

資料一7

管網計算結果

(電算アウトプット)

## 管網計算結果の記号の説明

### 1) 節点に関するもの

NO	.....	節点番号
QDMAX	.....	1日最大給水量 [ $\text{m}^3/\text{day}$ ]
QHMAX	.....	時間最大給水量 [ $\text{L}/\text{s}$ ]
H	.....	動水位 [ $\text{m}$ ]
GL	.....	地盤高 [ $\text{m}$ ]
HE	.....	有効水頭 [ $\text{m}$ ]

### 2) 管路に関するもの

I J	.....	管路を形成する2節点の番号
Q	.....	流量 [ $\text{L}/\text{s}$ ]
D	.....	管径 [ $\text{mm}$ ]
L	.....	延長 [ $\text{m}$ ]
I	.....	動水勾配 [ $\%$ ]
H	.....	損失水頭 [ $\text{m}$ ]
V	.....	流速 [ $\text{m}/\text{s}$ ]
C	.....	流速係数

**1) CASE - I**

DAR ES SALAAM (CASE1)

DAR ES SALAAM (CASE1)

NO	QDMAX (M**3/D)	QMAX (L/S)	H (M)	GL (M)	HE (M)	NO	QDMAX (M**3/D)	QMAX (L/S)	H (M)	GL (M)	HE (M)
1	0.0	0.000	128.43	128.43	0.00	105	8310.0	137.538	37.42	30.00	7.42
101	0.0	0.000	64.80	64.80	0.00	106	0.0	0.000	63.22	40.00	23.22
5	0.0	0.000	65.53	45.00	22.55	107	0.0	0.000	61.64	38.00	23.64
7	2790.0	46.177	63.48	52.00	11.48	108	0.0	0.000	61.64	30.00	31.64
8	0.0	0.000	63.09	53.00	10.09	109	21610.0	357.666	59.50	23.00	36.50
9	5360.0	32.023	62.10	57.00	5.10	110	2100.0	34.757	57.04	20.00	37.04
10	0.0	0.000	75.84	43.00	32.84	111	4310.0	71.334	56.93	23.00	33.93
11	0.0	0.000	82.11	49.00	33.11	112	0.0	0.000	54.31	18.00	36.31
12	0.0	0.000	84.65	49.00	35.65	113	8950.0	148.131	51.56	15.00	36.56
13	0.0	0.000	111.77	113.00	-3.23	114	3310.0	54.784	49.58	13.00	36.58
14	240.0	3.972	96.50	107.00	-10.50	115	330.0	5.462	44.60	13.00	31.60
15	3200.0	52.963	76.89	69.00	7.89	116	270.0	4.463	29.20	3.00	26.20
65	12790.0	211.686	81.04	69.00	12.04	117	680.0	11.233	25.56	3.00	22.56
16	0.0	0.000	90.00	64.00	16.00	118	0.0	0.000	26.09	10.00	18.09
17	940.0	15.558	70.59	59.00	12.59	119	0.0	0.000	25.89	10.00	15.88
67	940.0	15.558	78.97	58.00	20.97	120	460.0	7.613	13.41	10.00	3.41
18	0.0	0.000	78.12	55.00	23.12	121	7370.0	121.980	47.93	15.00	32.93
19	1600.0	26.481	75.77	69.00	6.77	122	10220.0	163.150	45.17	15.00	30.17
20	0.0	0.000	41.12	50.00	-8.88	123	2910.0	48.163	48.98	24.00	24.98
21	3350.0	58.756	40.36	67.00	-26.64	124	150.0	2.483	43.43	21.00	22.43
102	0.0	0.000	61.64	31.00	30.64	125	3160.0	52.301	37.16	15.00	22.16
103	6360.0	138.697	56.93	38.00	18.93	126	73270.0	1212.686	37.11	18.00	19.11
104	8650.0	143.166	57.11	38.00	19.11	127	5330.0	104.767	42.50	15.00	27.50

DAR ES SALAAM (CASE1)

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NO	QDMAX (M**3/D)	QMAX (L/S)	H (M)	GL (M)	HE (M)	I (M**L/S)	D (MM)	L (M)	I (%/..)	H (M)	V (M/S)	C
128	6500.0	107.581	45.15	25.00	20.16	1 - 14	522.228	2730.00	11.70	31.93	2.37	110.
129	1360.0	22.509	39.37	12.00	27.37	1 - 13	919.167	500.00	33.32	16.65	4.17	110.
130	3090.0	51.142	37.34	12.00	25.34	101 - 106	2266.295	1370	910.00	1.74	1.54	110.
131	730.0	12.082	39.66	6.00	33.66	6 - 10	-167.071	410	2060.00	-4.99	-1.27	110.
132	1470.0	24.330	39.08	3.00	36.08	6 - 105	91.319	300	3800.00	7.40	1.29	110.
133	1200.0	19.661	38.93	6.00	32.93	6 - 7	76.611	410	1770.00	1.17	2.07	110.
134	1210.0	20.027	33.21	3.00	28.21	7 - 9	30.429	410	1890.00	0.21	0.40	110.
135	2420.0	40.053	36.93	14.00	22.93	6 - 11	-61.590	300	5330.00	-3.57	-0.87	110.
185	2420.0	40.053	31.29	14.00	17.29	6 - 9	92.029	410	600.00	1.64	0.98	110.
136	0.0	0.000	31.07	8.00	23.07	11 - 12	-229.461	460	500.00	-5.08	-1.38	110.
TOTAL	224000.0					11 - 10	167.928	460	2200.00	2.95	6.28	110.
	0.0					12 - 13	-499.075	610	5000.00	-5.42	-27.11	110.
						12 - 18	269.529	610	3770.00	1.73	6.53	110.
						13 - 65	420.131	530	3930.00	7.82	30.73	110.
						15 - 14	-516.263	530	1700.00	-11.53	-19.61	110.
						15 - 17	360.076	530	370.00	6.49	6.30	110.
						15 - 19	26.475	300	1500.00	0.73	1.12	110.
						15 - 21	24.734	200	6450.00	5.66	36.54	100.
						15 - 20	34.016	200	3500.00	10.22	33.77	100.
						16 - 65	-208.452	530	480.00	-2.14	-1.05	110.
						16 - 67	208.454	530	480.00	2.14	1.02	110.
						18 - 67	-192.690	530	460.00	-1.85	-0.85	110.
						21 - 20	-34.022	410	2950.00	-0.26	-0.77	110.

DAR ES SALAAM (CASE1)

DAR ES SALAAM (CASE1)

