

รายการอ้างอิง

ภาษาไทย

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ภาคผนวก ก.

ผลการทดลองแบบจำลอง ที่อัตราการไหลต่าง ๆ

ผลที่ได้จากตารางในภาคผนวก ก. เป็นผลที่นำค่าจากการทดลอง คือค่า อัตราการไหล จากรูป 4-1 ค่า Manning'n จากรูป 4-3 และค่าความลึกการไหล จากช่อง (6) นำไปคำนวณหาค่าต่างๆ เช่น พื้นที่หน้าตัดการไหลในแบบจำลอง ช่อง (8) ความเร็วในแบบจำลอง ช่อง (9) เป็นต้น

ผลการทดลองได้ค่าต่างๆ ตามตาราง ก. -1 ถึง ตาราง ก. -20 ดังนี้คือ

- (1) ลำดับที่ในการวัดข้อมูลในแบบจำลอง
- (2) ระยะทางตามแนวศูนย์กลางที่ทำการวัดข้อมูลในแบบจำลอง หน่วยเป็น ซม.
- (3) ระดับพื้นของแบบจำลอง (อ้างอิงระดับพื้นห้องปฏิบัติการเป็น +0.00) หน่วยเป็น ซม.
- (4) ระดับผิวน้ำที่วัดได้ในแบบจำลอง หน่วยเป็น ซม.
- (5) ค่า froude number ที่คำนวณสำหรับแบบจำลอง
- (6) ความลึกการไหลที่ทำการวัดค่าในแบบจำลอง หน่วยเป็น ซม.
- (7) ความลึกวิกฤติ (critical depth) ที่คำนวณสำหรับแบบจำลอง หน่วยเป็น ซม.

$$Y_c = \sqrt[3]{\frac{q^2}{g}}$$

- (8) พื้นที่หน้าตัดการไหลที่คำนวณสำหรับแบบจำลอง หน่วยเป็น ตร.ซม.
- (9) ความเร็วที่คำนวณสำหรับแบบจำลอง หน่วยเป็น ซม./วินาที
- (10) อัตราส่วนระหว่าง ความลึกการไหลกับความลึกวิกฤติ ในแบบจำลอง
- (11) พลังงานจำเพาะ (specific energy) ในแบบจำลอง

$$E = y + \frac{V^2}{2g}$$

ตาราง ก-1 ผลการทดลอง 1-TW1 (Q=0.16 l/s)

NO	STA	EL_B	EL_W	Ff	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Ff	Y	Yc	A	V	Y/Yc	E	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
	cm	cm	cm	cm	cm	sq cm	cm/s	cm		cm	cm	cm	cm	cm	cm	sq cm	cm/s	cm		cm		
A	95.54	+52.00	+54.28	xxx	2.28	xxx	xxx	0.00	xxx	2.28	40	195	+21.36	+21.89	10.19	0.53	2.49	26.50	232.45	0.21	28.07	
B	56.21	+39.13	+43.55	0.09	4.42	xxx	xxx	5.97	xxx	4.44	41	200	+20.50	+21.09	8.68	0.59	2.49	29.50	210.81	0.24	27.81	
1	0	+38.00	+39.85	1.56	1.85	2.49	92.50	66.59	0.74	4.11	42	205	+19.66	+20.25	8.68	0.59	2.49	29.50	208.81	0.24	22.81	
2	5	+37.90	+40.25	1.09	2.35	2.49	117.50	52.43	0.94	3.75	43	210	+18.80	+19.38	8.81	0.58	2.49	29.20	210.96	0.23	23.27	
3	10	+37.80	+39.80	1.39	2.00	2.49	100.00	61.60	0.80	3.93	44	215	+17.94	+18.49	9.64	0.55	2.49	27.50	224.00	0.22	26.12	
4	15	+37.70	+39.65	1.44	1.95	2.49	97.50	63.18	0.78	3.98	45	220	+17.10	+17.60	11.13	0.50	2.49	25.00	246.40	0.20	31.44	
5	20	+37.60	+39.41	1.62	1.81	2.49	90.50	68.07	0.73	4.17	46	225	+16.24	+16.69	13.03	0.45	2.49	22.50	273.78	0.18	38.65	
6	25	+37.50	+39.15	1.86	1.65	2.49	82.50	74.67	0.66	4.49	47	230	+15.40	+15.85	13.03	0.45	2.49	22.50	273.78	0.18	38.65	
7	30	+37.40	+39.18	1.66	1.78	2.49	89.00	69.21	0.71	4.22	48	235	+14.54	+14.94	15.55	0.40	2.49	20.00	308.00	0.16	48.75	
8	35	+37.30	+38.98	1.81	1.68	2.49	84.00	73.33	0.67	4.42	49	240	+13.70	+14.23	10.07	0.53	2.47	26.84	229.52	0.21	27.38	
9	40	+37.20	+39.02	1.60	1.82	2.49	91.00	67.69	0.73	4.16	50	245	+12.84	+13.45	7.86	0.61	2.41	32.03	192.35	0.25	19.47	
10	45	+37.10	+38.73	1.89	1.63	2.49	81.50	75.58	0.65	4.54	51	250	+12.00	+12.60	7.78	0.60	2.36	32.63	188.79	0.25	18.77	
11	50	+37.00	+38.54	2.06	1.54	2.49	77.00	80.00	0.62	4.80	52	255	+10.92	+11.63	5.84	0.71	2.30	39.94	154.21	0.31	12.83	
12	55	+36.90	+38.63	1.73	1.73	2.49	86.50	71.21	0.69	4.31	53	260	+9.70	+10.37	6.17	0.67	2.25	38.94	158.19	0.30	13.42	
13	60	+36.80	+38.60	1.63	1.80	2.49	90.00	68.44	0.72	4.19	54	265	+8.48	+9.23	5.05	0.75	2.21	45.00	136.89	0.34	10.30	
14	65	+36.70	+38.35	1.86	1.65	2.49	82.50	74.67	0.66	4.49	55	270	+7.28	+7.95	5.80	0.67	2.16	41.45	148.63	0.31	11.93	
15	70	+36.60	+38.15	2.04	1.55	2.49	77.50	79.48	0.62	4.77	56	275	+6.72	+6.42	5.27	0.70	2.12	44.62	138.06	0.33	10.41	
16	75	+36.50	+38.00	2.14	1.50	2.49	75.00	82.13	0.60	4.94	57	280	+4.02	+4.72	5.12	0.70	2.08	45.93	134.11	0.34	9.87	
17	80	+36.40	+37.85	2.25	1.45	2.49	72.50	84.97	0.58	5.13	58	285	+2.30	+3.05	4.49	0.75	2.04	50.61	121.72	0.37	8.30	
18	85	+36.30	+37.70	2.37	1.40	2.49	70.00	88.00	0.56	5.35	59	290	+0.58	+2.48	1.08	1.90	2.00	131.78	46.74	0.95	3.01	
19	90	+36.20	+37.55	2.51	1.35	2.49	67.50	91.26	0.54	5.59	60	295	+0.00	+3.45	0.44	3.45	1.99	241.50	25.51	1.73	3.78	
20	95	+36.10	+37.35	2.81	1.25	2.49	62.50	98.56	0.50	6.20	61	300	+0.00	+5.35	0.23	5.35	1.99	374.50	16.45	2.69	5.49	
21	100	+36.00	+37.35	2.51	1.35	2.49	67.50	91.26	0.54	5.59	62	305	+0.00	+5.70	0.21	5.70	1.99	399.00	15.44	2.86	5.82	
22	105	+35.52	+36.71	3.03	1.19	2.49	59.50	103.53	0.48	6.65	63	310	+0.00	+5.95	0.19	5.95	1.99	416.50	14.79	2.99	6.06	
23	110	+35.04	+36.23	3.03	1.19	2.49	59.50	103.53	0.48	6.65	64	315	+0.00	+5.35	0.23	5.35	1.99	374.50	16.45	2.69	5.49	
24	115	+34.58	+35.73	3.19	1.15	2.49	57.50	107.13	0.46	7.00	65	320	+0.00	+5.20	0.24	5.20	1.99	364.00	16.92	2.61	5.35	
25	120	+34.10	+34.95	5.02	0.85	2.49	42.50	144.94	0.34	11.56	66	325	+0.00	+5.50	0.22	5.50	1.99	385.00	16.00	2.76	5.63	
26	125	+33.26	+34.08	5.30	0.82	2.49	41.00	150.24	0.33	12.33	67	330	+0.00	+4.80	0.27	4.80	1.99	336.00	18.33	2.41	4.97	
27	130	+32.40	+33.12	6.44	0.72	2.49	36.00	171.11	0.29	15.64	68	335	+0.00	+5.20	0.24	5.20	1.99	364.00	16.92	2.61	5.35	
28	135	+31.54	+32.16	8.06	0.62	2.49	31.00	198.71	0.25	20.75	69	340	+0.00	+4.90	0.26	4.90	1.99	343.00	17.96	2.46	5.06	
29	140	+30.70	+31.27	9.14	0.57	2.49	28.50	216.14	0.23	24.38	70	345	+0.00	+5.05	0.25	5.05	1.99	353.50	17.43	2.54	5.20	
30	145	+29.84	+30.34	11.13	0.50	2.49	25.00	246.40	0.20	31.44	71	350	+0.00	+4.95	0.26	4.95	1.99	346.50	17.78	2.49	5.11	
31	150	+29.00	+29.61	8.26	0.61	2.49	30.50	201.97	0.24	21.40	72	355	+0.00	+5.00	0.25	5.00	1.99	350.00	17.60	2.51	5.16	
32	155	+28.14	+28.64	11.13	0.50	2.49	25.00	246.40	0.20	31.44	73	360	+0.00	+4.90	0.26	4.90	1.99	343.00	17.96	2.46	5.06	
33	160	+27.30	+27.66	18.21	0.36	2.49	18.00	342.22	0.14	60.05	74	365	+0.00	+5.55	0.21	5.55	1.99	388.50	15.86	2.79	5.68	
34	165	+26.44	+26.78	19.84	0.34	2.49	17.00	362.35	0.14	67.26	75	370	+0.00	+5.25	0.23	5.25	1.99	367.50	16.76	2.64	5.39	
35	170	+25.60	+25.99	16.15	0.39	2.49	19.50	315.90	0.16	51.25	76	375	+0.00	+5.30	0.23	5.30	1.99	371.00	16.60	2.66	5.44	
36	175	+24.76	+25.11	19.00	0.35	2.49	17.50	352.00	0.14	63.50	77	380	+0.00	+5.30	0.23	5.30	1.99	371.00	16.60	2.66	5.44	
37	180	+23.90	+24.30	15.55	0.40	2.49	20.00	308.00	0.16	48.75	78	385	+0.00	+5.35	0.23	5.35	1.99	374.50	16.45	2.69	5.49	
38	185	+23.06	+23.40	19.84	0.34	2.49	17.00	362.35	0.14	67.26	79	390	+0.00	+5.40	0.22	5.40	1.99	378.00	16.30	2.71	5.54	
39	190	+22.20	+22.74	9.91	0.54	2.49	27.00	228.15	0.22	27.07												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-2 ผลการทดลอง 2-TW1 (Q=7.27 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	cm	cm	cm	cm	cm	sq.cm	cm/s	cm	cm	cm	cm	cm	cm	cm	cm	sq.cm	cm/s	cm	cm	cm	cm
A	95.54	+52.00	+54.46	xxx	2.46	xxx	xxx	0.00	xxx	2.46	40	195	+21.36	+22.15	6.61	0.79	2.78	39.50	184.05	0.28	18.06
B	-56.21	+39.13	+44.56	0.09	5.43	xxx	xxx	6.87	xxx	5.45	41	200	+20.50	+21.12	9.51	0.62	2.78	31.00	234.52	0.22	28.65
1	0	+38.00	+40.25	1.38	2.25	2.78	112.50	64.62	0.81	4.38	42	205	+19.66	+20.46	6.49	0.80	2.78	40.00	181.75	0.29	17.64
2	5	+37.90	+40.05	1.47	2.15	2.78	107.50	67.63	0.77	4.48	43	210	+18.80	+19.47	8.46	0.67	2.78	33.50	217.01	0.24	24.67
3	10	+37.80	+39.82	1.62	2.02	2.78	101.00	71.98	0.73	4.66	44	215	+17.94	+18.69	7.15	0.75	2.78	37.50	193.87	0.27	19.91
4	15	+37.70	+39.85	1.47	2.15	2.78	107.50	67.63	0.77	4.48	45	220	+17.10	+18.03	5.18	0.93	2.78	46.50	156.34	0.33	13.39
5	20	+37.60	+39.60	1.64	2.00	2.78	100.00	72.70	0.72	4.69	46	225	+16.24	+17.08	6.03	0.84	2.78	42.00	173.10	0.30	16.11
6	25	+37.50	+39.50	1.64	2.00	2.78	100.00	72.70	0.72	4.69	47	230	+15.40	+16.20	6.49	0.80	2.78	40.00	181.75	0.29	17.64
7	30	+37.40	+39.35	1.70	1.95	2.78	97.50	74.56	0.70	4.78	48	235	+14.54	+15.34	6.49	0.80	2.78	40.00	181.75	0.29	17.64
8	35	+37.30	+39.25	1.70	1.95	2.78	97.50	74.56	0.70	4.78	49	240	+13.70	+14.53	6.06	0.83	2.76	42.03	172.97	0.30	16.08
9	40	+37.20	+39.10	1.77	1.90	2.78	95.00	76.53	0.68	4.88	50	245	+12.84	+13.67	5.85	0.83	2.69	43.57	166.84	0.31	15.02
10	45	+37.10	+38.92	1.89	1.82	2.78	91.00	79.89	0.65	5.07	51	250	+12.00	+12.82	5.75	0.82	2.63	44.59	163.04	0.31	14.37
11	50	+37.00	+38.85	1.84	1.85	2.78	92.50	78.59	0.66	5.00	52	255	+10.92	+11.63	6.90	0.71	2.57	39.94	182.00	0.28	17.50
12	55	+36.90	+38.70	1.92	1.80	2.78	90.00	80.78	0.65	5.13	53	260	+9.70	+10.47	5.91	0.77	2.52	44.75	162.45	0.31	14.22
13	60	+36.80	+38.60	1.92	1.80	2.78	90.00	80.78	0.65	5.13	54	265	+8.48	+9.12	7.56	0.64	2.46	38.40	189.32	0.26	18.91
14	65	+36.70	+38.45	2.01	1.75	2.78	87.50	83.09	0.63	5.27	55	270	+7.28	+7.71	13.31	0.43	2.41	26.60	273.31	0.18	38.50
