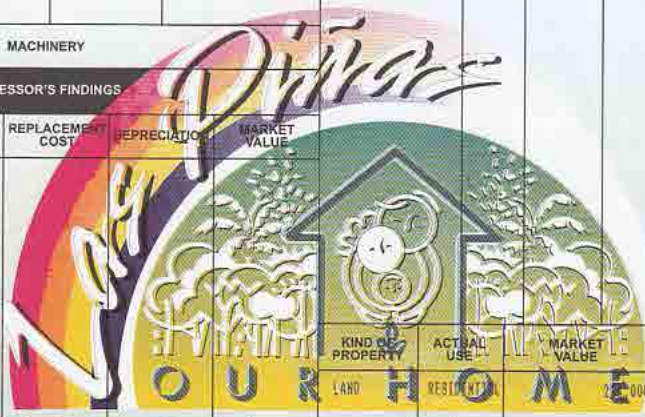
OWNER : ALFARO, ROSELIO D & JALINA ADDRESS : 12 DIAMOND ST., CAMELLA III-C, PAMP III, LP CITY ADMINISTRATOR : ADDRESS :		DESCRIPTION AND OTHER PARTICULARS OF PROPERTY LOCATION OF PROPERTY : GREENVALLEY SUBD. CERTIFICATE OF TITLE NO. : T-11507 BARANGAY : TALON CINCO LOT NO. : 12 SURVEY NO. : PCS-16664 BLK NO. : 4 BOUNDARIES : NORTH : NE RD. LOT 3 SOUTH : SW LOT 13 EAST : SE LOT 14 WEST : NW LOT 10	
IMPORTANT : Issued for taxation purposes and should not be considered as title to the property.			

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL)	BUILDING AND OTHER IMPROVEMENTS
---	---------------------------------

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL			MARKET VALUE	
							1ST STORY	2ND STORY	3RD STORY	FLOOR	
RES1	280.00	800		224,000							

MACHINERY

ASSESSOR'S FINDINGS				
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE



KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASMT LEVEL	ASSESSED VALUE	
LAND	RESIDENTIAL	224,000	20	44,800	
TOTAL ASSESSED					
FORTY-FOUR THOUSAND EIGHT HUNDRED PESOS ONLY				TOTAL	44,800

Certified True Copy
OFFICE OF THE CITY ASSESSOR
REGISTERED: 11/15/2002
CITY OF LAS PIÑAS

RECOMMENDING APPROVAL : ENGR. RAMON S. SAN PEDRO Asst. City Assessor 0-017-09868	APPROVED : ROMULO C. GERVACIO City Assessor
--	--

THIS DECLARATION CANCELS TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR 2003 CEASES WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 10 _____ BY _____ PREVIOUS OWNER ALFARO, ROSELIO D & JALINA PREVIOUS ASSESSED VALUE, LAND 16,800 IMPROVEMENT _____ REMARKS: GENERAL REVISION OF REAL PROPERTY PURSUANT TO SEC. 219 OF R.A. 7160, IMPLEMENTED UNDER CITY ORDINANCE NO. 563-02 DATED SEPTEMBER 18, 2002.

Received by : /U013-12/21/2010 2:03:45PM
Date : _____

125-00-017-055-082-0000

PROPERTY INDEX NO.:

94042641



Republic of the Philippines
CITY OF LAS PIÑAS

CONTROL NO. **23349**

TAX DECLARATION NO. E-017-12269

6R

DECLARATION OF REAL PROPERTY

OWNER : MANUELA CORPORATION		DESCRIPTION AND OTHER PARTICULARS OF PROPERTY	
ADDRESS : C/ O RIGUERA REALTY 2ND FLR MANUELA BLDG I REAL ST, PAMPLONA, LAS PIÑAS		LOCATION OF PROPERTY : GREENVALLEY SUBD.	
ADMINISTRATOR :		CERTIFICATE OF TITLE NO : 101213	BARANGAY : TALON CINCO
ADDRESS :		LOT NO. : 7	SURVEY NO. : PCS-16664
		BLK NO. : 5	
IMPORTANT : Issued for taxation purposes and should not be considered as title to the property.		BOUNDARIES :	
		NORTH : NE-LOT 8	SOUTH : SW-LOT 6
		EAST : SE-LOT 9	WEST : NW-LOT 5

LAND (RESIDENTIAL, COMMERCIAL, INDUSTRIAL, SPECIAL)	BUILDING AND OTHER IMPROVEMENTS
---	---------------------------------