I	J	Q (***/L/S)	D (MM)	L (M)	X (%/..)	H (%)	V (M/S)	C	I	J	Q (***/L/S)	D (MM)	L (M)	F (%/..)	H (M)	V (M/S)	C
102	- 17	-249.756	530	3000.00	-2.98	-8.95	-1.13	110.	115	-117	6.953	150	2430.00	7.92	19.24	0.39	50.
102	-106	14.164	840	150.00	0.00	0.00	0.03	110.	116	-117	3.086	150	260.00	13.00	3.64	0.51	50.
102	-110	247.243	530	1570.00	2.93	4.60	1.12	110.	116	-118	2.824	150	740.00	1.43	1.10	0.16	50.
103	- 17	-114.767	360	2120.00	-6.45	-13.67	-1.01	80.	117	-120	4.789	150	3060.00	3.97	12.15	0.27	50.
103	-111	-16.716	760	1810.00	-0.00	-0.01	-0.04	110.	118	-119	2.823	130	740.00	2.99	2.22	0.21	50.
103	-104	-114.564	760	1530.00	-0.12	-0.19	-0.25	110.	119	-120	2.823	100	1160.00	10.75	12.47	0.35	50.
103	-128	107.210	390	2070.00	5.69	11.76	0.95	80.	121	-122	1623.006	1220	1680.00	1.65	2.77	1.39	110.
104	- 18	-462.405	530	2250.00	-9.34	-21.01	-2.10	110.	122	-127	1366.184	1070	1180.00	2.26	2.67	1.52	110.
104	-123	204.666	530	3940.00	2.06	8.13	0.93	110.	122	-128	0.849	380	2070.00	0.00	0.00	0.01	80.
105	-126	50.662	560	2600.00	0.12	0.31	0.21	110.	122	-129	89.371	380	1430.00	4.06	5.80	0.79	60.
106	-107	2266.717	1370	910.00	1.74	1.58	1.54	110.	123	-105	96.864	300	1400.00	8.26	11.56	1.37	110.
107	-109	2268.717	1370	1230.00	1.74	2.14	1.54	110.	123	-124	59.628	300	1650.00	3.36	5.55	0.84	110.
107	-106	-9.375	640	790.00	-0.00	-0.00	-0.02	110.	124	-125	57.147	300	2020.00	3.11	5.28	0.81	110.
109	-110	1910.656	1370	1940.00	1.27	2.46	1.30	110.	125	-130	-7.992	300	1220.00	-0.15	-0.18	-0.11	80.
110	-111	87.683	760	1440.00	0.07	0.11	0.19	110.	125	-135	12.834	300	1150.00	0.20	0.22	0.18	110.
110	-113	1690.062	1220	2500.00	2.18	5.46	1.62	110.	126	-127	1239.751	1070	2760.00	-1.93	-5.38	-1.40	110.
110	-112	145.345	460	1250.00	2.18	2.73	0.87	110.	126	-135	47.248	560	1730.00	0.10	0.18	0.19	110.
112	-113	145.347	460	1250.00	2.18	2.73	0.87	110.	126	-185	50.511	380	1730.00	3.37	5.82	0.45	50.
113	-121	1744.950	1220	1940.00	1.88	3.65	1.49	110.	129	-130	59.118	300	340.00	5.97	2.03	0.84	80.
113	-114	141.857	460	960.00	2.09	2.00	0.85	110.	129	-132	7.733	300	2100.00	0.14	0.29	0.11	80.
114	-115	70.668	300	450.00	10.63	4.79	1.00	70.	131	-132	46.196	410	1260.00	0.46	0.59	0.35	110.
114	-116	16.383	200	2550.00	7.93	20.38	0.52	55.	132	-133	29.599	410	740.00	0.20	0.15	0.22	110.
115	-131	56.275	300	690.00	7.44	5.13	0.82	70.	133	-184	9.752	150	1020.00	7.91	8.07	0.55	70.

DAR ES SALAAM (CASE1)

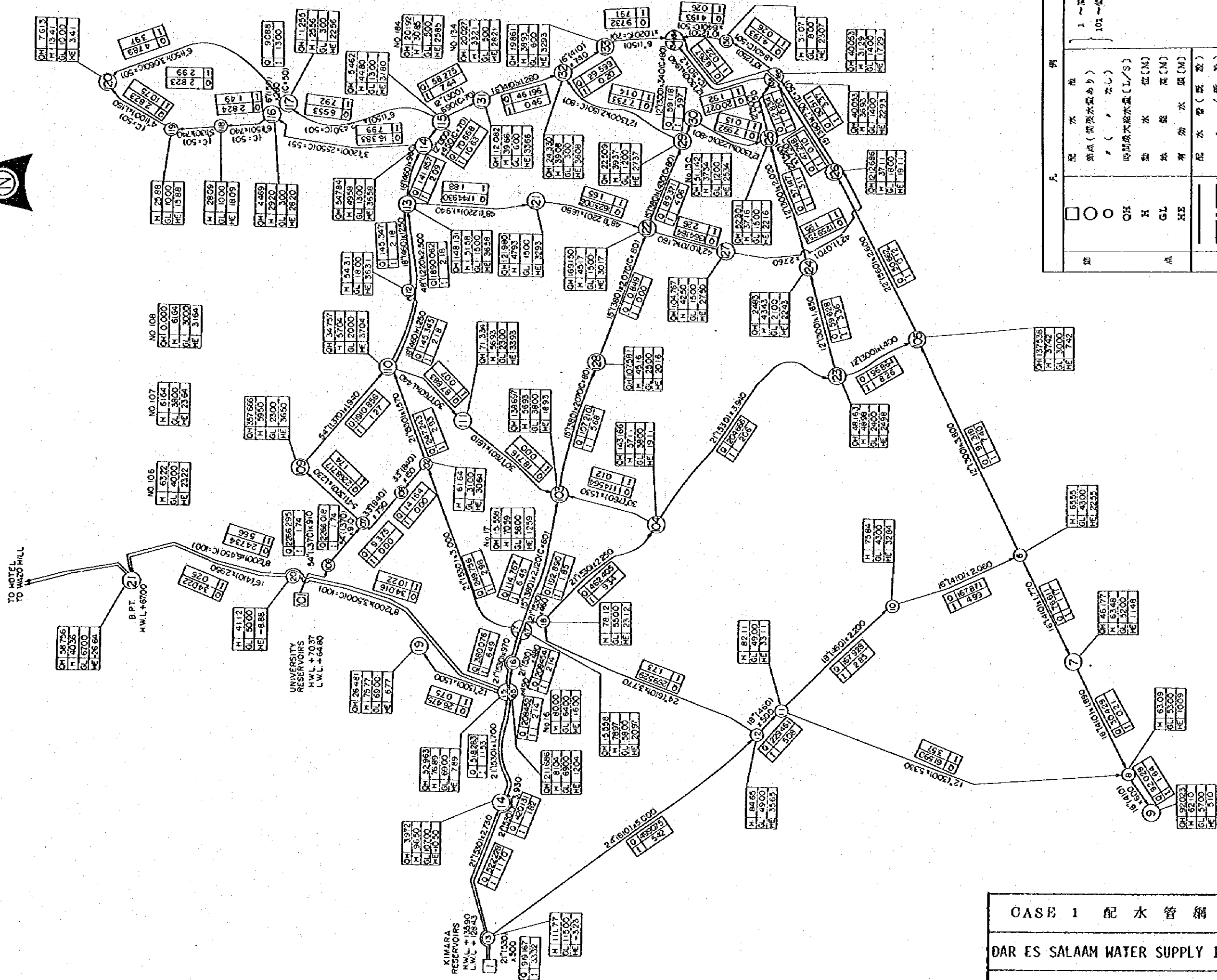
1777 2417 / 1777 7777 (קובץ מ"מ)

I	J	Q (**L/S)	D (MM)	L (M)	I (%/..)	H (M)	V (M/S)	C	777 1	777 2	777 3	777 4	777 5	777 6	777 7	777 8	777 9					
134	-136	-4.193	250	840.00	-0.26	-0.22	-0.09	50.	1	0	13	14	20	21								
135	-134	20.027	300	1940.00	1.92	3.72	0.28	50.	2	0	5	12	120									
185	-184	6.267	300	1940.00	0.22	0.43	0.09	50.	3	5	10	13	19	105								
195	-136	4.193	250	840.00	0.26	0.22	0.09	50.	4	10	15	7	8	65	17							
									5	15	20	16	103	104	118	119	126	185				
									6	20	25	5	67	18	106	107	117	123	124	125	126	
												135	136									
									7	25	30	116	127	129	130	134	184					
									8	30	35	10	11	102	108	111	115	121	122	131	133	
									9	35	40	12	109	110	112	113	114	132				

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凡	配水管	1~高区 101~低区
例	節点 (常時水量あり) 節点 (なし) 時間平均水量 [L/S] 動水圧 [M] 地盤高 [M] 建物水頭 [M]	
記号	○ □ ○ ○ ○ ○	
管	配水管 (既設) 配水管 (新設) 溢水管 (一部配水含む)	
管径	管径 [inches (MM)] 管径 [M] 配水管 (無配水) O=110	
流速	管流速 [L/S] 配水管 [M]	

CASE 1 配水管網計算結果図  
DAR ES SALAAM WATER SUPPLY IMPROVEMENT PROJECT  
JAPAN INTERNATIONAL COOPERATION AGENCY



**2) CASE - 2**

DAR ES SALAAM (CASE2)