15	70	+36.60	+38.35	2.01	1.75	2.78	87.50	83.09	0.63	5.27	56	275	+5.72	+6.17	12.06	0.45	2.37	28.68	253.46	0.19	33.19
16	75	+36.50	+38.20	2.09	1.70	2.78	85.00	85.53	0.61	5.43	57	280	+4.02	+4.24	34.28	0.22	2.32	14.44	503.59	0.09	129.40
17	80	+36.40	+38.10	2.09	1.70	2.78	85.00	85.53	0.61	5.43	58	285	+2.30	+3.24	3.77	0.94	2.28	63.43	114.61	0.41	7.64
18	85	+36.30	+37.78	2.50	1.48	2.78	74.00	98.24	0.53	6.40	59	290	+0.58	+3.08	0.85	2.50	2.24	173.40	41.93	1.12	3.40
19	90	+36.20	+37.48	3.21	1.28	2.78	64.00	113.59	0.46	7.86	60	295	+0.00	+4.75	0.32	4.75	2.22	332.50	21.86	2.14	4.99
20	95	+36.10	+37.30	3.53	1.20	2.78	60.00	121.17	0.43	8.68	61	300	+0.00	+5.35	0.27	5.35	2.22	374.50	19.41	2.41	5.54
21	100	+36.00	+37.31	3.10	1.31	2.78	65.50	110.99	0.47	7.59	62	305	+0.00	+5.65	0.25	5.65	2.22	395.50	18.38	2.54	5.82
22	105	+35.52	+36.73	3.49	1.21	2.78	60.50	120.17	0.43	8.57	63	310	+0.00	+5.35	0.27	5.35	2.22	374.50	19.41	2.41	5.54
23	110	+35.04	+36.29	3.32	1.25	2.78	62.50	116.32	0.45	8.15	64	315	+0.00	+5.25	0.28	5.25	2.22	367.50	19.78	2.36	5.45
24	115	+34.58	+35.61	4.44	1.03	2.78	51.50	141.17	0.37	11.19	65	320	+0.00	+5.30	0.27	5.30	2.22	371.00	19.60	2.38	5.50
25	120	+34.10	+35.12	4.51	1.02	2.78	51.00	142.55	0.37	11.38	66	325	+0.00	+5.15	0.28	5.15	2.22	360.50	20.17	2.32	5.36
26	125	+33.26	+34.18	5.26	0.92	2.78	46.00	158.04	0.33	13.65	67	330	+0.00	+4.85	0.31	4.85	2.22	339.50	21.41	2.18	5.00
27	130	+32.40	+33.16	7.01	0.76	2.78	38.00	191.32	0.27	19.42	68	335	+0.00	+4.90	0.31	4.90	2.22	343.00	21.20	2.20	5.13
28	135	+31.54	+32.28	7.29	0.74	2.78	37.00	196.49	0.27	20.42	69	340	+0.00	+4.55	0.34	4.55	2.22	318.50	22.83	2.05	4.82
29	140	+30.70	+31.23	12.03	0.53	2.78	26.50	274.34	0.19	38.89	70	345	+0.00	+4.75	0.32	4.75	2.22	332.50	21.86	2.14	4.99
30	145	+29.84	+30.36	12.38	0.52	2.78	26.00	279.62	0.19	40.37	71	350	+0.00	+4.70	0.33	4.70	2.22	329.00	22.10	2.11	4.95
31	150	+29.00	+29.51	12.75	0.51	2.78	25.50	285.10	0.18	41.94	72	355	+0.00	+4.95	0.30	4.95	2.22	346.50	20.98	2.23	5.17
32	155	+28.14	+28.58	15.91	0.44	2.78	22.00	330.45	0.16	56.10	73	360	+0.00	+4.85	0.31	4.85	2.22	339.50	21.41	2.18	5.08
33	160	+27.30	+27.85	11.38	0.55	2.78	27.50	264.36	0.20	36.17	74	365	+0.00	+4.40	0.36	4.40	2.22	308.00	23.60	1.98	4.68
34	165	+26.44	+27.08	9.07	0.64	2.78	32.00	227.19	0.23	26.95	75	370	+0.00	+4.80	0.32	4.80	2.22	336.00	21.64	2.16	5.04
35	170	+25.60	+26.14	11.70	0.54	2.78	27.00	269.26	0.19	37.49	76	375	+0.00	+4.75	0.32	4.75	2.22	332.50	21.86	2.14	4.99
36	175	+24.76	+25.41	8.86	0.65	2.78	32.50	223.69	0.23	26.15	77	380	+0.00	+4.65	0.33	4.65	2.22	325.50	22.33	2.09	4.90
37	180	+23.90	+24.67	6.87	0.77	2.78	38.50	188.83	0.28	18.94	78	385	+0.00	+4.70	0.33	4.70	2.22	329.00	22.10	2.11	4.95
38	185	+23.06	+23.69	9.24	0.63	2.78	31.50	230.79	0.23	27.78	79	390	+0.00	+4.80	0.32	4.80	2.22	336.00	21.64	2.16	5.04
39	190	+22.20	+22.89	8.10	0.69	2.78	34.50	210.72	0.25	23.32											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-3 ผลการทดลอง 3-TW1 (Q=8.28 l/s)

NO	STA	EL_R	EL_W	Fr	Y	Yc	A	V	V/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	
	cm	cm	cm	cm	cm	cm	sq cm	cm/s		cm		cm	cm	cm	cm	cm	sq cm	cm/s		cm		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
A	95.54	+52.00	+54.61	xxx	2.61	xxx	xxx	0.00	xxx	2.61	40	195	+21.36	+22.16	7.39	0.80	3.03	40.00	207.00	0.26	22.64	
B	-56.21	+39.13	+44.98	0.10	5.85	xxx	xxx	7.66	xxx	5.88	41	200	+20.50	+21.35	6.75	0.85	3.03	42.50	194.82	0.28	20.20	
1	0	+38.00	+40.45	1.38	2.45	3.03	122.50	67.59	0.81	4.78	42	205	+19.66	+20.51	6.75	0.85	3.03	42.50	194.82	0.28	20.20	
2	5	+37.90	+40.45	1.30	2.55	3.03	127.50	64.94	0.84	4.70	43	210	+18.80	+19.65	6.75	0.85	3.03	42.50	194.82	0.28	20.20	
3	10	+37.80	+40.35	1.30	2.55	3.03	127.50	64.94	0.84	4.70	44	215	+17.94	+18.76	7.12	0.82	3.03	41.00	201.95	0.27	21.61	
4	15	+37.70	+39.90	1.62	2.20	3.03	110.00	75.27	0.72	5.09	45	220	+17.10	+17.89	7.53	0.79	3.03	39.50	209.62	0.26	23.19	
5	20	+37.60	+39.75	1.68	2.15	3.03	107.50	77.02	0.71	5.17	46	225	+16.24	+17.04	7.39	0.80	3.03	40.00	207.00	0.26	22.64	
6	25	+37.50	+39.60	1.74	2.10	3.03	105.00	78.86	0.69	5.27	47	230	+15.40	+16.17	7.83	0.77	3.03	38.50	215.06	0.25	24.34	
7	30	+37.40	+39.50	1.74	2.10	3.03	105.00	78.86	0.69	5.27	48	235	+14.54	+15.29	8.14	0.75	3.03	37.50	220.80	0.25	25.60	
8	35	+37.30	+39.30	1.87	2.00	3.03	100.00	82.80	0.65	5.49	49	240	+13.70	+14.42	8.54	0.72	3.01	36.46	227.09	0.24	27.01	
9	40	+37.20	+39.15	1.94	1.95	3.03	97.50	84.92	0.64	5.63	50	245	+12.84	+13.59	7.75	0.75	2.94	39.38	210.29	0.26	23.29	
10	45	+37.10	+39.05	1.94	1.95	3.03	97.50	84.92	0.64	5.63	51	250	+12.00	+12.70	8.30	0.70	2.87	38.07	217.52	0.24	24.81	
11	50	+37.00	+38.95	1.94	1.95	3.03	97.50	84.92	0.64	5.63	52	255	+10.92	+11.60	8.38	0.68	2.81	38.26	216.43	0.24	24.56	
12	55	+36.90	+38.90	1.87	2.00	3.03	100.00	82.80	0.66	5.49	53	260	+9.70	+10.35	8.68	0.65	2.75	37.78	219.18	0.24	25.13	
13	60	+36.80	+38.75	1.94	1.95	3.03	97.50	84.92	0.64	5.63	54	265	+8.48	+9.08	9.48	0.60	2.69	36.00	230.00	0.22	27.56	
14	65	+36.70	+38.70	1.87	2.00	3.03	100.00	82.80	0.66	5.49	55	270	+7.28	+8.03	6.58	0.75	2.63	46.40	178.47	0.28	16.98	
15	70	+36.60	+38.55	1.94	1.95	3.03	97.50	84.92	0.64	5.63	56	275	+6.72	+6.67	4.48	0.95	2.58	60.55	136.74	0.37	10.48	
16	75	+36.50	+38.45	1.94	1.95	3.03	97.50	84.92	0.64	5.63	57	280	+4.02	+5.02	4.03	1.00	2.53	65.62	126.18	0.39	9.12	
17	80	+36.40	+38.20	2.19	1.80	3.03	90.00	92.00	0.59	6.11	58	285	+2.30	+3.65	2.50	1.35	2.49	91.10	90.89	0.54	5.56	
18	85	+36.30	+37.95	2.49	1.65	3.03	82.50	100.36	0.54	6.78	59	290	+0.58	+2.68	1.25	2.10	2.44	145.66	56.85	0.86	3.75	
19	90	+36.20	+37.75	2.74	1.55	3.03	77.50	106.84	0.51	7.37	60	295	+0.00	+2.55	0.93	2.55	2.43	178.50	46.39	1.05	3.65	
20	95	+36.10	+37.60	2.88	1.50	3.03	75.00	110.40	0.49	7.71	61	300	+0.00	+4.05	0.46	4.05	2.43	283.50	29.21	1.67	4.40	
21	100	+36.00	+37.50	2.88	1.50	3.03	75.00	110.40	0.49	7.71	62	305	+0.00	+4.55	0.39	4.55	2.43	318.50	26.00	1.88	4.89	
22	105	+35.52	+36.87	3.37	1.35	3.03	67.50	122.67	0.44	9.02	63	310	+0.00	+5.35	0.31	5.35	2.43	374.50	22.11	2.21	5.60	
23	110	+35.04	+36.29	3.78	1.25	3.03	62.50	132.48	0.41	10.20	64	315	+0.00	+5.60	0.28	5.60	2.43	392.00	21.12	2.31	5.83	
24	115	+34.58	+35.68	4.58	1.10	3.03	55.00	150.55	0.36	12.65	65	320	+0.00	+6.05	0.25	6.05	2.43	423.50	19.55	2.49	6.24	
25	120	+34.10	+35.25	4.29	1.15	3.03	57.50	144.00	0.38	11.72	66	325	+0.00	+5.85	0.27	5.85	2.43	409.50	20.22	2.41	6.06	
26	125	+33.26	+34.41	4.29	1.15	3.03	57.50	144.00	0.38	11.72	67	330	+0.00	+4.85	0.35	4.85	2.43	339.50	24.39	2.00	5.15	
27	130	+32.40	+33.45	4.91	1.05	3.03	52.50	157.71	0.35	13.73	68	335	+0.00	+4.45	0.40	4.45	2.43	311.50	26.58	1.83	4.81	
28	135	+31.54	+32.59	4.91	1.05	3.03	52.50	157.71	0.35	13.73	69	340	+0.00	+4.10	0.45	4.10	2.43	287.00	28.85	1.69	4.52	
29	140	+30.70	+31.58	6.40	0.88	3.03	44.00	188.18	0.29	18.93	70	345	+0.00	+4.20	0.44	4.20	2.43	294.00	28.16	1.73	4.60	
30	145	+29.84	+30.64	7.39	0.80	3.03	40.00	207.00	0.26	22.64	71	350	+0.00	+4.60	0.38	4.60	2.43	322.00	25.71	1.90	4.94	
31	150	+29.00	+30.00	5.29	1.00	3.03	50.00	165.60	0.33	14.98	72	355	+0.00	+4.70	0.37	4.70	2.43	329.00	25.17	1.94	5.02	
32	155	+28.14	+28.97	6.99	0.83	3.03	41.50	199.52	0.27	21.12	73	360	+0.00	+4.50	0.40	4.50	2.43	315.00	26.29	1.86	4.85	
33	160	+27.30	+28.30	5.29	1.00	3.03	50.00	165.60	0.33	14.98	74	365	+0.00	+4.75	0.36	4.75	2.43	332.50	24.90	1.96	5.07	
34	165	+26.44	+27.44	5.29	1.00	3.03	50.00	165.60	0.33	14.98	75	370	+0.00	+4.85	0.35	4.85	2.43	339.50	24.39	2.00	5.15	
35	170	+25.60	+26.55	5.71	0.95	3.03	47.50	174.32	0.31	16.44	76	375	+0.00	+4.70	0.37	4.70	2.43	329.00	25.17	1.94	5.02	
36	175	+24.76	+25.68	5.99	0.92	3.03	46.00	180.00	0.30	17.43	77	380	+0.00	+4.80	0.36	4.80	2.43	336.00	24.64	1.98	5.11	
37	180	+23.90	+24.78	6.40	0.88	3.03	44.00	188.18	0.29	18.93	78	385	+0.00	+4.90	0.35	4.90	2.43	343.00	24.14	2.02	5.20	
38	185	+23.06	+23.91	6.75	0.85	3.03	42.50	194.82	0.28	20.20	79	390	+0.00	+4.95	0.34	4.95	2.43	346.50	23.90	2.04	5.24	
39	190	+22.20	+23.02	7.12	0.82	3.03	41.00	201.95	0.27	21.61												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-4 ผลการทดลอง 4-TW1 (Q=15.36 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	cm.	cm.	cm.	cm.	cm.	sq.cm.	cm/s	cm.		cm.		cm.	cm.	cm.	cm.	cm.	sq.cm.	cm/s		cm.	