ASSESSOR'S FINDINGS					ASSESSOR'S FINDINGS						
KIND	AREA	UNIT VALUES	ADJUSTMENT	MARKET VALUE	DESCRIPTION	FLOOR AREA	CONSTRUCTION MATERIAL				MARKET VALUE
							1ST STORY	2ND STORY	3RD STORY	FLOOR	
RES1	240.00	800		192,000							

MACHINERY

ASSESSOR'S FINDINGS				
DESCRIPTION	DATE OF OPERATION	REPLACEMENT COST	DEPRECIATION	MARKET VALUE

KIND OF PROPERTY	ACTUAL USE	MARKET VALUE	ASSMT LEVEL	ASSESSED VALUE
LAND	RESIDENTIAL	1,000	20	38,400
TOTAL ASSESSED				
THIRTY-EIGHT THOUSAND FOUR HUNDRED PESOS ONLY				TOTAL
				38,400

Certified True Copy

OFFICE OF THE CITY ASSESSOR
REGISTERED: 11/15/2002
CITY OF LAS PIÑAS

RECOMMENDING APPROVAL : ALFONSO V. PILLERA
L.A.O. II
Asst. City Assessor
0-017-18775

APPROVED : ROMULO C. GERVACIO
City Assessor

THIS DECLARATION CANCELLED BY TAX NOS. _____ IS CANCELLED BY TAX NOS. _____ TAX UNDER THIS DECLARATION BEGINS WITH THE YEAR _____ ENDS WITH THE YEAR _____ ENTERED IN THE REAL PROPERTY ASSESSMENT ROLL FOR 19 _____ BY _____

PREVIOUS OWNER REVISION OF REAL PROPERTY PURSUANT TO SEPARATELY ASSESSED IMPROVEMENT UNDER CITY ORDINANCE NO. 563-07 IMPROVEMENT _____

REMARKS: DATED SEPTEMBER 18, 2002

Received by : /0013-12/21/2010 2:04:14PM
Date : _____

RDO NO. 53 LAS PINAS-MUNTINLUPA

MUNICIPALITY: LAS PINAS

BARANGAY: TALON SINGKO

STREET/SUBDIVISION	VICINITY	CLASSIFICATION	DO No. Effect.date	10-97 2-May-97	26-96 9-May-96	114-95 15-Oct-95	22-93 30-May-93	53-90 18-Nov-90	1-89 10-Mar-89	85-87 1-Oct-87
				6TH REV. ZV/SQ.M.	5TH REV. ZV/SQ.M.	4TH REV. ZV/SQ.M.	3RD REV. ZV/SQ.M.	2ND REV. ZV/SQ.M.	1ST REV. ZV/SQ.M.	INITIAL ZV/SQ.M.
C LEONCIA SUBD	MIKESELL SUBD	RR		2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
DEL NOR SUBD	MIKESELL SUBD	RR		2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
GOLDEN ACRES SUBD	MOONWALK SUBD	RR		2,400.00	2,000.00	1,450.00	800.00	600.00	300.00	300.00
GREENVALLEY	MIKESELL SUBD	RR		2,600.00	2,000.00	1,450.00	800.00	600.00	300.00	300.00
HERNANDEZ CPD	MANILA DOCTORS VILL	RR		2,600.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
METROCOR	MOONWALK	RR		2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
MIKESELL SUBD	DEL NOR SUBD	RR		2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
MOONWALK SUBD	BF HOMES P-IV	RR		2,500.00	2,100.00	1,550.00	900.00	800.00	400.00	400.00
RAINBOW VILL	GOLDEN ACRES	RR		2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
SOLDIERS HILLS	RAINBOW VILL	RR		2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
ST SCHOLASTICA	MIKESELL SUBD	RR		2,400.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
VAA - TH MARCOS ALVAREZ	MANUELA SUBD.	RR		2,100.00	2,000.00	1,450.00	800.00	700.00	350.00	350.00
VILLA LUNINGNING	NEAR DONA LEONCIA	RR		2,300.00	2,100.00	1,550.00	1,000.00	900.00	450.00	450.00
ALL OTHER STREETS		RR		2,400.00	2,000.00	1,450.00	800.00	500.00	250.00	250.00
		CR		3,800.00	3,300.00	2,500.00	1,500.00			
		GP		2,400.00	1,900.00	1,400.00	500.00			

Ann L. Bay
NELSON L. BOYBATA
ASST. REVENUE DISTRICT OFFICER

CERTIFIED TRUE COPY