DAR ES SALAAM (CASE2)

NO	QDMAX (M <sup>3</sup> /D)	QHMAX (L/S)	H (M)	GL (M)	HE (M)	NO	QDMAX (M <sup>3</sup> /D)	QHMAX (L/S)	H (M)	GL (M)	HE (M)
1	0.0	0.000	128.43	128.43	0.00	21	3350.0	59.756	84.14	67.00	17.14
101	0.0	0.000	64.80	64.80	0.00	102	0.0	0.000	59.05	31.00	28.05
2	0.0	0.000	120.55	31.00	89.55	103	6510.0	107.747	45.66	38.00	8.66
3	1870.0	30.950	119.35	38.00	81.35	104	6640.0	109.898	45.68	38.00	7.68
4	2010.0	33.267	113.14	38.00	75.14	105	1800.0	29.792	32.47	30.00	2.47
5	6510.0	107.747	53.39	30.00	23.39	106	0.0	0.000	62.12	40.00	22.12
6	0.0	0.000	91.60	43.00	48.60	107	0.0	0.000	59.45	38.00	21.45
7	2790.0	46.177	89.71	52.00	37.71	108	0.0	0.000	59.11	30.00	29.11
8	0.0	0.000	89.40	53.00	36.40	109	21610.0	357.666	56.45	23.00	33.45
9	5560.0	92.023	88.41	57.00	31.41	110	2100.0	34.757	52.81	20.00	32.81
10	0.0	0.000	103.38	43.00	60.38	111	4310.0	71.334	49.69	23.00	26.69
11	0.0	0.000	110.57	49.00	61.57	112	0.0	0.000	49.97	18.00	31.97
12	0.0	0.000	113.46	49.00	64.46	113	8950.0	148.131	47.14	15.00	32.14
13	0.0	0.000	122.90	115.00	7.90	114	3310.0	54.784	45.11	13.00	32.11
14	240.0	3.972	123.58	107.00	16.58	115	330.0	5.462	40.18	13.00	27.18
15	3200.0	52.953	120.68	69.00	51.68	116	270.0	4.463	24.68	3.00	21.68
65	12790.0	211.686	113.31	69.00	44.31	117	680.0	11.295	21.03	3.00	18.03
16	0.0	0.000	113.30	64.00	49.30	118	0.0	0.000	23.58	10.00	13.58
17	940.0	15.553	120.55	58.00	62.55	119	0.0	0.000	21.36	10.00	11.36
67	940.0	15.558	113.30	58.00	55.30	120	460.0	7.613	8.89	10.00	-1.11
18	0.0	0.000	113.30	55.00	58.30	121	7370.0	121.980	43.33	15.00	28.33
19	1600.0	26.481	119.56	69.00	50.56	122	10220.0	169.150	40.43	15.00	25.43
20	0.0	0.000	84.91	50.00	34.91	123	2910.0	48.163	39.60	24.00	15.60

DAR ES SALAAM (CASE2)

NO	QDMAX (M <sup>3</sup> /D)	QHMAX (L/S)	H (M)	GL (M)	HE (M)
124	150.0	2.483	36.09	21.00	15.09
125	3160.0	52.301	31.98	15.00	16.98
126	73270.0	1212.686	32.21	18.00	14.21
127	6330.0	104.767	37.71	15.00	22.71
128	6300.0	107.581	39.37	25.00	14.37
129	1360.0	22.509	34.46	12.00	22.46
130	3090.0	51.142	32.28	12.00	20.28
131	730.0	12.082	34.66	6.00	28.66
132	1470.0	24.330	34.25	3.00	31.25
133	1200.0	19.861	34.10	6.00	28.10
134	1210.0	20.027	28.24	5.00	23.24
134	1220.0	20.192	25.97	5.00	20.97
135	2420.0	40.053	31.96	14.00	17.96
135	2420.0	40.053	26.40	14.00	12.40
136	0.0	0.000	26.18	8.00	18.18
TOTAL	224000.0				
	0.0				

DAR ES SALAAM (CASE2)

I	J	Q (M <sup>3</sup> /L/S)	D (MM)	L (M)	I <sub>1</sub> (%)	H (M)	V (M/S)	C
1	14	186.687	530	2730.00	1.78	4.85	0.86	110.
1	13	306.468	530	500.00	11.05	5.53	2.30	110.
101	106	3012.416	1370	910.00	2.94	2.68	2.04	110.
2	17	0.000	530	3000.00	0.00	0.00	0.00	110.
3	17	-30.952	380	2120.00	-0.37	-1.21	-0.27	80.
4	18	-33.271	530	2250.00	-0.07	-0.16	-0.15	110.
6	10	-190.665	410	2060.00	-5.72	-11.78	-1.37	110.
6	5	107.744	300	3800.00	10.06	38.21	1.52	110.
6	7	72.950	410	1770.00	1.07	1.89	0.55	110.
7	8	26.771	410	1890.00	0.17	0.31	0.20	110.
8	11	-65.250	300	5330.00	-3.97	-21.17	-0.92	110.
8	9	92.026	410	500.00	1.64	0.98	0.70	110.
11	12	-245.916	460	500.00	-5.78	-2.89	-1.48	110.
11	10	180.693	460	2200.00	3.27	7.19	1.09	110.
12	13	-282.398	610	5000.00	-1.89	-9.45	-0.97	110.
12	18	36.441	610	3770.00	0.04	0.16	0.12	110.
13	65	224.081	530	3930.00	2.44	9.53	1.02	110.
15	14	-164.719	530	1700.00	-1.71	-2.90	-0.84	110.
15	17	46.513	530	970.00	0.13	0.13	0.21	110.
15	19	26.473	300	1500.00	0.75	1.12	0.37	110.
15	21	24.735	200	6450.00	5.67	36.54	0.79	100.
15	20	34.018	200	3500.00	10.22	33.77	1.06	100.
16	65	-14.297	530	490.00	-0.01	-0.01	-0.06	110.

DAR ES SALAAM (CASE2)

DAR ES SALAAM (CASE2)