A	95.54	+52.00	+55.44	xxx	3.44	xxx	xxx	0.00	xxx	3.44	40	195	+21.36	+22.81	5.62	1.45	4.58	72.50	211.86	0.32	24.33
B	56.21	+39.13	+46.35	0.15	7.22	xxx	xxx	12.92	xxx	7.31	41	200	+20.50	+21.85	6.25	1.35	4.58	67.50	227.56	0.29	27.74
1	0	+38.00	+42.10	1.18	4.10	4.58	205.00	74.93	0.89	6.96	42	205	+19.66	+21.06	5.92	1.40	4.58	70.00	219.43	0.31	25.94
2	5	+37.90	+41.95	1.20	4.05	4.58	207.50	75.85	0.88	6.98	43	210	+18.80	+20.15	6.25	1.35	4.58	67.50	227.56	0.29	27.74
3	10	+37.80	+41.80	1.23	4.00	4.58	200.00	76.80	0.87	7.01	44	215	+17.94	+19.24	6.62	1.30	4.58	65.00	236.31	0.28	29.76
4	15	+37.70	+41.80	1.18	4.10	4.58	205.00	74.93	0.89	6.96	45	220	+17.10	+18.35	7.02	1.25	4.58	62.50	245.76	0.27	32.03
5	20	+37.60	+41.75	1.16	4.15	4.58	207.50	74.02	0.91	6.94	46	225	+16.24	+17.44	7.46	1.20	4.58	60.00	256.00	0.26	34.60
6	25	+37.50	+41.75	1.12	4.25	4.58	212.50	72.28	0.93	6.91	47	230	+15.40	+16.70	6.62	1.30	4.58	65.00	236.31	0.28	29.76
7	30	+37.40	+41.70	1.10	4.30	4.58	215.00	71.44	0.94	6.90	48	235	+14.54	+15.79	7.02	1.25	4.58	62.50	245.76	0.27	32.03
8	35	+37.30	+41.50	1.14	4.20	4.58	210.00	73.14	0.92	6.93	49	240	+13.70	+15.05	6.17	1.35	4.54	68.36	224.68	0.30	27.08
9	40	+37.20	+41.35	1.16	4.15	4.58	207.50	74.02	0.91	6.94	50	245	+12.84	+14.19	5.96	1.35	4.44	70.88	216.72	0.30	25.29
10	45	+37.10	+41.30	1.14	4.20	4.58	210.00	73.14	0.92	6.93	51	250	+12.00	+13.25	6.45	1.25	4.33	67.98	225.97	0.29	27.27
11	50	+37.00	+41.15	1.16	4.15	4.58	207.50	74.02	0.91	6.94	52	255	+10.92	+12.07	7.07	1.15	4.24	64.70	237.41	0.27	29.88
12	55	+36.90	+41.00	1.18	4.10	4.58	205.00	74.93	0.89	6.96	53	260	+9.70	+10.90	6.42	1.20	4.14	69.74	220.23	0.29	25.92
13	60	+36.80	+40.90	1.18	4.10	4.58	205.00	74.93	0.89	6.96	54	265	+8.48	+9.68	6.22	1.20	4.06	72.00	213.33	0.30	24.40
14	65	+36.70	+40.75	1.20	4.05	4.58	202.50	75.85	0.88	6.98	55	270	+7.28	+8.46	6.18	1.18	3.98	72.99	210.43	0.30	23.75
15	70	+36.60	+40.70	1.18	4.10	4.58	205.00	74.93	0.89	6.96	56	275	+5.72	+6.87	6.24	1.15	3.90	73.30	209.55	0.30	23.53
16	75	+36.50	+40.65	1.16	4.15	4.58	207.50	74.02	0.91	6.94	57	280	+4.02	+5.12	6.48	1.10	3.82	72.18	212.80	0.29	24.18
17	80	+36.40	+40.60	1.14	4.20	4.58	210.00	73.14	0.92	6.93	58	285	+2.30	+3.50	5.53	1.20	3.75	80.98	189.69	0.32	19.54
18	85	+36.30	+40.45	1.16	4.15	4.58	207.50	74.02	0.91	6.94	59	290	+0.58	+2.33	3.05	1.75	3.68	121.38	126.54	0.48	9.91
19	90	+36.20	+40.20	1.23	4.00	4.58	200.00	76.80	0.87	7.01	60	295	+0.00	+1.80	2.90	1.80	3.66	126.00	121.90	0.49	9.37
20	95	+36.10	+40.05	1.25	3.95	4.58	197.50	77.77	0.86	7.03	61	300	+0.00	+1.95	2.57	1.95	3.66	136.50	112.53	0.53	8.40
21	100	+36.00	+39.80	1.32	3.80	4.58	190.00	80.84	0.83	7.13	62	305	+0.00	+2.00	2.48	2.00	3.66	140.00	109.71	0.55	8.14
22	105	+35.52	+39.27	1.35	3.75	4.58	187.50	81.92	0.82	7.17	63	310	+0.00	+3.10	1.28	3.10	3.66	217.00	70.78	0.85	5.65
23	110	+35.04	+38.74	1.38	3.70	4.58	185.00	83.03	0.81	7.21	64	315	+0.00	+4.80	0.67	4.80	3.66	336.00	45.71	1.31	5.87
24	115	+34.58	+37.78	1.71	3.20	4.58	160.00	96.00	0.70	7.90	65	320	+0.00	+5.30	0.57	5.30	3.66	371.00	41.40	1.45	6.17
25	120	+34.10	+37.10	1.89	3.00	4.58	150.00	102.40	0.65	8.34	66	325	+0.00	+6.95	0.38	6.95	3.66	486.50	31.57	1.90	7.46
26	125	+33.26	+35.98	2.19	2.72	4.58	136.00	112.94	0.59	9.22	67	330	+0.00	+6.45	0.43	6.45	3.66	451.50	34.02	1.76	7.04
27	130	+32.40	+34.94	2.42	2.54	4.58	127.00	120.94	0.55	10.00	68	335	+0.00	+7.05	0.37	7.05	3.66	493.50	31.12	1.93	7.54
28	135	+31.54	+33.74	3.01	2.20	4.58	110.00	139.64	0.48	12.14	69	340	+0.00	+6.15	0.46	6.15	3.66	430.50	35.68	1.68	6.80
29	140	+30.70	+32.85	3.11	2.15	4.58	107.50	142.88	0.47	12.56	70	345	+0.00	+6.10	0.47	6.10	3.66	427.00	35.97	1.67	6.76
30	145	+29.84	+31.84	3.47	2.00	4.58	100.00	153.60	0.44	14.02	71	350	+0.00	+5.00	0.63	5.00	3.66	350.00	43.89	1.37	5.98
31	150	+29.00	+31.05	3.34	2.05	4.58	102.50	149.85	0.45	13.50	72	355	+0.00	+4.60	0.71	4.60	3.66	322.00	47.70	1.26	5.76
32	155	+28.14	+30.09	3.60	1.95	4.58	97.50	157.54	0.43	14.60	73	360	+0.00	+3.95	0.89	3.95	3.66	276.50	55.55	1.08	5.52
33	160	+27.30	+29.20	3.75	1.90	4.58	95.00	161.68	0.41	15.22	74	365	+0.00	+4.65	0.70	4.65	3.66	325.50	47.19	1.27	5.78
34	165	+26.44	+28.24	4.06	1.80	4.58	90.00	170.67	0.39	16.65	75	370	+0.00	+3.25	1.20	3.25	3.66	227.50	67.52	0.89	5.57
35	170	+25.60	+27.45	3.90	1.85	4.58	92.50	166.05	0.40	15.90	76	375	+0.00	+4.50	0.73	4.50	3.66	315.00	48.76	1.23	5.71
36	175	+24.76	+26.51	4.24	1.75	4.58	87.50	175.54	0.38	17.46	77	380	+0.00	+5.10	0.61	5.10	3.66	357.00	43.03	1.39	6.04
37	180	+23.90	+25.60	4.43	1.70	4.58	85.00	180.71	0.37	18.34	78	385	+0.00	+7.50	0.34	7.50	3.66	525.00	29.26	2.05	7.94
38	185	+23.06	+24.56	5.34	1.50	4.58	75.00	204.80	0.33	22.88	79	390	+0.00	+8.15	0.30	8.15	3.66	570.50	26.92	2.23	8.52
39	190	+22.20	+23.65	5.62	1.45	4.58	72.50	211.86	0.32	24.33											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-5 ผลการทดลอง 5-TW1 (Q=16.46 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Vc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Vc	E
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	cm	cm	cm	cm	cm	cm	sq cm	cm/s		cm		cm	cm	cm	cm	cm	sq cm	cm/s		cm	
A	95.54	+52.00	+55.55	xxx	3.55	xxx	xxx	0.00	xxx	3.55	40	195	+21.36	+23.36	3.72	2.00	4.80	100.00	164.60	0.42	15.81
B	95.62	+39.13	+48.71	0.14	9.58	xxx	xxx	13.69	xxx	9.68	41	200	+20.50	+22.55	3.58	2.05	4.80	102.50	160.59	0.43	15.19
1	0	+38.00	+42.25	1.20	4.25	4.80	212.60	77.46	0.89	7.31	42	205	+10.60	+21.66	3.72	2.00	4.80	100.00	164.60	0.42	15.81
2	5	+37.90	+42.25	1.16	4.35	4.80	217.50	75.68	0.91	7.27	43	210	+18.80	+20.75	3.86	1.95	4.80	97.50	168.82	0.41	16.48
3	10	+37.80	+42.25	1.12	4.45	4.80	222.50	73.98	0.93	7.24	44	215	+17.94	+19.79	4.18	1.85	4.80	92.50	177.95	0.39	17.99
4	15	+37.70	+42.10	1.14	4.40	4.80	220.00	74.82	0.92	7.25	45	220	+17.10	+18.90	4.35	1.80	4.80	90.00	182.89	0.38	18.85
5	20	+37.60	+42.05	1.12	4.45	4.80	222.50	73.98	0.93	7.24	46	225	+16.24	+17.99	4.54	1.75	4.80	87.50	188.11	0.36	19.79
6	25	+37.50	+41.95	1.12	4.45	4.80	222.50	73.98	0.93	7.24	47	230	+15.40	+17.00	5.19	1.60	4.80	80.00	205.75	0.33	23.18
7	30	+37.40	+41.75	1.16	4.35	4.80	217.50	75.68	0.91	7.27	48	235	+14.54	+16.19	4.96	1.65	4.80	82.50	199.52	0.34	21.94
8	35	+37.30	+41.60	1.18	4.30	4.80	215.00	76.56	0.90	7.29	49	240	+13.70	+15.25	5.38	1.55	4.76	78.49	209.70	0.33	23.96
9	40	+37.20	+41.60	1.14	4.40	4.80	220.00	74.82	0.92	7.25	50	245	+12.84	+14.34	5.45	1.50	4.64	78.75	209.02	0.32	23.77
10	45	+37.10	+41.55	1.12	4.45	4.80	222.50	73.98	0.93	7.24	51	250	+12.00	+13.45	5.53	1.45	4.54	78.85	208.75	0.32	23.66
11	50	+37.00	+41.40	1.14	4.40	4.80	220.00	74.82	0.92	7.25	52	255	+10.92	+12.34	5.52	1.42	4.44	79.89	206.04	0.32	23.06
12	55	+36.90	+41.40	1.10	4.50	4.80	225.00	73.16	0.94	7.23	53	260	+9.70	+11.10	5.46	1.40	4.34	81.37	202.29	0.32	22.26
13	60	+36.80	+41.40	1.07	4.60	4.80	230.00	71.57	0.96	7.21	54	265	+8.48	+9.86	5.40	1.38	4.25	82.80	198.79	0.32	21.52
14	65	+36.70	+41.10	1.14	4.40	4.80	220.00	74.82	0.92	7.25	55	270	+7.28	+8.63	5.42	1.35	4.16	83.51	197.10	0.32	21.15
15	70	+36.60	+40.95	1.16	4.35	4.80	217.50	75.68	0.91	7.27	56	275	+5.72	+6.92	6.27	1.20	4.08	76.49	215.20	0.29	24.80
16	75	+36.50	+40.80	1.18	4.30	4.80	215.00	76.56	0.90	7.29	57	280	+4.02	+5.52	4.36	1.50	4.00	98.43	167.23	0.37	15.75
17	80	+36.40	+40.80	1.14	4.40	4.80	220.00	74.82	0.92	7.25	58	285	+2.30	+4.05	3.36	1.75	3.93	118.09	139.39	0.45	11.65
18	85	+36.30	+40.65	1.16	4.35	4.80	217.50	75.68	0.91	7.27	59	290	+0.58	+2.48	2.89	1.90	3.86	131.78	124.90	0.49	9.85
19	90	+36.20	+40.35	1.24	4.15	4.80	207.50	79.33	0.86	7.36	60	295	+0.00	+1.95	2.76	1.95	3.83	136.50	120.59	0.51	9.36