I	J	Q (mmL/S)	D (MM)	L (M)	I (%/s)	H (M)	V (M/S)	C	I	J	Q (mmL/S)	D (MM)	L (M)	I (%/s)	H (M)	V (M/S)	C
16	- 67	14.370	530	480.00	0.02	0.01	0.07	110.	115	-117	6.936	150	2430.00	7.98	19.15	0.39	50.
18	- 67	6.960	530	460.00	0.00	0.00	0.03	110.	116	-117	9.107	150	280.00	13.05	3.65	0.52	50.
21	- 20	-34.021	410	2950.00	-0.26	-0.77	-0.26	110.	116	-118	2.825	150	740.00	1.49	1.10	0.16	50.
102	-108	-291.596	840	150.00	-0.42	-0.06	-0.53	110.	117	-120	4.789	150	3060.00	3.97	12.14	0.27	50.
102	-110	291.561	530	1570.00	3.98	6.24	1.32	110.	118	-119	2.824	150	740.00	3.00	2.22	0.21	50.
103	-111	-471.042	760	1810.00	-1.67	-3.02	-1.04	110.	119	-120	2.824	100	1160.00	10.75	12.47	0.36	50.
103	-104	281.689	760	1330.00	0.64	0.99	0.62	110.	121	-122	1654.174	1220	1680.00	1.72	2.90	1.42	110.
103	-126	61.562	380	2070.00	3.42	7.09	0.72	80.	122	-127	1378.317	1070	1160.00	2.30	2.72	1.53	110.
104	-123	171.821	530	3940.00	1.49	5.88	0.76	110.	122	-128	26.015	380	2070.00	0.41	0.85	0.23	80.
105	-126	45.928	560	2600.00	0.10	0.26	0.19	110.	122	-129	90.724	380	1430.00	4.17	5.96	0.80	80.
106	-107	3012.249	1370	910.00	2.94	2.68	2.04	110.	123	-105	75.710	300	1400.00	5.23	7.32	1.07	110.
107	-109	2720.789	1370	1230.00	2.44	3.00	1.85	110.	123	-124	47.941	300	1650.00	2.24	3.70	0.68	110.
107	-108	291.596	840	790.00	0.42	0.33	0.53	110.	124	-125	45.459	300	2020.00	2.05	4.11	0.64	110.
109	-110	2363.015	1370	1940.00	1.88	3.64	1.60	110.	125	-130	-10.437	300	1220.00	-0.24	-0.29	-0.15	80.
110	-111	542.360	760	1440.00	2.17	3.12	1.20	110.	125	-135	3.598	300	1150.00	0.02	0.02	0.05	110.
110	-113	1929.128	1220	2500.00	2.27	5.67	1.65	110.	126	-127	-1273.704	1070	2760.00	-1.99	-5.50	-1.42	110.
110	-112	148.350	460	1250.00	2.27	2.83	0.89	110.	126	-135	56.487	560	1730.00	0.15	0.25	0.23	110.
112	-115	148.351	460	1250.00	2.27	2.83	0.89	110.	126	-185	50.474	380	1730.00	3.36	5.82	0.45	50.
113	-121	1786.128	1220	1940.00	1.97	3.81	1.53	110.	129	-130	61.572	300	340.00	6.43	2.19	0.67	60.
113	-114	142.989	460	960.00	2.12	2.03	0.96	110.	129	-132	6.638	300	2100.00	0.10	0.22	0.09	80.
114	-115	71.794	300	450.00	10.95	4.93	1.02	70.	131	-132	47.325	410	1280.00	0.48	0.61	0.36	110.
114	-116	16.401	200	2550.00	6.01	20.42	0.52	55.	132	-133	29.634	410	740.00	0.20	0.15	0.22	110.
115	-151	59.407	300	690.00	7.71	5.32	0.84	70.	133	-184	9.770	150	1020.00	7.97	8.13	0.55	70.

DAR ES SALAAM (CASE2)

1757 זאיר / זאיר זאיר (זאיר זאיר)

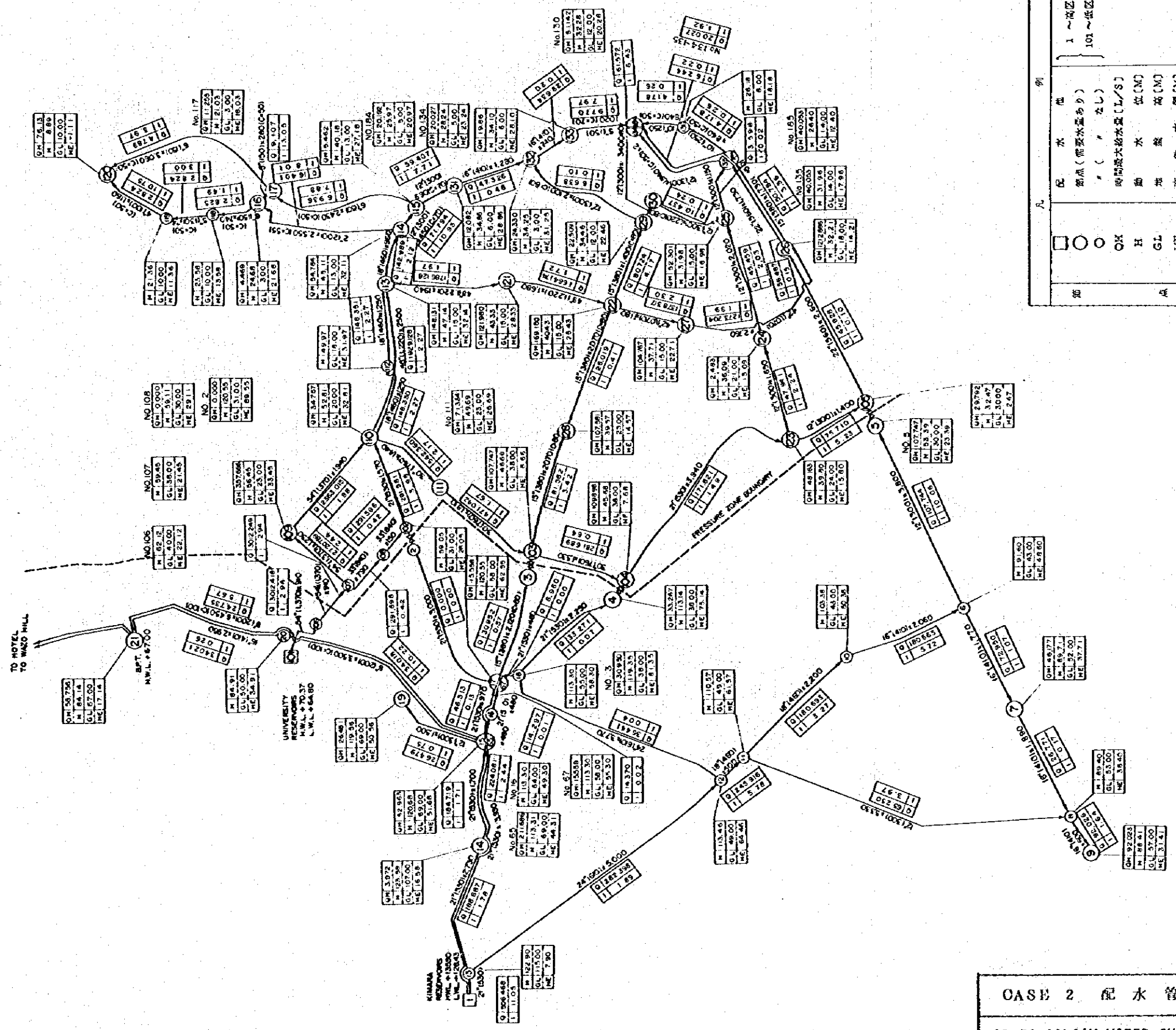
I	J	Q (M <sup>3</sup> /S)	D (MM)	L (M)	I (%/s)	H (M)	V (M/S)	C	זאיר	זאיר	זאיר										
184	-136	-4.178	250	840.00	-0.26	-0.22	-0.09	50.	1	0	13	120									
135	-134	20.027	300	1940.00	1.92	3.72	0.28	50.	2	0	5	105									
185	-184	5.244	300	1940.00	0.22	0.43	0.09	50.	3	5	10	13	103	104							
185	-136	4.178	250	840.00	0.26	0.22	0.09	50.	4	10	13	50	118	119	126	128	185				
									5	15	20	80	14	21	117	123	124	125	133	136	
									6	20	25	90	5	106	107	116	127	129	130	134	184
									7	25	30	80	102	108	111	115	121	122	131	133	
									8	30	35	80	9	20	109	110	112	113	114	132	
									9	35	40	20	7	8							
									10	40	45	10	55								
									11	45	50	20	6	16							
									12	50	55	20	13	19							
									13	55	60	20	67	19							
									14	60	65	40	10	11	12	17					
									15	65	70	00	4								
									16	70	75	00	3								
									17	75	80	10	2								
									18	80	85	10									
									19	85	90	10									

זאיר

(61)







記号	凡例
□	配水電
○	配水電 (管線水蓋あり)
○	配水電 (なし)
OK	時間最大給水量 [L/S]
H	動水位 [M]
GL	地盤水位 [M]
ME	最低水位 [M]
—	配水管 (管線)
—	配水管 (新設)
—	送水管 (一部配水含む)
A(B)XL(C=)	管径 (inches (MM))
L	延長 [M]
C	流速係数(断面は C=110)
Q	管線流量 [L/S]
I	動水勾配 [%]