20	95	+36.10	+40.10	1.31	4.00	4.80	200.00	82.30	0.83	7.45	61	300	+0.00	+1.45	4.30	1.45	3.83	101.50	162.17	0.38	14.85
21	100	+36.00	+40.05	1.29	4.05	4.80	202.50	81.28	0.84	7.42	62	305	+0.00	+1.85	2.98	1.85	3.83	129.50	127.10	0.48	10.08
22	105	+35.52	+39.37	1.39	3.85	4.80	192.50	85.51	0.80	7.58	63	310	+0.00	+2.40	2.02	2.40	3.83	168.00	97.98	0.63	7.29
23	110	+35.04	+38.79	1.45	3.75	4.80	187.50	87.79	0.78	7.68	64	315	+0.00	+3.45	1.17	3.45	3.83	241.50	68.16	0.90	5.82
24	115	+34.58	+37.83	1.79	3.25	4.80	162.50	101.29	0.68	8.48	65	320	+0.00	+4.65	0.75	4.65	3.83	325.50	50.57	1.21	5.95
25	120	+34.10	+37.10	2.02	3.00	4.80	150.00	109.73	0.63	9.14	66	325	+0.00	+5.10	0.65	5.10	3.83	357.00	46.11	1.33	6.18
26	125	+33.26	+36.01	2.30	2.75	4.80	137.50	119.71	0.57	10.05	67	330	+0.00	+5.35	0.61	5.35	3.83	374.50	43.95	1.40	6.33
27	130	+32.40	+34.70	3.01	2.30	4.80	115.00	143.13	0.48	12.74	68	335	+0.00	+5.90	0.52	5.90	3.83	413.00	39.85	1.54	6.71
28	135	+31.54	+33.59	3.50	2.05	4.80	102.50	160.59	0.43	15.19	69	340	+0.00	+6.45	0.46	6.45	3.83	451.50	36.46	1.68	7.13
29	140	+30.70	+32.70	3.72	2.00	4.80	100.00	164.60	0.42	15.81	70	345	+0.00	+6.92	0.41	6.92	3.83	484.40	33.98	1.80	7.51
30	145	+29.84	+31.99	3.33	2.15	4.80	107.50	153.12	0.45	14.10	71	350	+0.00	+7.20	0.39	7.20	3.83	504.00	32.66	1.88	7.74
31	150	+29.00	+31.10	3.45	2.10	4.80	105.00	156.76	0.44	14.63	72	355	+0.00	+7.05	0.40	7.05	3.83	493.50	33.35	1.84	7.62
32	155	+28.14	+30.24	3.45	2.10	4.80	105.00	156.76	0.44	14.63	73	360	+0.00	+6.95	0.41	6.95	3.83	486.50	33.83	1.81	7.53
33	160	+27.30	+29.35	3.58	2.05	4.80	102.50	160.59	0.43	15.19	74	365	+0.00	+6.70	0.43	6.70	3.83	469.00	35.10	1.75	7.33
34	165	+26.44	+28.44	3.72	2.00	4.80	100.00	164.60	0.42	15.81	75	370	+0.00	+6.50	0.45	6.50	3.83	455.00	36.18	1.70	7.17
35	170	+25.60	+27.70	3.45	2.10	4.80	105.00	156.76	0.44	14.63	76	375	+0.00	+5.60	0.57	5.60	3.83	392.00	41.99	1.46	6.50
36	175	+24.76	+26.91	3.33	2.15	4.80	107.50	153.12	0.45	14.10	77	380	+0.00	+6.10	0.50	6.10	3.83	427.00	38.55	1.59	6.86
37	180	+23.90	+26.10	3.22	2.20	4.80	110.00	149.64	0.46	13.61	78	385	+0.00	+6.45	0.46	6.45	3.83	451.50	36.46	1.68	7.13
38	185	+23.06	+25.16	3.45	2.10	4.80	105.00	156.76	0.44	14.63	79	390	+0.00	+6.70	0.43	6.70	3.83	469.00	35.10	1.75	7.33
39	190	+22.20	+24.25	3.58	2.05	4.80	102.50	160.59	0.43	15.19											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-6 ผลการทดลอง G-TW1 (Q=16.97 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
	cm	cm	cm		cm	cm	sq cm	cm/s		cm		cm	cm	cm	cm	cm	sq cm	cm/s		cm		
A	-95.54	+52.00	+55.60	xxx	3.60	xxx	xxx	0.00	xxx	3.60	40	195	+21.36	+23.16	4.49	1.80	4.90	90.00	188.56	0.37	19.92	
B	-56.21	+39.13	+49.16	0.14	10.03	xxx	xxx	14.05	xxx	10.13	41	200	+20.50	+22.20	4.89	1.70	4.90	85.00	199.65	0.35	22.02	
1	0	+38.00	+42.50	1.14	4.50	4.90	225.00	75.42	0.92	7.40	42	205	+19.66	+21.31	5.11	1.65	4.90	82.50	205.70	0.34	23.22	
2	5	+37.90	+42.68	1.04	4.78	4.90	239.00	71.00	0.98	7.35	43	210	+18.80	+20.48	4.98	1.68	4.90	84.00	202.02	0.34	22.48	
3	10	+37.80	+42.57	1.04	4.77	4.90	238.50	71.15	0.97	7.35	44	215	+17.94	+19.56	5.26	1.62	4.90	81.00	209.51	0.33	23.99	
4	15	+37.70	+42.40	1.06	4.70	4.90	235.00	72.21	0.96	7.36	45	220	+17.10	+18.70	5.35	1.60	4.90	80.00	217.13	0.33	24.53	
5	20	+37.60	+42.30	1.06	4.70	4.90	235.00	72.21	0.96	7.36	46	225	+16.24	+17.82	5.46	1.58	4.90	79.00	214.81	0.32	25.10	
6	25	+37.50	+42.15	1.08	4.65	4.90	232.50	72.99	0.95	7.37	47	230	+15.40	+16.95	5.62	1.55	4.90	77.50	218.97	0.32	25.99	
7	30	+37.40	+42.08	1.07	4.68	4.90	234.00	72.52	0.96	7.36	48	235	+14.54	+16.04	5.90	1.50	4.90	75.00	226.27	0.31	27.59	
8	35	+37.30	+41.80	1.14	4.50	4.90	225.00	75.42	0.92	7.40	49	240	+13.70	+15.18	5.94	1.48	4.86	74.95	226.43	0.30	27.61	
9	40	+37.20	+41.75	1.12	4.55	4.90	227.50	74.59	0.93	7.39	50	245	+12.84	+14.24	6.23	1.40	4.74	73.50	230.88	0.30	28.57	
10	45	+37.10	+41.70	1.10	4.60	4.90	230.00	73.78	0.94	7.37	51	250	+12.00	+13.40	6.01	1.40	4.63	76.13	222.90	0.30	26.72	
11	50	+37.00	+41.60	1.10	4.60	4.90	230.00	73.78	0.94	7.37	52	255	+10.92	+12.22	6.50	1.30	4.53	73.14	232.03	0.29	28.74	
12	55	+36.90	+41.45	1.12	4.55	4.90	227.50	74.59	0.93	7.39	53	260	+9.70	+10.95	6.67	1.25	4.43	72.65	233.59	0.28	29.06	
13	60	+36.80	+41.40	1.10	4.60	4.90	230.00	73.78	0.94	7.37	54	265	+8.48	+9.68	6.87	1.20	4.34	72.00	235.69	0.28	29.51	
14	65	+36.70	+41.30	1.10	4.60	4.90	230.00	73.78	0.94	7.37	55	270	+7.28	+8.38	7.59	1.10	4.25	68.05	249.39	0.26	32.80	
15	70	+36.60	+41.12	1.13	4.52	4.90	226.00	75.09	0.92	7.39	56	275	+5.72	+6.97	6.08	1.25	4.17	79.68	212.99	0.30	24.37	
16	75	+36.50	+41.00	1.14	4.50	4.90	225.00	75.42	0.92	7.40	57	280	+4.02	+5.37	5.26	1.35	4.09	88.59	191.56	0.33	20.05	
17	80	+36.40	+40.90	1.14	4.50	4.90	225.00	75.42	0.92	7.40	58	285	+2.30	+3.85	4.16	1.55	4.01	104.59	162.25	0.39	14.97	
18	85	+36.30	+40.80	1.14	4.50	4.90	225.00	75.42	0.92	7.40	59	290	+0.58	+2.23	3.69	1.65	3.94	114.44	148.28	0.42	12.86	
19	90	+36.20	+40.70	1.14	4.50	4.90	225.00	75.42	0.92	7.40	60	295	+0.00	+1.70	3.49	1.70	3.91	119.00	142.61	0.43	12.07	
20	95	+36.10	+40.62	1.13	4.52	4.90	226.00	75.09	0.92	7.39	61	300	+0.00	+1.75	3.34	1.75	3.91	122.50	138.53	0.45	11.53	
21	100	+36.00	+40.50	1.14	4.50	4.90	225.00	75.42	0.92	7.40	62	305	+0.00	+2.35	2.15	2.35	3.91	164.50	103.16	0.60	7.77	
22	105	+35.52	+39.37	1.43	3.85	4.90	192.50	88.16	0.79	7.81	63	310	+0.00	+2.30	2.22	2.30	3.91	161.00	105.40	0.59	7.96	
23	110	+35.04	+38.64	1.59	3.60	4.90	180.00	94.28	0.74	8.13	64	315	+0.00	+2.40	2.08	2.40	3.91	168.00	101.01	0.61	7.60	
24	115	+34.58	+37.98	1.73	3.40	4.90	170.00	99.82	0.69	8.48	65	320	+0.00	+3.10	1.42	3.10	3.91	217.00	78.20	0.79	6.22	
25	120	+34.10	+37.30	1.89	3.20	4.90	160.00	106.06	0.65	8.93	66	325	+0.00	+3.70	1.09	3.70	3.91	259.00	65.52	0.95	5.89	
26	125	+33.26	+36.21	2.14	2.95	4.90	147.50	115.05	0.60	9.70	67	330	+0.00	+4.60	0.78	4.60	3.91	322.00	52.70	1.18	6.02	
27	130	+32.40	+35.10	2.44	2.70	4.90	135.00	125.70	0.55	10.75	68	335	+0.00	+5.05	0.68	5.05	3.91	353.50	48.01	1.29	6.22	
28	135	+31.54	+34.09	2.66	2.55	4.90	127.50	133.10	0.52	11.58	69	340	+0.00	+6.20	0.50	6.20	3.91	434.00	39.10	1.58	6.98	
29	140	+30.70	+33.20	2.74	2.50	4.90	125.00	135.76	0.51	11.89	70	345	+0.00	+7.20	0.40	7.20	3.91	504.00	33.67	1.84	7.78	
30	145	+29.84	+32.29	2.83	2.45	4.90	122.50	138.53	0.50	12.23	71	350	+0.00	+7.80	0.36	7.80	3.91	546.00	31.08	1.99	8.29	
31	150	+29.00	+31.30	3.11	2.30	4.90	115.00	147.57	0.47	13.40	72	355	+0.00	+7.85	0.35	7.85	3.91	549.50	30.88	2.01	8.34	
32	155	+28.14	+30.34	3.32	2.20	4.90	110.00	154.27	0.45	14.33	73	360	+0.00	+7.90	0.35	7.90	3.91	553.00	30.69	2.02	8.38	
33	160	+27.30	+29.40	3.56	2.10	4.90	105.00	161.62	0.43	15.41	74	365	+0.00	+7.70	0.36	7.70	3.91	539.00	31.48	1.97	8.21	
34	165	+26.44	+28.44	3.83	2.00	4.90	100.00	169.70	0.41	16.68	75	370	+0.00	+7.60	0.37	7.60	3.91	532.00	31.90	1.94	8.12	
35	170	+25.60	+27.60	3.83	2.00	4.90	100.00	169.70	0.41	16.68	76	375	+0.00	+7.70	0.36	7.70	3.91	539.00	31.48	1.97	8.21	
36	175	+24.76	+26.71	3.98	1.95	4.90	97.50	174.05	0.40	17.39	77	380	+0.00	+7.80	0.36	7.80	3.91	546.00	31.08	1.99	8.29	
37	180	+23.90	+25.88	3.89	1.98	4.90	99.00	171.41	0.40	16.96	78	385	+0.00	+7.90	0.35	7.90	3.91	553.00	30.69	2.02	8.38	
38	185	+23.06	+24.96	4.14	1.90	4.90	95.00	178.63	0.39	18.16	79	390	+0.00	+8.10	0.34	8.10	3.91	567.00	29.93	2.07	8.56	
39	190	+22.20	+24.00	4.49	1.80	4.90	90.00	188.56	0.37	19.92												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มขึ้นจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-7 ผลการทดลอง 7-TW1 (Q=18.34 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	
	cm.	cm.	cm.		cm.	cm.	sq.cm.	cm/s		cm.		cm.	cm.	cm.		cm.	cm.	sq.cm.	cm/s		cm.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