CASE 2 配水管網計算結果図  
 DAR ES SALAAM WATER SUPPLY IMPROVEMENT PROJECT  
 JAPAN INTERNATIONAL COOPERATION AGENCY



**3) CASE - 3**

DAR ES SALAAM (CASES) P800

DAR ES SALAAM (CASES) P800

NO	QDMAX (M**3/D)	QHMAX (L/S)	H (M)	GL (M)	HE (M)	NO	QDMAX (M**3/D)	QHMAX (L/S)	H (M)	GL (M)	HE (M)
1	0.0	0.000	128.43	128.43	0.00	21	3530.0	58.756	84.14	87.00	17.14
101	0.0	0.000	64.80	64.80	0.00	102	0.0	0.000	60.32	31.00	29.32
2	0.0	0.000	120.55	31.00	89.53	103	6510.0	107.747	53.84	38.00	15.84
3	1870.0	30.950	119.35	38.00	81.35	104	6640.0	109.898	52.77	38.00	14.77
4	2010.0	33.267	113.14	38.00	75.14	105	1800.0	29.792	37.25	30.00	7.25
5	6510.0	107.747	53.39	30.00	23.39	106	0.0	0.000	63.01	40.00	23.01
6	0.0	0.000	91.60	43.00	48.60	107	0.0	0.000	61.22	38.00	23.22
7	2790.0	46.177	89.71	52.00	37.71	108	0.0	0.000	60.46	30.00	30.46
8	0.0	0.000	89.40	53.00	36.40	109	21610.0	337.655	59.27	23.00	36.27
9	5560.0	92.023	88.41	57.00	31.41	110	2100.0	34.757	57.07	20.00	37.07
10	0.0	0.000	103.38	43.00	60.38	111	4310.0	71.334	57.16	23.00	34.16
11	0.0	0.000	110.57	49.00	61.57	112	0.0	0.000	54.30	18.00	36.30
12	0.0	0.000	113.46	49.00	64.46	113	8950.0	148.131	51.52	15.00	36.52
13	0.0	0.000	122.90	115.00	7.90	114	3310.0	54.784	49.51	13.00	36.51
14	240.0	3.972	123.58	107.00	16.58	115	330.0	5.462	44.66	13.00	31.66
15	3200.0	52.983	120.68	69.00	51.68	116	270.0	4.459	29.11	3.00	26.11
65	12790.0	211.686	113.31	69.00	44.31	117	680.0	11.253	25.46	3.00	22.46
16	0.0	0.000	113.30	64.00	49.30	118	0.0	0.000	28.00	10.00	18.00
17	940.0	15.358	120.55	58.00	62.55	119	0.0	0.000	25.79	10.00	15.79
67	940.0	15.358	113.30	58.00	55.30	120	460.0	7.613	13.31	10.00	3.31
18	0.0	0.000	113.30	55.00	58.30	121	7370.0	121.980	47.60	15.00	32.60
19	1600.0	26.491	119.56	69.00	50.56	122	10220.0	169.150	44.96	15.00	29.96
20	0.0	0.000	84.91	50.00	34.91	123	2910.0	48.163	46.07	24.00	22.07

DAR ES SALAAM (CASE3)0900

DAR ES SALAAM (CASE3)0900

NO	QDMAX (M**3/D)	QHMAX (L/S)	H (M)	GL (M)	HE (M)	I J	Q (***L/S)	D (MM)	L (M)	I (%/..)	H (M)	V (M/S)	C
124	150.0	2.483	42.66	21.00	21.66	1 - 14	188.697	530	2730.00	1.78	4.85	0.86	110.
125	3160.0	52.301	37.63	15.00	22.63	1 - 13	506.468	530	500.00	11.05	5.33	2.30	110.
126	73270.0	1212.686	37.79	18.00	19.79	101 - 107	749.465	900	1820.00	1.73	3.15	1.16	110.
127	6330.0	104.767	45.18	15.00	20.18	101 - 106	2262.976	1370	910.00	1.73	1.56	1.54	110.
128	6500.0	107.591	45.63	25.00	20.63	2 - 17	0.000	530	3000.00	0.00	0.00	0.00	110.
129	1360.0	22.509	39.97	12.00	27.97	3 - 17	-30.952	380	2120.00	-0.57	-1.21	-0.27	80.
130	3090.0	51.142	37.87	12.00	25.87	4 - 16	-33.271	530	2250.00	-0.07	-0.16	-0.13	110.
131	730.0	12.082	40.31	6.00	34.31	6 - 10	-180.663	410	2050.00	-5.72	-11.78	-1.37	110.
132	1470.0	24.330	39.72	3.00	36.72	5 - 5	107.744	300	3600.00	10.06	38.21	1.52	110.
133	1200.0	19.861	39.37	6.00	33.37	6 - 7	72.950	410	1770.00	1.07	1.89	0.55	110.
134	1210.0	20.027	33.84	5.00	28.84	7 - 8	26.771	410	1690.00	0.17	0.31	0.20	110.
134	1220.0	20.192	31.52	5.00	26.52	8 - 11	-65.290	300	5330.00	-3.97	-21.17	-0.92	110.
135	2420.0	40.053	37.56	14.00	23.56	8 - 9	92.026	410	600.00	1.64	0.98	0.70	110.
135	2420.0	40.053	31.96	14.00	17.96	11 - 12	-245.916	460	500.00	-5.78	-2.89	-1.48	110.
135	0.0	0.000	31.74	8.00	23.74	11 - 10	160.693	460	2200.00	3.27	7.19	1.09	110.
TOTAL	224000.0	0.0				12 - 13	-232.398	610	5000.00	-1.89	-9.45	-0.97	110.
						12 - 18	36.441	610	3770.00	0.04	0.16	0.12	110.
						13 - 63	224.081	530	3930.00	2.44	9.59	1.02	110.
						15 - 14	-184.719	530	1700.00	-1.71	-2.90	-0.84	110.
						15 - 17	46.313	530	970.00	0.13	0.13	0.21	110.
						15 - 19	26.479	300	1500.00	0.75	1.12	0.37	110.
						15 - 21	24.735	200	6450.00	5.67	36.54	0.79	100.
						15 - 20	34.018	200	3500.00	10.22	35.77	1.06	100.

DAR ES SALAAM (CASES) Ø600

DAR ES SALAAM (CASES) Ø800

I	J	Q (mm <sup>3</sup> /S)	D (MM)	L (M)	I (°/..)	H (M)	V (M/S)	C	I	J	Q (mm <sup>3</sup> /S)	D (MM)	L (M)	I (°/..)	H (M)	V (M/S)	C
16	- 65	-14.297	530	490.00	-0.01	-0.01	-0.06	110.	114	-115	71.184	300	450.00	10.78	4.93	1.01	70.
16	- 67	14.370	530	480.00	0.02	0.01	0.07	110.	114	-115	15.391	200	2550.00	8.00	20.40	0.52	55.
18	- 67	6.960	530	460.00	0.00	0.00	0.03	110.	115	-131	58.788	300	690.00	7.56	5.22	0.83	70.
21	- 20	-34.021	410	2950.00	-0.26	-0.77	-0.26	110.	115	-117	6.945	150	2430.00	7.30	19.20	0.39	50.
102	-107	-399.679	600	340.00	-0.96	-0.90	-0.80	110.	116	-117	9.098	150	280.00	13.02	3.65	0.51	50.
102	-111	649.047	600	1340.00	2.36	3.16	1.29	110.	116	-118	2.624	150	740.00	1.49	1.10	0.16	50.
102	-108	-454.397	840	150.00	-0.96	-0.14	-0.82	110.	117	-120	4.789	150	3060.00	3.97	12.15	0.27	50.
102	-110	205.010	530	1570.00	2.07	3.25	0.93	110.	118	-119	2.824	150	740.00	3.00	2.22	0.21	50.
103	-111	-495.618	760	1830.00	-1.83	-3.32	-1.09	110.	119	-120	2.824	100	1160.00	10.75	12.47	0.36	50.
103	-104	294.312	760	1530.00	0.70	1.07	0.65	110.	121	-122	1640.221	1220	1680.00	1.68	2.82	1.40	110.
103	-129	93.513	380	2070.00	4.41	9.13	0.82	80.	122	-127	1366.937	1070	1180.00	2.27	2.68	1.52	110.
104	-123	184.446	530	3940.00	1.70	6.71	0.84	110.	122	-128	14.067	380	2070.00	0.13	0.27	0.12	80.
105	-126	53.306	560	2600.00	0.13	0.35	0.22	110.	122	-129	90.101	380	1430.00	4.12	5.89	0.79	80.
106	-107	2423.459	1370	910.00	1.97	1.79	1.64	110.	123	-105	83.693	300	1400.00	6.30	8.82	1.18	110.
107	-109	2158.328	1370	1230.00	1.59	1.93	1.46	110.	123	-124	52.584	300	1650.00	2.66	4.40	0.74	110.
107	-108	454.401	840	790.00	0.96	0.76	0.82	110.	124	-125	50.102	300	2020.00	2.44	4.92	0.71	110.
109	-110	1900.577	1370	1940.00	1.13	2.20	1.22	110.	125	-130	-9.245	300	1220.00	-0.19	-0.23	-0.13	80.
110	-111	-82.101	760	1440.00	-0.07	-0.09	-0.18	110.	125	-135	7.048	300	1150.00	0.06	0.07	0.10	110.
110	-113	1906.308	1220	2500.00	2.22	5.54	1.63	110.	126	-127	-1262.323	1070	2760.00	-1.96	-5.41	-1.40	110.
110	-112	146.595	460	1250.00	2.22	2.77	0.88	110.	126	-135	53.037	560	1730.00	0.13	0.22	0.22	110.
112	-113	146.596	460	1250.00	2.22	2.77	0.88	110.	126	-165	50.524	380	1730.00	3.37	5.83	0.45	50.
113	-121	1762.175	1220	1940.00	1.92	3.72	1.31	110.	129	-130	60.379	300	340.00	6.21	2.11	0.85	80.
113	-114	142.369	460	960.00	2.10	2.02	0.86	110.	129	-132	7.207	300	2100.00	0.12	0.25	0.10	80.

DAR ES SALAAM (CASE) Ø800

מדידת זרימה / מדידת אורך (מדידת אורך)

I	J	Q (mm <sup>3</sup> /S)	D (MM)	L (M)	I (%)	H (M)	V (M/S)	C	זמן		סדר
									1	2	
131	-132	45.707	410	1280.00	0.47	0.60	0.35	110.	10	11	120
132	-133	29.564	410	740.00	0.20	0.15	0.22	110.	13	105	104
133	-184	9.720	150	1020.00	7.90	8.05	0.55	70.	14	21	103 116 119 126 128 185
184	-136	-4.198	250	840.00	-0.26	-0.22	-0.09	50.	5	106	107 117 123 124 125 130 135 136
135	-134	20.027	300	1940.00	1.92	3.72	0.28	50.	102	116	122 127 129 134 184
185	-184	6.274	300	1940.00	0.22	0.43	0.09	50.	9	20	108 111 115 121 131 133
185	-136	4.198	250	840.00	0.26	0.22	0.09	50.	7	8	109 110 112 113 114 152
									65		
									6	16	
									15	19	
									67	18	
									10	11	12 17
									4		
									3		
									2		

0774 ( 61)









DAR ES SALAAM (CASE3) Ø900

NO	QDMAX (M <sup>3</sup> /D)	QMAX (L/S)	H (M)	CL (M)	HE (M)
1	0.0	0.000	128.43	128.43	0.00
101	0.0	0.000	64.80	64.80	0.00
2	0.0	0.000	120.55	51.00	89.55
3	1870.0	30.950	119.33	38.00	81.33
4	2010.0	33.267	113.14	38.00	75.14
5	6510.0	107.747	53.39	30.00	23.39
6	0.0	0.000	91.60	43.00	48.60
7	2790.0	46.177	89.71	52.00	37.71
8	0.0	0.000	89.40	53.00	36.40
9	5560.0	92.023	88.41	57.00	31.41
10	0.0	0.000	103.36	43.00	60.36
11	0.0	0.000	110.57	49.00	61.57
12	0.0	0.000	113.46	49.00	64.46
13	0.0	0.000	122.90	113.00	7.90
14	240.0	3.972	123.56	107.00	16.56
15	3200.0	52.963	120.66	69.00	51.66
65	12790.0	211.666	113.31	69.00	44.31
16	0.0	0.000	113.30	64.00	49.30
17	940.0	15.558	120.55	56.00	62.55
67	940.0	15.558	113.30	56.00	57.30
18	0.0	0.000	113.30	55.00	58.30
19	1600.0	26.481	119.56	69.00	50.56
20	0.0	0.000	84.91	50.00	34.91

DAR ES SALAAM (CASE3) Ø900

NO	QDMAX (M <sup>3</sup> /D)	QMAX (L/S)	H (M)	CL (M)	HE (M)
21	3550.0	58.756	84.14	67.00	17.14
102	0.0	0.000	60.61	31.00	29.61
103	6510.0	107.747	55.03	38.00	17.03
104	6640.0	109.698	53.95	38.00	15.95
105	1800.0	29.792	39.14	30.00	9.14
106	0.0	0.000	63.22	40.00	23.22
107	0.0	0.000	61.65	38.00	23.65
108	0.0	0.000	60.94	30.00	30.94
109	21610.0	357.666	59.87	23.00	36.87
110	2100.0	34.757	57.90	20.00	37.90
111	4310.0	71.334	58.38	23.00	35.38
112	0.0	0.000	55.14	18.00	37.14
113	6950.0	148.131	52.37	15.00	37.37
114	3310.0	54.784	50.36	13.00	37.36
115	330.0	5.462	45.52	13.00	32.52
116	270.0	4.459	29.96	3.00	26.96
117	660.0	11.255	26.32	3.00	23.32
118	0.0	0.000	26.66	10.00	16.66
119	0.0	0.000	26.64	10.00	16.64
120	460.0	7.613	14.17	10.00	4.17
121	7370.0	121.960	46.67	15.00	33.67
122	10220.0	169.150	45.85	15.00	30.85
123	2910.0	48.163	47.14	24.00	23.14

DAR ES SALAAM (CASES) Ø800

NO	QDMAX (M <sup>3</sup> /D)	QHMAX (L/S)	H (M)	GL (M)	HE (M)
124	150.0	2.483	41.67	21.00	20.67
125	3160.0	52.301	36.75	15.00	21.75
126	73270.0	1212.686	36.90	18.00	18.90
127	6330.0	104.767	42.31	15.00	27.31
128	6500.0	107.581	44.71	25.00	19.71
129	1360.0	22.309	39.09	12.00	27.09
130	3090.0	51.142	36.98	12.00	24.98
131	730.0	12.082	39.44	6.00	33.44
132	1470.0	24.330	38.84	3.00	35.84
133	1200.0	19.861	38.89	6.00	32.89
134	1210.0	20.027	32.95	5.00	27.95
134	1220.0	20.192	30.64	3.00	23.64
135	2420.0	40.053	36.68	14.00	22.68
135	2420.0	40.053	31.07	14.00	17.07
136	0.0	0.000	30.86	8.00	22.86
TOTAL	224000.0				
	0.0				