A	-95.54	+52.00	+55.72	xxx	3.72	xxx	xxx	0.00	xxx	3.72	40	195	+21.36	+23.26	4.47	1.90	5.16	95.00	193.05	0.37	20.90	
B	-56.21	+39.13	+49.29	0.15	10.16	xxx	xxx	15.01	xxx	10.27	41	200	+20.50	+22.35	4.65	1.85	5.16	92.50	198.27	0.36	21.89	
1	0	+38.00	+42.80	1.11	4.80	5.16	240.00	76.42	0.93	7.78	42	205	+19.66	+21.46	4.85	1.80	5.16	90.00	203.78	0.35	22.96	
2	5	+37.90	+42.64	1.13	4.74	5.16	237.00	77.38	0.92	7.79	43	210	+18.80	+20.55	5.06	1.75	5.16	87.50	209.60	0.34	24.14	
3	10	+37.80	+42.56	1.13	4.76	5.16	238.00	77.06	0.92	7.79	44	215	+17.94	+19.64	5.28	1.70	5.16	85.00	215.76	0.33	25.43	
4	15	+37.70	+42.25	1.21	4.55	5.16	227.50	80.62	0.88	7.86	45	220	+17.10	+18.90	4.85	1.80	5.16	90.00	203.78	0.35	22.96	
5	20	+37.60	+42.30	1.15	4.70	5.16	235.00	78.04	0.91	7.80	46	225	+16.24	+18.04	4.85	1.80	5.16	90.00	203.78	0.35	22.96	
6	25	+37.50	+42.45	1.06	4.95	5.16	247.50	74.10	0.96	7.75	47	230	+15.40	+17.15	5.06	1.75	5.16	87.50	209.60	0.34	24.14	
7	30	+37.40	+42.20	1.11	4.80	5.16	240.00	76.42	0.93	7.78	48	235	+14.54	+16.24	5.28	1.70	5.16	85.00	215.76	0.33	25.43	
8	35	+37.30	+42.05	1.13	4.75	5.16	237.50	77.22	0.92	7.79	49	240	+13.70	+15.50	4.79	1.80	5.11	91.15	201.20	0.35	22.43	
9	40	+37.20	+41.96	1.13	4.76	5.16	238.00	77.06	0.92	7.79	50	245	+12.84	+14.44	5.51	1.60	4.99	84.00	218.33	0.32	25.90	
10	45	+37.10	+41.75	1.17	4.65	5.16	232.50	78.88	0.90	7.82	51	250	+12.00	+13.55	5.58	1.55	4.88	84.29	217.58	0.32	25.68	
11	50	+37.00	+41.56	1.20	4.56	5.16	228.00	80.44	0.88	7.86	52	255	+10.92	+12.47	5.39	1.55	4.77	87.20	210.31	0.33	24.09	
12	55	+36.90	+41.40	1.23	4.50	5.16	225.00	81.51	0.87	7.89	53	260	+9.70	+11.35	4.75	1.65	4.66	95.90	191.24	0.35	20.29	
13	60	+36.80	+41.50	1.15	4.70	5.16	235.00	78.04	0.91	7.80	54	265	+8.48	+9.93	5.59	1.45	4.57	87.00	210.80	0.32	24.10	
14	65	+36.70	+41.60	1.08	4.90	5.16	245.00	74.86	0.95	7.76	55	270	+7.28	+8.73	5.42	1.45	4.47	89.70	204.47	0.32	22.76	
15	70	+36.60	+41.60	1.05	5.00	5.16	250.00	73.36	0.97	7.74	56	275	+5.72	+7.07	5.86	1.35	4.39	86.05	213.13	0.31	24.50	
16	75	+36.50	+41.25	1.13	4.75	5.16	237.50	77.22	0.92	7.79	57	280	+4.02	+5.57	4.62	1.55	4.30	101.71	180.31	0.36	18.12	
17	80	+36.40	+41.30	1.08	4.90	5.16	245.00	74.86	0.95	7.76	58	285	+2.30	+3.85	4.50	1.55	4.22	104.59	175.34	0.37	17.22	
18	85	+36.30	+41.00	1.15	4.70	5.16	235.00	78.04	0.91	7.80	59	290	+0.58	+2.18	4.17	1.60	4.15	110.98	165.26	0.39	15.52	
19	90	+36.20	+40.95	1.13	4.75	5.16	237.50	77.22	0.92	7.79	60	295	+0.00	+1.50	4.55	1.50	4.12	105.00	174.67	0.36	17.05	
20	95	+36.10	+40.90	1.11	4.80	5.16	240.00	76.42	0.93	7.78	61	300	+0.00	+1.60	4.13	1.60	4.12	112.00	163.75	0.39	15.27	
21	100	+36.00	+40.50	1.23	4.50	5.16	225.00	81.51	0.87	7.89	62	305	+0.00	+2.80	1.79	2.80	4.12	196.00	93.57	0.68	7.26	
22	105	+35.52	+39.77	1.34	4.25	5.16	212.50	86.31	0.82	8.05	63	310	+0.00	+2.35	2.32	2.35	4.12	164.50	111.49	0.57	8.69	
23	110	+35.04	+38.79	1.61	3.75	5.16	187.50	97.81	0.73	8.63	64	315	+0.00	+1.95	3.07	1.95	4.12	136.50	134.36	0.47	11.15	
24	115	+34.58	+38.18	1.71	3.60	5.16	180.00	101.89	0.70	8.89	65	320	+0.00	+2.05	2.85	2.05	4.12	143.50	127.80	0.50	10.38	
25	120	+34.10	+37.65	1.75	3.55	5.16	177.50	103.32	0.69	8.99	66	325	+0.00	+1.85	3.32	1.85	4.12	129.50	141.62	0.45	12.07	
26	125	+33.26	+36.51	2.00	3.25	5.16	162.50	112.86	0.63	9.74	67	330	+0.00	+2.00	2.96	2.00	4.12	140.00	131.00	0.49	10.75	
27	130	+32.40	+35.40	2.25	3.00	5.16	150.00	122.27	0.58	10.62	68	335	+0.00	+5.00	0.75	5.00	4.12	350.00	52.40	1.21	6.40	
28	135	+31.54	+34.49	2.31	2.95	5.16	147.50	124.34	0.57	10.83	69	340	+0.00	+6.40	0.52	6.40	4.12	448.00	40.94	1.55	7.25	
29	140	+30.70	+33.55	2.43	2.85	5.16	142.50	128.70	0.55	11.29	70	345	+0.00	+7.50	0.41	7.50	4.12	525.00	34.93	1.82	8.12	
30	145	+29.84	+32.49	2.71	2.65	5.16	132.50	138.42	0.51	12.41	71	350	+0.00	+8.00	0.37	8.00	4.12	560.00	32.75	1.94	8.55	
31	150	+29.00	+31.45	3.05	2.45	5.16	122.50	149.71	0.48	13.87	72	355	+0.00	+8.05	0.37	8.05	4.12	563.50	32.55	1.95	8.59	
32	155	+28.14	+30.54	3.15	2.40	5.16	120.00	152.83	0.47	14.31	73	360	+0.00	+8.00	0.37	8.00	4.12	560.00	32.75	1.94	8.55	
33	160	+27.30	+29.65	3.25	2.35	5.16	117.50	156.09	0.46	14.77	74	365	+0.00	+7.95	0.37	7.95	4.12	556.50	32.96	1.93	8.50	
34	165	+26.44	+28.64	3.59	2.20	5.16	110.00	166.73	0.43	16.37	75	370	+0.00	+7.60	0.40	7.60	4.12	532.00	34.47	1.84	8.21	
35	170	+25.60	+27.75	3.71	2.15	5.16	107.50	170.60	0.42	16.98	76	375	+0.00	+7.70	0.39	7.70	4.12	539.00	34.03	1.87	8.29	
36	175	+24.76	+26.76	4.14	2.00	5.16	100.00	183.40	0.39	19.14	77	380	+0.00	+7.75	0.39	7.75	4.12	542.50	33.81	1.88	8.33	
37	180	+23.90	+25.90	4.14	2.00	5.16	100.00	183.40	0.39	19.14	78	385	+0.00	+7.80	0.38	7.80	4.12	546.00	33.59	1.89	8.38	
38	185	+23.06	+25.01	4.30	1.95	5.16	97.50	188.10	0.38	19.98	79	390	+0.00	+7.80	0.38	7.80	4.12	546.00	33.59	1.89	8.38	
39	190	+22.20	+24.15	4.30	1.95	5.16	97.50	188.10	0.38	19.98												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง 11-8 ผลการทดลอง 8-TW1 (Q=19.32 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	
	cm.	cm.	cm.		cm.	cm.	sq.cm.	cm/s		cm		cm	cm.	cm.		cm.	cm.	sq.cm.	cm/s		cm	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
A	-95.54	+52.00	+55.81	xxx	3.81	xxx	xxx	0.00	xxx	3.81	40	195	+21.36	+23.41	4.20	2.05	5.34	102.50	188.49	0.38	20.16	
B	-56.21	+39.13	+49.35	0.16	10.22	xxx	xxx	15.68	xxx	10.35	41	200	+20.50	+22.50	4.36	2.00	5.34	100.00	193.20	0.37	21.02	
1	0	+38.00	+43.10	1.07	5.10	5.34	255.00	75.76	0.96	8.03	42	205	+19.66	+21.61	4.53	1.95	5.34	97.50	198.15	0.37	21.96	
2	5	+37.90	+42.95	1.09	5.05	5.34	252.50	76.51	0.95	8.03	43	210	+18.80	+20.72	4.64	1.92	5.34	96.00	201.25	0.36	22.56	
3	10	+37.80	+42.90	1.07	5.10	5.34	255.00	75.76	0.96	8.03	44	215	+17.94	+19.84	4.71	1.90	5.34	95.00	203.37	0.36	22.98	
4	15	+37.70	+42.70	1.10	5.00	5.34	250.00	77.28	0.94	8.04	45	220	+17.10	+18.90	5.11	1.80	5.34	90.00	214.67	0.34	25.29	
5	20	+37.60	+42.55	1.12	4.95	5.34	247.50	78.06	0.93	8.06	46	225	+16.24	+17.99	5.33	1.75	5.34	87.50	220.80	0.33	26.60	
6	25	+37.50	+42.60	1.07	5.10	5.34	255.00	75.76	0.96	8.03	47	230	+15.40	+17.10	5.57	1.70	5.34	85.00	227.29	0.32	28.03	
7	30	+37.40	+42.40	1.10	5.00	5.34	250.00	77.28	0.94	8.04	48	235	+14.54	+16.32	5.19	1.78	5.34	89.00	217.08	0.33	25.80	
8	35	+37.30	+42.15	1.16	4.85	5.34	242.50	79.67	0.91	8.09	49	240	+13.70	+15.30	6.02	1.60	5.29	81.02	238.45	0.30	30.58	
9	40	+37.20	+42.18	1.11	4.98	5.34	249.00	77.59	0.93	8.05	50	245	+12.84	+14.34	6.40	1.50	5.17	78.75	245.33	0.29	32.18	
10	45	+37.10	+42.00	1.14	4.90	5.34	245.00	78.86	0.92	8.07	51	250	+12.00	+13.48	6.30	1.48	5.05	80.48	240.05	0.29	30.85	
11	50	+37.00	+41.85	1.16	4.85	5.34	242.50	79.67	0.91	8.09	52	255	+10.82	+12.32	6.62	1.40	4.94	78.76	245.29	0.28	32.07	
12	55	+36.90	+41.70	1.17	4.80	5.34	240.00	80.50	0.90	8.10	53	260	+9.70	+11.05	6.77	1.35	4.83	78.46	246.23	0.28	32.25	
13	60	+36.80	+41.60	1.17	4.80	5.34	240.00	80.50	0.90	8.10	54	265	+8.48	+9.78	6.94	1.30	4.73	78.00	247.69	0.27	32.57	
14	65	+36.70	+41.45	1.19	4.75	5.34	237.50	81.35	0.89	8.12	55	270	+7.28	+8.53	7.14	1.25	4.63	77.33	249.85	0.27	33.07	
15	70	+36.60	+41.30	1.21	4.70	5.34	235.00	82.21	0.88	8.14	56	275	+5.72	+6.92	7.36	1.20	4.54	76.49	252.59	0.26	33.72	
16	75	+36.50	+41.30	1.17	4.80	5.34	240.00	80.50	0.90	8.10	57	280	+4.02	+5.52	5.12	1.50	4.45	98.43	196.28	0.34	21.14	
17	80	+36.40	+41.20	1.17	4.80	5.34	240.00	80.50	0.90	8.10	58	285	+2.30	+3.85	4.74	1.55	4.37	104.59	184.71	0.35	18.94	
18	85	+36.30	+41.15	1.16	4.85	5.34	242.50	79.67	0.91	8.09	59	290	+0.58	+2.18	4.39	1.60	4.29	110.98	174.09	0.37	17.05	
19	90	+36.20	+41.00	1.17	4.80	5.34	240.00	80.50	0.90	8.10	60	295	+0.00	+1.65	4.16	1.65	4.27	115.50	167.27	0.39	15.91	