DAR ES SALAAM (CASES) Ø800

I	J	Q (MM <sup>3</sup> /S)	D (MM)	L (M)	I (%/s)	H (M)	V (M/S)	C
1	14	168.687	530	2730.00	1.78	4.85	0.86	110.
1	13	506.468	530	500.00	11.05	5.53	2.30	110.
101	107	588.843	800	1820.00	1.97	3.58	1.17	110.
101	106	2423.594	1370	910.00	1.97	1.79	1.64	110.
2	17	0.000	530	3000.00	0.00	0.00	0.00	110.
3	17	-30.932	380	2120.00	-0.57	-1.21	-0.27	80.
4	18	-33.271	530	2250.00	-0.07	-0.16	-0.15	110.
5	10	-180.665	410	2060.00	-3.72	-11.78	-1.37	110.
6	5	107.744	300	3900.00	10.06	38.21	1.52	110.
6	7	72.930	410	1770.00	1.07	1.89	0.55	110.
7	8	26.771	410	1890.00	0.17	0.31	0.20	110.
8	11	-65.250	300	5330.00	-3.97	-21.17	-0.92	110.
8	9	92.026	410	600.00	1.64	0.98	0.70	110.
11	12	-243.916	460	500.00	-5.78	-2.89	-1.48	110.
11	10	180.693	460	2200.00	3.27	7.19	1.09	110.
12	13	-282.398	610	5000.00	-1.89	-9.45	-0.97	110.
12	18	36.441	610	3770.00	0.04	0.16	0.12	110.
13	65	224.081	530	3930.00	2.44	9.59	1.02	110.
15	14	-194.719	530	1700.00	-1.71	-2.90	-0.84	110.
15	17	46.313	530	970.00	0.13	0.13	0.21	110.
15	19	26.479	300	1500.00	0.75	1.12	0.37	110.
15	21	24.735	200	6450.00	5.67	36.54	0.79	100.
15	20	34.018	200	3500.00	10.22	35.77	1.08	100.

DAR ES SALAAM (CASES) 9500

DAR ES SALAAM (CASES) 9500

I	J	Q (mmL/S)	D (MM)	L (M)	I (°/..)	H (M)	V (M/S)	C	I	J	Q (mmL/S)	D (MM)	L (M)	I (°/..)	H (M)	V (M/S)	C
16	- 65	-14.297	530	490.00	-0.01	-0.01	-0.06	110.	114	-115	71.111	300	430.00	10.76	4.84	1.01	70.
16	- 67	14.370	530	460.00	0.02	0.01	0.07	110.	114	-116	16.390	200	2550.00	8.00	20.40	0.52	55.
16	- 67	6.960	530	460.00	0.00	0.00	0.03	110.	115	-131	58.713	300	690.00	7.55	5.21	0.83	70.
21	- 20	-34.021	410	2950.00	-0.26	-0.77	-0.26	110.	115	-117	6.945	150	2430.00	7.90	19.20	0.39	50.
102	-107	-523.623	900	940.00	-0.89	-0.84	-0.82	110.	116	-117	9.096	150	260.00	13.02	3.65	0.51	50.
102	-111	767.374	900	1340.00	1.81	2.42	1.21	110.	116	-116	2.824	150	740.00	1.49	1.10	0.16	50.
102	-108	-436.731	840	150.00	-0.89	-0.13	-0.79	110.	117	-120	4.789	150	3060.00	3.97	12.15	0.27	50.
102	-110	192.963	530	1570.00	1.85	2.91	0.87	110.	118	-119	2.824	130	740.00	3.00	2.22	0.21	50.
103	-111	-498.533	760	1810.00	-1.85	-3.36	-1.10	110.	119	-120	2.824	100	1160.00	10.75	12.47	0.36	50.
103	-104	295.769	760	1330.00	0.71	1.08	0.65	110.	121	-122	1637.592	1220	1680.00	1.67	2.81	1.40	110.
103	-128	94.970	360	2070.00	4.54	9.40	0.84	80.	122	-127	1353.632	1070	1180.00	2.27	2.67	1.52	110.
104	-123	185.904	530	3940.00	1.73	6.61	0.64	110.	122	-128	12.610	380	2070.00	0.11	0.22	0.11	80.
105	-126	54.827	560	2600.00	0.14	0.36	0.22	110.	122	-129	90.023	380	1430.00	4.11	5.88	0.79	80.
106	-107	2262.851	1370	910.00	1.73	1.58	1.54	110.	123	-105	84.615	300	1400.00	6.43	9.00	1.20	110.
107	-109	2052.053	1370	1230.00	1.45	1.78	1.39	110.	123	-124	53.120	300	1650.00	2.71	4.48	0.75	110.
107	-108	436.733	840	790.00	0.89	0.70	0.79	110.	124	-125	50.638	300	2020.00	2.48	5.02	0.72	110.
109	-110	1694.308	1370	1940.00	1.01	1.97	1.15	110.	125	-130	-9.087	300	1220.00	-0.19	-0.23	-0.13	80.
110	-111	-197.509	760	1440.00	-0.33	-0.48	-0.44	110.	125	-135	7.437	300	1150.00	0.07	0.08	0.11	110.
110	-113	1903.602	1220	2500.00	2.21	5.53	1.63	110.	126	-127	1261.018	1070	2760.00	-1.95	-5.39	-1.40	110.
110	-112	146.387	460	1250.00	2.21	2.76	0.88	110.	126	-135	52.648	560	1730.00	0.13	0.22	0.21	110.
112	-113	146.388	460	1250.00	2.21	2.77	0.88	110.	126	-185	50.530	380	1730.00	3.37	5.83	0.45	50.
113	-121	1759.336	1220	1940.00	1.91	3.71	1.51	110.	129	-130	60.232	300	340.00	6.18	2.10	0.85	80.
113	-114	142.295	460	960.00	2.10	2.01	0.66	110.	129	-132	7.276	300	2100.00	0.12	0.26	0.10	80.

DAR ES SALAAM (CASEZ) Ø900

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10 11 12 17

I	J	Q (mm <sup>3</sup> /S)	D (MM)	L (M)	I (%)	H (M)	V (M/S)	C
131	-132	46.632	410	1230.00	0.47	0.60	0.33	110.
132	-133	29.578	410	740.00	0.20	0.15	0.22	110.
133	-184	9.715	150	1020.00	7.89	8.04	0.55	70.
184	-135	-4.200	250	840.00	-0.26	-0.22	-0.09	50.
135	-134	20.027	300	1940.00	1.92	3.72	0.28	50.
185	-184	6.277	300	1940.00	0.22	0.43	-0.09	50.
185	-136	4.200	250	840.00	0.26	0.22	0.09	50.

קאזעז C 611







**4) CASE - 4**

No1

## DAR ES SALAAM (CASE4)

NO	QDMAX (M**3/D)	QHMAX (L/S)	H (M)	GL (M)	HE (M)
1	0.0	0.000	128.43	128.43	0.00
101	0.0	0.000	64.80	64.80	0.00
2	-19000.0	-219.307	137.28	31.00	106.28
3	1870.0	30.930	129.00	38.00	91.00
4	2010.0	33.267	113.14	38.00	75.14
5	6310.0	107.747	53.39	30.00	23.39
6	0.0	0.000	91.60	43.00	48.60
7	2790.0	46.177	89.71	52.00	37.71
8	0.0	0.000	89.40	53.00	36.40
9	5360.0	92.023	86.41	57.00	31.41
10	0.0	0.000	103.38	43.00	60.38
11	0.0	0.000	110.57	49.00	61.57
12	0.0	0.000	113.46	49.00	64.46
13	0.0	0.000	122.90	115.00	7.90
14	240.0	3.972	128.60	107.00	21.60
15	3200.0	52.363	126.74	69.00	59.74
65	12790.0	211.686	113.31	69.00	44.31
16	0.0	0.000	113.30	64.00	49.30
17	940.0	15.558	130.21	56.00	72.21
67	940.0	15.558	113.30	56.00	55.30
18	0.0	0.000	113.30	55.00	58.30
19	1600.0	25.481	127.62	63.00	58.62
20	0.0	0.000	92.95	50.00	42.95