20	95	+36.10	+40.85	1.19	4.75	5.34	237.50	81.35	0.89	8.12	61	300	+0.00	+1.50	4.80	1.50	4.27	105.00	184.00	0.35	18.76	
21	100	+36.00	+40.75	1.19	4.75	5.34	237.50	81.35	0.89	8.12	62	305	+0.00	+2.35	2.45	2.35	4.27	164.50	117.45	0.55	9.38	
22	105	+35.52	+40.02	1.29	4.50	5.34	225.00	85.87	0.84	8.26	63	310	+0.00	+2.25	2.61	2.25	4.27	157.50	122.67	0.53	9.92	
23	110	+35.04	+39.19	1.46	4.15	5.34	207.50	93.11	0.78	8.57	64	315	+0.00	+2.40	2.37	2.40	4.27	168.00	115.00	0.56	9.14	
24	115	+34.58	+38.58	1.54	4.00	5.34	200.00	96.60	0.75	8.76	65	320	+0.00	+2.70	1.99	2.70	4.27	189.00	102.22	0.63	8.03	
25	120	+34.10	+37.95	1.63	3.85	5.34	192.50	100.36	0.72	8.98	66	325	+0.00	+3.40	1.41	3.40	4.27	238.00	81.18	0.80	6.76	
26	125	+33.26	+37.01	1.70	3.75	5.34	187.50	103.04	0.70	9.16	67	330	+0.00	+5.10	0.77	5.10	4.27	357.00	54.12	1.20	6.59	
27	130	+32.40	+35.90	1.88	3.50	5.34	175.00	110.40	0.66	9.71	68	335	+0.00	+5.90	0.61	5.90	4.27	413.00	46.78	1.38	7.02	
28	135	+31.54	+34.54	2.37	3.00	5.34	150.00	128.80	0.56	11.46	69	340	+0.00	+6.20	0.57	6.20	4.27	434.00	44.52	1.45	7.21	
29	140	+30.70	+33.65	2.43	2.95	5.34	147.50	130.98	0.55	11.69	70	345	+0.00	+6.95	0.48	6.95	4.27	486.50	39.71	1.63	7.75	
30	145	+29.84	+32.64	2.63	2.80	5.34	140.00	138.00	0.52	12.51	71	350	+0.00	+7.50	0.43	7.50	4.27	525.00	36.80	1.76	8.19	
31	150	+29.00	+31.70	2.78	2.70	5.34	135.00	143.11	0.51	13.14	72	355	+0.00	+8.00	0.39	8.00	4.27	560.00	34.50	1.88	8.61	
32	155	+28.14	+30.74	2.94	2.60	5.34	130.00	148.62	0.49	13.86	73	360	+0.00	+8.30	0.37	8.30	4.27	581.00	33.25	1.95	8.86	
33	160	+27.30	+29.78	3.16	2.48	5.34	124.00	155.81	0.46	14.85	74	365	+0.00	+8.31	0.37	8.31	4.27	581.70	33.21	1.95	8.87	
34	165	+26.44	+28.84	3.32	2.40	5.34	120.00	161.00	0.45	15.61	75	370	+0.00	+8.25	0.37	8.25	4.27	577.50	33.45	1.93	8.82	
35	170	+25.60	+27.90	3.54	2.30	5.34	115.00	168.00	0.43	16.69	76	375	+0.00	+8.20	0.38	8.20	4.27	574.00	33.66	1.92	8.78	
36	175	+24.76	+26.96	3.78	2.20	5.34	110.00	175.64	0.41	17.92	77	380	+0.00	+8.15	0.38	8.15	4.27	570.50	33.87	1.91	8.73	
37	180	+23.90	+26.05	3.91	2.15	5.34	107.50	179.72	0.40	18.61	78	385	+0.00	+8.10	0.38	8.10	4.27	567.00	34.07	1.90	8.69	
38	185	+23.06	+25.16	4.05	2.10	5.34	105.00	184.00	0.39	19.36	79	390	+0.00	+8.05	0.39	8.05	4.27	563.50	34.29	1.89	8.65	
39	190	+22.20	+24.30	4.05	2.10	5.34	105.00	184.00	0.39	19.36												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-9 ผลการทดลอง 9-TW1 (Q=19.43 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
	cm.	cm.	cm.		cm.	cm.	sq.cm.	cm/s		cm.		cm.	cm.	cm.		cm.	cm.	sq.cm.	cm/s		cm.	
A	-95.54	+52.00	+55.82	xxx	3.82	xxx	xxx	0.00	xxx	3.82	40	195	+21.36	+23.36	4.39	2.00	5.36	100.00	194.30	0.37	21.24	
B	-56.21	+39.13	+49.61	0.16	10.48	xxx	xxx	15.76	xxx	10.61	41	200	+20.50	+22.50	4.39	2.00	5.36	100.00	194.30	0.37	21.24	
1	0	+38.00	+43.20	1.05	5.20	5.36	260.00	74.73	0.97	8.05	42	205	+19.66	+21.61	4.56	1.95	5.36	97.50	199.28	0.36	22.19	
2	5	+37.90	+43.10	1.05	5.20	5.36	260.00	74.73	0.97	8.05	43	210	+18.80	+20.70	4.74	1.90	5.36	95.00	204.53	0.35	23.22	
3	10	+37.80	+43.05	1.03	5.25	5.36	262.50	74.02	0.98	8.04	44	215	+17.94	+19.79	4.93	1.85	5.36	92.50	210.05	0.35	24.34	
4	15	+37.70	+42.90	1.05	5.20	5.36	260.00	74.73	0.97	8.05	45	220	+17.10	+18.90	5.14	1.80	5.36	90.00	215.89	0.34	25.56	
5	20	+37.60	+42.80	1.05	5.20	5.36	260.00	74.73	0.97	8.05	46	225	+16.24	+18.02	5.22	1.78	5.36	89.00	218.31	0.33	26.07	
6	25	+37.50	+42.65	1.06	5.15	5.36	257.50	75.46	0.96	8.05	47	230	+15.40	+17.12	5.50	1.72	5.36	86.00	225.93	0.32	27.74	
7	30	+37.40	+42.55	1.06	5.15	5.36	257.50	75.46	0.96	8.05	48	235	+14.54	+16.24	5.60	1.70	5.36	85.00	228.59	0.32	28.33	
8	35	+37.30	+42.48	1.05	5.18	5.36	259.00	75.02	0.97	8.05	49	240	+13.70	+15.38	5.63	1.68	5.31	85.08	228.39	0.32	28.27	
9	40	+37.20	+42.30	1.08	5.10	5.36	255.00	76.20	0.95	8.06	50	245	+12.84	+14.44	5.84	1.60	5.19	84.00	231.31	0.31	28.87	
10	45	+37.10	+42.25	1.06	5.15	5.36	257.50	75.46	0.96	8.05	51	250	+12.00	+13.50	6.21	1.50	5.07	81.57	238.20	0.30	30.42	
11	50	+37.00	+42.10	1.08	5.10	5.36	255.00	76.20	0.95	8.06	52	255	+10.92	+12.37	6.32	1.45	4.95	81.58	238.18	0.29	30.36	
12	55	+36.90	+41.95	1.09	5.05	5.36	252.50	76.95	0.94	8.07	53	260	+9.70	+11.10	6.44	1.40	4.85	81.37	238.79	0.29	30.46	
13	60	+36.80	+41.80	1.11	5.00	5.36	250.00	77.72	0.93	8.08	54	265	+8.48	+9.88	6.24	1.40	4.75	84.00	231.31	0.29	28.67	
14	65	+36.70	+41.65	1.13	4.95	5.36	247.50	78.51	0.92	8.09	55	270	+7.28	+8.71	5.86	1.43	4.65	88.46	219.65	0.31	26.02	
15	70	+36.60	+41.50	1.14	4.90	5.36	245.00	79.31	0.91	8.11	56	275	+5.72	+7.04	6.42	1.32	4.56	84.14	230.93	0.29	28.50	
16	75	+36.50	+41.40	1.14	4.90	5.36	245.00	79.31	0.91	8.11	57	280	+4.02	+5.22	7.19	1.20	4.47	78.74	246.75	0.27	32.23	
17	80	+36.40	+41.25	1.16	4.85	5.36	242.50	80.12	0.90	8.12	58	285	+2.30	+3.40	7.97	1.10	4.39	74.23	261.76	0.25	36.02	
18	85	+36.30	+41.10	1.18	4.80	5.36	240.00	80.96	0.90	8.14	59	290	+0.58	+1.78	6.80	1.20	4.31	83.23	233.44	0.28	28.98	
19	90	+36.20	+41.05	1.16	4.85	5.36	242.50	80.12	0.90	8.12	60	295	+0.00	+1.30	5.98	1.30	4.28	91.00	213.52	0.30	24.54	
20	95	+36.10	+40.97	1.15	4.87	5.36	243.50	79.79	0.91	8.12	61	300	+0.00	+1.70	4.00	1.70	4.28	119.00	163.28	0.40	15.29	
21	100	+36.00	+40.50	1.30	4.50	5.36	225.00	86.36	0.84	8.30	62	305	+0.00	+1.95	3.25	1.95	4.28	136.50	142.34	0.46	12.28	
22	105	+35.52	+39.67	1.47	4.15	5.36	207.50	93.64	0.77	8.62	63	310	+0.00	+2.50	2.24	2.50	4.28	175.00	111.03	0.58	8.78	
23	110	+35.04	+38.79	1.71	3.75	5.36	187.50	103.63	0.70	9.22	64	315	+0.00	+3.20	1.55	3.20	4.28	224.00	86.74	0.75	7.03	
24	115	+34.58	+38.08	1.89	3.50	5.36	175.00	111.03	0.65	9.78	65	320	+0.00	+4.00	1.11	4.00	4.28	280.00	69.39	0.93	6.45	
25	120	+34.10	+37.10	2.39	3.00	5.36	150.00	129.53	0.56	11.55	66	325	+0.00	+4.10	1.07	4.10	4.28	287.00	67.70	0.96	6.44	
26	125	+33.26	+36.16	2.51	2.90	5.36	145.00	134.00	0.54	12.05	67	330	+0.00	+4.40	0.96	4.40	4.28	300.00	63.08	1.03	6.43	
27	130	+32.40	+35.20	2.65	2.80	5.36	140.00	138.79	0.52	12.62	68	335	+0.00	+4.70	0.87	4.70	4.28	329.00	59.06	1.10	6.48	
28	135	+31.54	+34.24	2.80	2.70	5.36	135.00	143.93	0.50	13.26	69	340	+0.00	+4.95	0.80	4.95	4.28	346.50	56.08	1.16	6.55	
29	140	+30.70	+33.30	2.96	2.60	5.36	130.00	149.46	0.49	13.99	70	345	+0.00	+5.00	0.79	5.00	4.28	350.00	55.51	1.17	6.57	
30	145	+29.84	+32.34	3.14	2.50	5.36	125.00	155.44	0.47	14.81	71	350	+0.00	+5.70	0.65	5.70	4.28	399.00	48.70	1.33	6.91	
31	150	+29.00	+31.50	3.14	2.50	5.36	125.00	155.44	0.47	14.81	72	355	+0.00	+6.20	0.57	6.20	4.28	434.00	44.77	1.45	7.22	
32	155	+28.14	+30.64	3.14	2.50	5.36	125.00	155.44	0.47	14.81	73	360	+0.00	+6.40	0.55	6.40	4.28	448.00	43.37	1.49	7.36	
33	160	+27.30	+29.70	3.34	2.40	5.36	120.00	161.92	0.45	15.76	74	365	+0.00	+7.50	0.43	7.50	4.28	525.00	37.01	1.75	8.20	
34	165	+26.44	+28.79	3.44	2.35	5.36	117.50	165.36	0.44	16.29	75	370	+0.00	+8.40	0.36	8.40	4.28	588.00	33.04	1.96	8.96	
35	170	+25.60	+27.90	3.56	2.30	5.36	115.00	168.96	0.43	16.85	76	375	+0.00	+8.45	0.36	8.45	4.28	591.50	32.85	1.97	9.00	
36	175	+24.76	+27.01	3.68	2.25	5.36	112.50	172.71	0.42	17.45	77	380	+0.00	+8.30	0.37	8.30	4.28	581.00	33.44	1.94	8.87	
37	180	+23.90	+26.10	3.80	2.20	5.36	110.00	176.64	0.41	18.10	78	385	+0.00	+8.20	0.38	8.20	4.28	574.00	33.85	1.91	8.78	
38	185	+23.06	+25.18	4.02	2.12	5.36	106.00	183.30	0.40	19.25	79	390	+0.00	+8.25	0.37	8.25	4.28	577.50	33.65	1.93	8.83	
39	190	+22.20	+24.30	4.08	2.10	5.36	105.00	185.05	0.39	19.55												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-10 ผลการทดลอง 10-TW1 (Q=20.11 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	cm.	cm.	cm.		cm.	cm.	sq.cm.	cm/s		cm.		cm.	cm.	cm.		cm.	sq.cm.	cm/s		cm.	