No2

## DAR ES SALAAM (CASE4)

NO	QDMAX (M**3/D)	QHMAX (L/S)	H (M)	GL (M)	HE (M)
21	3930.0	38.756	92.20	67.00	25.20
102	0.0	0.000	59.48	31.00	28.48
103	6310.0	107.747	53.19	38.00	15.19
104	6640.0	109.398	52.12	38.00	14.12
105	1800.0	29.792	36.63	30.00	6.63
106	0.0	0.000	62.76	40.00	22.76
107	0.0	0.000	60.72	38.00	22.72
108	19000.0	219.907	59.57	30.00	29.57
109	21610.0	357.666	58.72	23.00	35.72
110	2100.0	34.757	56.46	20.00	36.46
111	4310.0	71.334	56.51	23.00	33.51
112	0.0	0.000	53.68	18.00	35.68
113	8950.0	148.131	50.91	13.00	35.91
114	3310.0	34.764	48.89	13.00	35.89
115	330.0	5.462	44.04	13.00	31.04
116	270.0	4.469	28.49	3.00	25.49
117	660.0	11.233	24.84	3.00	21.84
118	0.0	0.000	27.39	10.00	17.39
119	0.0	0.000	25.17	10.00	15.17
120	460.0	7.613	12.70	10.00	2.70
121	7370.0	121.960	47.19	13.00	32.19
122	10220.0	169.150	44.37	15.00	29.37
123	2910.0	48.163	45.43	24.00	21.43

DAR ES SALAAM (CASE4)

DAR ES SALAAM (CASE4)

NO.	QDMAX (M <sup>3</sup> /S/D)	QMAX (L/S)	H (M)	GL (M)	HE (M)	I (M/S)	J (M <sup>3</sup> /S)	Q (M <sup>3</sup> /S)	D (MM)	L (M)	I (%/s)	H (M)	V (M/S)	C
124	150.0	2.483	41.04	21.00	20.04	1	14	-31.230	530	2730.00	-0.06	-0.17	-0.14	110.
125	3160.0	52.301	36.13	15.00	21.13	1	13	505.468	530	500.00	11.05	5.53	2.30	110.
126	73270.0	1212.686	36.26	16.00	18.26	101	-107	631.829	800	1820.00	2.24	4.08	1.26	110.
127	6330.0	104.767	41.69	15.00	26.69	101	-106	2600.518	1370	910.00	2.24	2.04	1.76	110.
128	6500.0	107.561	44.09	25.00	19.09	2	17	219.914	530	3000.00	2.36	7.07	1.00	110.
129	1360.0	22.509	38.46	12.00	26.46	3	17	-30.952	360	2120.00	-0.57	-1.21	-0.27	90.
130	3090.0	51.142	36.37	12.00	24.37	4	16	-33.271	530	2250.00	-0.07	-0.16	-0.15	110.
131	730.0	12.082	38.82	6.00	32.82	6	10	-180.665	410	2060.00	-5.72	-11.76	-1.37	110.
132	1470.0	24.330	38.22	3.00	35.22	6	5	107.744	300	3600.00	10.06	38.21	1.52	110.
133	1200.0	19.861	38.07	6.00	32.07	6	7	72.950	410	1770.00	1.07	1.89	0.55	110.
134	1210.0	20.027	32.33	5.00	27.33	7	8	26.771	410	1890.00	0.17	0.31	0.20	110.
135	1230.0	20.192	30.02	5.00	25.02	8	11	-65.250	300	5330.00	-3.97	-21.17	-0.92	110.
135	2420.0	40.053	36.06	14.00	22.06	8	9	32.026	410	600.00	1.64	0.98	0.70	110.
135	2420.0	40.053	30.45	14.00	16.45	11	12	-243.916	460	500.00	-5.76	-2.89	-1.48	110.
136	0.0	0.000	30.24	8.00	22.24	11	10	180.693	460	2200.00	3.27	7.19	1.09	110.
						12	13	-282.398	610	5000.00	-1.89	-9.45	-0.97	110.
						12	18	36.441	610	3770.00	0.04	0.16	0.12	110.
						13	65	224.081	530	3330.00	2.44	3.59	1.02	110.
						13	14	33.204	530	1700.00	0.06	0.13	0.16	110.
						15	17	-173.407	530	970.00	-1.52	-1.47	-0.79	110.
						15	19	26.479	300	1500.00	0.75	1.12	0.37	110.
						15	21	24.733	200	6450.00	5.67	36.54	0.79	100.
						15	20	34.018	200	3500.00	10.22	35.77	1.08	100.
TOTAL	224000.0													
	0.0													

DAR ES SALAAM (CASE4)

DAR ES SALAAM (CASE4)

I	J	D (MM)	Q (***L/S)	L (M)	I (%/s)	H (M)	V (M/S)	C	I	J	Q (***L/S)	D (MM)	L (M)	I (%/s)	H (M)	V (M/S)	C
16	- 65	530	-14.297	490.00	-0.01	-0.01	-0.06	110.	114	-115	71.192	300	450.00	10.78	4.85	1.01	70.
16	- 67	530	14.370	480.00	0.02	0.01	0.07	110.	114	-116	16.392	200	2550.00	8.00	20.40	0.52	55.
18	- 67	530	6.960	460.00	0.00	0.00	0.03	110.	115	-131	59.795	300	690.00	7.56	5.22	0.63	70.
21	- 20	410	-34.021	2950.00	-0.26	-0.77	-0.26	110.	115	-117	6.945	150	2450.00	7.90	19.20	0.39	50.
102	-107	800	-475.111	940.00	-1.32	-1.24	-0.95	110.	116	-117	9.098	150	280.00	13.02	3.65	0.51	50.
102	-111	800	629.028	1340.00	2.22	2.97	1.25	110.	116	-118	2.824	150	740.00	1.49	1.10	0.16	50.
102	-108	840	-350.118	150.00	-0.59	-0.09	-0.63	110.	117	-120	4.789	150	3060.00	3.97	12.15	0.27	50.
102	-110	530	197.183	1570.00	1.93	3.02	0.89	110.	118	-119	2.824	150	740.00	3.00	2.22	0.21	50.
103	-111	760	-495.321	1810.00	-1.83	-3.32	-1.03	110.	119	-120	2.824	100	1160.00	10.73	12.47	0.36	50.
103	-104	760	294.162	1530.00	0.70	1.07	0.65	110.	121	-122	1640.512	1220	1680.00	1.68	2.82	1.40	110.
103	-128	380	93.365	2070.00	4.40	9.11	0.82	80.	122	-127	1367.071	1070	1180.00	2.27	2.68	1.52	110.
104	-123	530	184.297	3940.00	1.70	6.70	0.64	110.	122	-128	14.216	360	2070.00	0.13	0.28	0.13	80.
105	-126	560	53.812	2600.00	0.13	0.33	0.22	110.	122	-129	90.109	360	1430.00	4.12	5.89	0.79	80.
106	-107	1370	2600.372	910.00	2.24	2.04	1.76	110.	123	-105	83.599	300	1400.00	6.29	8.60	1.18	110.
107	-109	1370	2167.174	1250.00	1.63	2.00	1.48	110.	123	-124	52.529	300	1650.00	2.66	4.39	0.74	110.
107	-108	840	570.051	790.00	1.46	1.15	1.03	110.	124	-125	50.047	300	2020.00	2.43	4.91	0.71	110.
109	-110	1370	1829.422	1940.00	1.17	2.27	1.24	110.	125	-130	-9.259	300	1220.00	-0.19	-0.24	-0.13	80.
110	-111	760	-61.378	1440.00	-0.04	-0.06	-0.14	110.	125	-135	7.009	300	1150.00	0.06	0.07	0.10	110.
110	-113	1220	1906.585	2500.00	2.22	3.55	1.63	110.	126	-127	-1262.457	1070	2760.00	-1.96	-5.41	-1.40	110.
110	-112	460	146.616	1250.00	2.22	2.77	0.88	110.	126	-133	53.077	560	1730.00	0.13	0.22	0.22	110.
112	-113	460	146.617	1250.00	2.22	2.77	0.88	110.	126	-185	50.524	360	1730.00	3.37	5.83	0.45	50.
113	-121	1220	1762.466	1940.00	1.92	3.72	1.51	110.	129	-130	60.394	300	340.00	6.21	2.11	0.85	80.
113	-114	460	142.377	960.00	2.10	2.02	0.66	110.	129	-132	7.200	300	2100.00	0.12	0.25	0.10	80.













JICA