A	-95.54	+52.00	+55.88	xxx	3.88	xxx	xxx	0.00	xxx	3.88	40	195	+21.36	+23.41	4.37	2.05	5.48	102.50	196.20	0.37	21.67
B	-56.21	+39.13	+49.76	0.16	10.63	xxx	xxx	16.22	xxx	10.76	41	200	+20.50	+22.45	4.72	1.95	5.48	97.50	206.26	0.36	23.63
1	0	+38.00	+43.25	1.07	5.25	5.48	262.50	76.61	0.96	8.24	42	205	+19.66	+21.61	4.72	1.95	5.48	97.50	206.26	0.36	23.63
2	5	+37.90	+42.92	1.14	5.02	5.48	251.00	80.12	0.92	8.29	43	210	+18.80	+20.70	4.90	1.90	5.48	95.00	211.68	0.35	24.74
3	10	+37.80	+42.95	1.10	5.15	5.48	257.50	78.10	0.94	8.26	44	215	+17.94	+19.79	5.10	1.85	5.48	92.50	217.41	0.34	25.94
4	15	+37.70	+42.80	1.11	5.10	5.48	255.00	78.86	0.93	8.27	45	220	+17.10	+18.90	5.32	1.80	5.48	90.00	223.44	0.33	27.25
5	20	+37.60	+42.85	1.07	5.25	5.48	262.50	76.61	0.96	8.24	46	225	+16.24	+18.04	5.32	1.80	5.48	90.00	223.44	0.33	27.25
6	25	+37.50	+42.70	1.08	5.20	5.48	260.00	77.35	0.95	8.25	47	230	+15.40	+17.15	5.55	1.75	5.48	87.50	229.83	0.32	28.67
7	30	+37.40	+42.55	1.10	5.15	5.48	257.50	78.10	0.94	8.26	48	235	+14.54	+16.24	5.79	1.70	5.48	85.00	236.59	0.31	30.23
8	35	+37.30	+42.50	1.08	5.20	5.48	260.00	77.35	0.95	8.25	49	240	+13.70	+15.40	5.72	1.70	5.44	86.09	233.60	0.31	29.51
9	40	+37.20	+42.25	1.13	5.05	5.48	252.50	79.64	0.92	8.28	50	245	+12.84	+14.49	5.77	1.65	5.31	86.63	232.15	0.31	29.12
10	45	+37.10	+42.10	1.15	5.00	5.48	250.00	80.44	0.91	8.30	51	250	+12.00	+13.55	6.12	1.55	5.19	84.29	238.50	0.30	30.56
11	50	+37.00	+41.95	1.17	4.95	5.48	247.50	81.25	0.90	8.31	52	255	+10.92	+12.42	6.21	1.50	5.07	84.39	238.30	0.30	30.44
12	55	+36.90	+41.80	1.18	4.90	5.48	245.00	82.08	0.89	8.33	53	260	+9.70	+11.20	6.01	1.50	4.96	87.18	230.67	0.30	28.62
13	60	+36.80	+41.75	1.17	4.95	5.48	247.50	81.25	0.90	8.31	54	265	+8.48	+9.93	6.13	1.45	4.86	87.00	231.15	0.30	28.68
14	65	+36.70	+41.55	1.20	4.85	5.48	242.50	82.93	0.88	8.36	55	270	+7.28	+8.68	6.27	1.40	4.76	86.60	232.21	0.29	28.88
15	70	+36.60	+41.50	1.18	4.90	5.48	245.00	82.08	0.89	8.33	56	275	+5.72	+7.02	6.80	1.30	4.66	82.86	242.69	0.28	31.32
16	75	+36.50	+41.50	1.15	5.00	5.48	250.00	80.44	0.91	8.30	57	280	+4.02	+5.22	7.44	1.20	4.57	78.74	255.38	0.26	34.44
17	80	+36.40	+41.35	1.17	4.95	5.48	247.50	81.25	0.90	8.31	58	285	+2.30	+3.75	5.45	1.45	4.49	97.85	205.53	0.32	22.98
18	85	+36.30	+41.15	1.20	4.85	5.48	242.50	82.93	0.88	8.36	59	290	+0.58	+2.13	4.80	1.55	4.41	107.51	187.06	0.35	19.38
19	90	+36.20	+40.95	1.24	4.75	5.48	237.50	84.67	0.87	8.40	60	295	+0.00	+1.65	4.33	1.65	4.38	115.50	174.11	0.38	17.10
20	95	+36.10	+40.75	1.28	4.65	5.48	232.50	86.49	0.85	8.46	61	300	+0.00	+1.75	3.96	1.75	4.38	122.50	164.16	0.40	15.49
21	100	+36.00	+40.50	1.35	4.50	5.48	225.00	89.38	0.82	8.57	62	305	+0.00	+2.35	2.55	2.35	4.38	164.50	122.25	0.54	9.97
22	105	+35.52	+39.77	1.47	4.25	5.48	212.50	94.64	0.78	8.81	63	310	+0.00	+2.30	2.63	2.30	4.38	161.00	124.91	0.52	10.25
23	110	+35.04	+39.19	1.52	4.15	5.48	207.50	96.92	0.76	8.94	64	315	+0.00	+2.10	3.01	2.10	4.38	147.00	136.80	0.48	11.64
24	115	+34.58	+38.43	1.70	3.85	5.48	192.50	104.47	0.70	9.41	65	320	+0.00	+2.25	2.72	2.25	4.38	157.50	127.68	0.51	10.56
25	120	+34.10	+37.55	2.00	3.45	5.48	172.50	116.58	0.63	10.38	66	325	+0.00	+2.15	2.91	2.15	4.38	150.50	133.62	0.49	11.25
26	125	+33.26	+36.66	2.05	3.40	5.48	170.00	118.29	0.62	10.53	67	330	+0.00	+1.85	3.65	1.85	4.38	129.50	155.29	0.42	14.14
27	130	+32.40	+35.65	2.19	3.25	5.48	162.50	123.75	0.59	11.06	68	335	+0.00	+1.95	3.37	1.95	4.38	136.50	147.33	0.45	13.01
28	135	+31.54	+34.54	2.47	3.00	5.48	150.00	134.07	0.55	12.16	69	340	+0.00	+2.15	2.91	2.15	4.38	150.50	133.62	0.49	11.25
29	140	+30.70	+33.60	2.60	2.90	5.48	145.00	138.69	0.53	12.70	70	345	+0.00	+2.05	3.12	2.05	4.38	143.50	140.14	0.47	12.06
30	145	+29.84	+32.54	2.89	2.70	5.48	135.00	148.96	0.49	14.01	71	350	+0.00	+3.25	1.57	3.25	4.38	227.50	88.40	0.74	7.23
31	150	+29.00	+31.65	2.98	2.65	5.48	132.50	151.77	0.48	14.39	72	355	+0.00	+2.60	2.19	2.60	4.38	182.00	110.49	0.59	8.82
32	155	+28.14	+30.64	3.25	2.50	5.48	125.00	160.88	0.46	15.69	73	360	+0.00	+4.40	0.99	4.40	4.38	308.00	65.29	1.00	6.57
33	160	+27.30	+29.70	3.45	2.40	5.48	120.00	167.58	0.44	16.71	74	365	+0.00	+4.90	0.85	4.90	4.38	343.00	58.63	1.12	6.65
34	165	+26.44	+28.79	3.56	2.35	5.48	117.50	171.15	0.43	17.28	75	370	+0.00	+4.70	0.90	4.70	4.38	329.00	61.12	1.07	6.60
35	170	+25.60	+27.85	3.80	2.25	5.48	112.50	178.76	0.41	18.54	76	375	+0.00	+4.90	0.85	4.90	4.38	343.00	58.63	1.12	6.65
36	175	+24.76	+26.91	4.07	2.15	5.48	107.50	187.07	0.39	19.99	77	380	+0.00	+5.20	0.77	5.20	4.38	364.00	55.25	1.19	6.76
37	180	+23.90	+26.00	4.22	2.10	5.48	105.00	191.52	0.38	20.80	78	385	+0.00	+5.40	0.73	5.40	4.38	378.00	53.20	1.23	6.84
38	185	+23.06	+25.21	4.07	2.15	5.48	107.50	187.07	0.39	19.99	79	390	+0.00	+6.45	0.56	6.45	4.38	451.50	44.54	1.47	7.46
39	190	+22.20	+24.20	4.54	2.00	5.48	100.00	201.10	0.36	22.61											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-11 ผลการทดลอง 11-TW1 (Q=21.02 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E
	cm	cm	cm		cm	cm	sq cm	cm/s		cm		cm	cm	cm		cm	cm	sq cm	cm/s		cm
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A	95.54	+52.00	+55.96	xxx	3.96	xxx	xxx	0.00	xxx	3.96	40	195	+21.36	+23.48	4.35	2.12	5.65	106.00	198.30	0.38	22.16
B	56.21	+39.13	+49.83	0.16	10.70	xxx	xxx	16.84	xxx	10.84	41	200	+20.50	+22.60	4.41	2.10	5.65	105.00	200.19	0.37	22.53
1	0	+38.00	+43.75	0.97	5.75	5.65	287.50	73.11	1.02	8.47	42	205	+19.66	+21.71	4.57	2.05	5.65	102.50	205.07	0.36	23.48
2	5	+37.90	+43.65	0.97	5.75	5.65	287.50	73.11	1.02	8.47	43	210	+18.80	+20.80	4.75	2.00	5.65	100.00	210.20	0.35	24.52
3	10	+37.80	+43.50	0.99	5.70	5.65	285.00	73.75	1.01	8.47	44	215	+17.94	+19.92	4.82	1.98	5.65	99.00	212.32	0.35	24.96
4	15	+37.70	+43.42	0.98	5.72	5.65	286.00	73.50	1.01	8.47	45	220	+17.10	+19.05	4.93	1.95	5.65	97.50	215.59	0.35	25.64
5	20	+37.60	+43.30	0.99	5.70	5.65	285.00	73.75	1.01	8.47	46	225	+16.24	+18.14	5.13	1.90	5.65	95.00	221.26	0.34	26.85
6	25	+37.50	+43.25	0.97	5.75	5.65	287.50	73.11	1.02	8.47	47	230	+15.40	+17.25	5.33	1.85	5.65	92.50	227.24	0.33	28.17
7	30	+37.40	+43.12	0.98	5.72	5.65	286.00	73.50	1.01	8.47	48	235	+14.54	+16.34	5.56	1.80	5.65	90.00	233.56	0.32	29.60
8	35	+37.30	+43.00	0.99	5.70	5.65	285.00	73.75	1.01	8.47	49	240	+13.70	+15.48	5.58	1.78	5.60	90.14	233.19	0.32	29.50
9	40	+37.20	+42.88	0.99	5.68	5.65	284.00	74.01	1.01	8.47	50	245	+12.84	+14.54	5.77	1.70	5.47	89.25	235.52	0.31	29.97
10	45	+37.10	+42.75	1.00	5.65	5.65	282.50	74.41	1.00	8.47	51	250	+12.00	+13.60	6.10	1.60	5.34	87.01	241.59	0.30	31.35
11	50	+37.00	+42.70	0.99	5.70	5.65	285.00	73.75	1.01	8.47	52	255	+10.92	+12.50	6.01	1.58	5.22	88.89	236.47	0.30	30.08
12	55	+36.90	+42.60	0.99	5.70	5.65	285.00	73.75	1.01	8.47	53	260	+9.70	+11.20	6.29	1.50	5.11	87.18	241.11	0.29	31.13
13	60	+36.80	+42.55	0.97	5.75	5.65	287.50	73.11	1.02	8.47	54	265	+8.48	+9.88	6.75	1.40	5.00	84.00	250.24	0.28	33.32
14	65	+36.70	+42.40	0.99	5.70	5.65	285.00	73.75	1.01	8.47	55	270	+7.28	+8.63	6.92	1.35	4.90	83.51	251.70	0.28	33.64
15	70	+36.60	+42.30	0.99	5.70	5.65	285.00	73.75	1.01	8.47	56	275	+5.72	+7.02	7.10	1.30	4.80	82.86	253.67	0.27	34.10
16	75	+36.50	+42.18	0.99	5.68	5.65	284.00	74.01	1.01	8.47	57	280	+4.02	+5.22	7.78	1.20	4.71	78.74	266.94	0.25	37.52
17	80	+36.40	+42.05	1.00	5.65	5.65	282.50	74.41	1.00	8.47	58	285	+2.30	+3.80	5.41	1.50	4.62	101.22	207.67	0.32	23.48
18	85	+36.30	+41.90	1.01	5.60	5.65	280.00	75.07	0.99	8.47	59	290	+0.58	+2.58	3.42	2.00	4.54	138.72	151.53	0.44	13.70
19	90	+36.20	+41.85	1.00	5.65	5.65	282.50	74.41	1.00	8.47	60	295	+0.00	+3.10	1.76	3.10	4.51	217.00	96.87	0.69	7.88
20	95	+36.10	+41.60	1.04	5.50	5.65	275.00	76.44	0.97	8.48	61	300	+0.00	+2.95	1.89	2.95	4.51	206.50	101.79	0.65	8.23
21	100	+36.00	+41.30	1.10	5.30	5.65	265.00	79.32	0.94	8.51	62	305	+0.00	+3.40	1.53	3.40	4.51	238.00	88.32	0.75	7.38
22	105	+35.52	+40.62	1.17	5.10	5.65	255.00	82.43	0.90	8.56	63	310	+0.00	+3.90	1.24	3.90	4.51	273.00	77.00	0.86	6.92
23	110	+35.04	+39.79	1.30	4.75	5.65	237.50	88.51	0.84	8.74	64	315	+0.00	+3.55	1.43	3.55	4.51	248.50	84.59	0.79	7.20
24	115	+34.58	+39.08	1.41	4.50	5.65	225.00	93.42	0.80	8.95	65	320	+0.00	+3.40	1.53	3.40	4.51	238.00	88.32	0.75	7.38
25	120	+34.10	+38.10	1.68	4.00	5.65	200.00	105.10	0.71	9.63	66	325	+0.00	+3.65	1.37	3.65	4.51	255.50	82.27	0.81	7.10
26	125	+33.26	+36.76	2.05	3.50	5.65	175.00	120.11	0.62	10.85	67	330	+0.00	+1.85	3.81	1.85	4.51	129.50	162.32	0.41	15.28
27	130	+32.40	+35.60	2.34	3.20	5.65	160.00	131.38	0.57	12.00	68	335	+0.00	+2.15	3.04	2.15	4.51	150.50	139.67	0.48	12.09
28	135	+31.54	+34.54	2.58	3.00	5.65	150.00	140.13	0.53	13.01	69	340	+0.00	+1.99	3.42	1.99	4.51	139.30	150.90	0.44	13.60
29	140	+30.70	+33.65	2.65	2.95	5.65	147.50	142.51	0.52	13.30	70	345	+0.00	+2.05	3.27	2.05	4.51	143.50	146.48	0.45	12.99
30	145	+29.84	+32.74	2.72	2.90	5.65	145.00	144.97	0.51	13.61	71	350	+0.00	+2.60	2.29	2.60	4.51	182.00	115.49	0.58	9.40
31	150	+29.00	+31.80	2.86	2.80	5.65	140.00	150.14	0.50	14.29	72	355	+0.00	+3.55	1.43	3.55	4.51	248.50	84.59	0.79	7.20
32	155	+28.14	+30.84	3.03	2.70	5.65	135.00	155.70	0.48	15.06	73	360	+0.00	+2.45	2.50	2.45	4.51	171.50	122.57	0.54	10.11
33	160	+27.30	+29.90	3.20	2.60	5.65	130.00	161.69	0.46	15.93	74	365	+0.00	+2.50	2.43	2.50	4.51	175.00	120.11	0.55	9.85
34	165	+26.44	+28.94	3.40	2.50	5.65	125.00	168.16	0.44	16.91	75	370	+0.00	+2.75	2.10	2.75	4.51	192.50	109.19	0.61	8.83
35	170	+25.60	+28.00	3.61	2.40	5.65	120.00	175.17	0.42	18.04	76	375	+0.00	+3.70	1.35	3.70	4.51	259.00	81.16	0.82	7.06
36	175	+24.76	+27.16	3.61	2.40	5.65	120.00	175.17	0.42	18.04	77	380	+0.00	+5.20	0.81	5.20	4.51	364.00	57.75	1.15	6.90
37	180	+23.90	+26.20	3.85	2.30	5.65	115.00	182.78	0.41	19.33	78	385	+0.00	+10.20	0.29	10.20	4.51	714.00	29.44	2.26	10.61
38	185	+23.06	+25.31	3.98	2.25	5.65	112.50	186.84	0.40	20.04	79	390	+0.00	+11.90	0.23	11.90	4.51	833.00	25.23	2.64	12.22
39	190	+22.20	+24.40	4.11	2.20	5.65	110.00	191.09	0.39	20.81											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-12 ผลการทดลอง 12-TW1 (Q=22.44 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A	-95.54	+52.00	+56.08	xxx	4.08	xxx	xxx	0.00	xxx	4.08	40	195	+21.36	+23.66	4.11	2.30	5.90	115.00	195.13	0.39	21.71
B	-56.21	+39.13	+51.16	0.16	12.03	xxx	xxx	17.80	xxx	12.19	41	200	+20.50	+22.75	4.25	2.25	5.90	112.50	199.47	0.38	22.53
1	0	+38.00	+44.15	0.94	6.15	5.90	307.50	72.98	1.04	8.86	42	205	+19.66	+21.86	4.39	2.20	5.90	110.00	204.00	0.37	23.41
2	5	+37.90	+44.00	0.95	6.10	5.90	305.00	73.57	1.03	8.86	43	210	+18.80	+20.98	4.45	2.18	5.90	109.00	205.87	0.37	23.78
3	10	+37.80	+43.90	0.95	6.10	5.90	305.00	73.57	1.03	8.86	44	215	+17.94	+20.09	4.55	2.15	5.90	107.50	208.74	0.36	24.36
4	15	+37.70	+43.65	0.99	5.95	5.90	297.50	75.43	1.01	8.85	45	220	+17.10	+19.20	4.71	2.10	5.90	105.00	213.71	0.36	25.38
5	20	+37.60	+43.58	0.98	5.98	5.90	299.00	75.05	1.01	8.85	46	225	+16.24	+18.24	5.07	2.00	5.90	100.00	224.40	0.34	27.67
6	25	+37.50	+43.45	0.99	5.95	5.90	297.50	75.43	1.01	8.85	47	230	+15.40	+17.35	5.26	1.95	5.90	97.50	230.15	0.33	28.95
7	30	+37.40	+43.40	0.97	6.00	5.90	300.00	74.80	1.02	8.85	48	235	+14.54	+16.44	5.47	1.90	5.90	95.00	236.21	0.32	30.34
8	35	+37.30	+43.40	0.95	6.10	5.90	305.00	73.57	1.03	8.86	49	240	+13.70	+15.55	5.62	1.85	5.85	93.68	239.53	0.32	31.09
9	40	+37.20	+43.20	0.97	6.00	5.90	300.00	74.80	1.02	8.85	50	245	+12.84	+14.64	5.65	1.80	5.71	94.50	237.46	0.32	30.54
10	45	+37.10	+43.15	0.96	6.05	5.90	302.50	74.18	1.03	8.85	51	250	+12.00	+13.78	5.55	1.78	5.58	96.80	231.83	0.32	29.17
11	50	+37.00	+43.10	0.95	6.10	5.90	305.00	73.57	1.03	8.86	52	255	+10.92	+12.62	5.75	1.70	5.45	95.64	234.62	0.31	29.76
12	55	+36.90	+42.90	0.97	6.00	5.90	300.00	74.80	1.02	8.85	53	260	+9.70	+11.30	6.09	1.60	5.34	92.99	241.31	0.30	31.28
13	60	+36.80	+42.90	0.95	6.10	5.90	305.00	73.57	1.03	8.86	54	265	+8.48	+10.03	6.19	1.55	5.22	93.00	241.29	0.30	31.22
14	65	+36.70	+42.70	0.97	6.00	5.90	300.00	74.80	1.02	8.85	55	270	+7.28	+8.78	6.30	1.50	5.12	92.79	241.84	0.29	31.31
15	70	+36.60	+42.55	0.99	5.95	5.90	297.50	75.43	1.01	8.85	56	275	+5.72	+7.17	6.44	1.45	5.02	92.42	242.00	0.29	31.50
16	75	+36.50	+42.40	1.00	5.90	5.90	295.00	76.07	1.00	8.85	57	280	+4.02	+5.32	7.37	1.30	4.92	85.31	263.05	0.26	36.57
17	80	+36.40	+42.25	1.01	5.85	5.90	292.50	76.72	0.99	8.85	58	285	+2.30	+3.70	6.41	1.40	4.83	94.47	237.53	0.29	30.16
18	85	+36.30	+42.20	1.00	5.90	5.90	295.00	76.07	1.00	8.85	59	290	+0.58	+2.08	5.62	1.50	4.74	104.04	215.69	0.32	25.21
19	90	+36.20	+42.15	0.99	5.95	5.90	297.50	75.43	1.01	8.85	60	295	+0.00	+1.85	4.07	1.85	4.71	129.50	173.28	0.39	17.15
20	95	+36.10	+42.00	1.00	5.90	5.90	295.00	76.07	1.00	8.85	61	300	+0.00	+1.70	4.62	1.70	4.71	119.00	188.57	0.36	19.82
21	100	+36.00	+41.88	1.00	5.88	5.90	294.00	76.33	1.00	8.85	62	305	+0.00	+2.90	2.07	2.90	4.71	203.00	110.54	0.62	9.13
22	105	+35.52	+40.97	1.13	5.45	5.90	272.50	82.35	0.92	8.91	63	310	+0.00	+2.90	2.07	2.90	4.71	203.00	110.54	0.62	9.13
23	110	+35.04	+40.14	1.24	5.10	5.90	255.00	88.00	0.86	9.05	64	315	+0.00	+2.65	2.37	2.65	4.71	185.50	120.97	0.56	10.11
24	115	+34.58	+38.78	1.66	4.20	5.90	210.00	106.86	0.71	10.02	65	320	+0.00	+2.45	2.67	2.45	4.71	171.50	130.85	0.52	11.18
25	120	+34.10	+38.10	1.79	4.00	5.90	200.00	112.20	0.68	10.42	66	325	+0.00	+2.30	2.93	2.30	4.71	161.00	139.38	0.49	12.20
26	125	+33.26	+37.01	1.97	3.75	5.90	187.50	119.68	0.64	11.05	67	330	+0.00	+2.35	2.84	2.35	4.71	164.50	136.41	0.50	11.83
27	130	+32.40	+35.90	2.19	3.50	5.90	175.00	128.23	0.59	11.88	68	335	+0.00	+2.30	2.93	2.30	4.71	161.00	139.38	0.49	12.20
28	135	+31.54	+34.84	2.39	3.30	5.90	165.00	136.00	0.56	12.73	69	340	+0.00	+2.30	2.93	2.30	4.71	161.00	139.38	0.49	12.20
29	140	+30.70	+33.90	2.50	3.20	5.90	160.00	140.25	0.54	13.23	70	345	+0.00	+2.45	2.67	2.45	4.71	171.50	130.85	0.52	11.18
30	145	+29.84	+32.94	2.63	3.10	5.90	155.00	144.77	0.53	13.78	71	350	+0.00	+2.20	3.14	2.20	4.71	154.00	145.71	0.47	13.02
31	150	+29.00	+31.95	2.83	2.95	5.90	147.50	152.14	0.50	14.75	72	355	+0.00	+2.05	3.49	2.05	4.71	143.50	156.38	0.43	14.51
32	155	+28.14	+30.99	2.98	2.85	5.90	142.50	157.47	0.48	15.49	73	360	+0.00	+2.10	3.36	2.10	4.71	147.00	152.65	0.45	13.98
33	160	+27.30	+30.00	3.23	2.70	5.90	135.00	166.22	0.46	16.78	74	365	+0.00	+2.20	3.14	2.20	4.71	154.00	145.71	0.47	13.02
34	165	+26.44	+29.09	3.32	2.65	5.90	132.50	169.36	0.45	17.27	75	370	+0.00	+2.45	2.67	2.45	4.71	171.50	130.85	0.52	11.18
35	170	+25.60	+28.20	3.42	2.60	5.90	130.00	172.62	0.44	17.79	76	375	+0.00	+6.55	0.61	6.55	4.71	458.50	48.94	1.39	7.77
36	175	+24.76	+27.26	3.63	2.50	5.90	125.00	179.52	0.42	18.93	77	380	+0.00	+10.50	0.30	10.50	4.71	735.00	30.53	2.23	10.98
37	180	+23.90	+26.38	3.67	2.48	5.90	124.00	180.97	0.42	19.17	78	385	+0.00	+12.00	0.25	12.00	4.71	840.00	26.71	2.55	12.36
38	185	+23.06	+25.46	3.85	2.40	5.90	120.00	187.00	0.41	20.22	79	390	+0.00	+12.50	0.23	12.50	4.71	875.00	25.65	2.65	12.84
39	190	+22.20	+24.60	3.85	2.40	5.90	120.00	187.00	0.41	20.22											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-13 ผลการทดลอง 13-TW1 (Q=23.66 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E
	cm	cm	cm		cm	cm	sq cm	cm/s		cm		cm	cm	cm		cm	cm	sq cm	cm/s		cm
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A	-95.54	+52.00	+56.17	xxx	4.17	xxx	xxx	0.00	xxx	4.17	40	195	+21.36	+23.61	4.48	2.25	6.11	112.50	210.31	0.37	24.79
B	-56.21	+39.13	+51.28	0.17	12.15	xxx	xxx	18.61	xxx	12.33	41	200	+20.50	+22.65	4.79	2.15	6.11	107.50	220.09	0.35	26.84
1	0	+38.00	+44.20	0.98	6.20	6.11	310.00	76.32	1.01	9.17	42	205	+19.66	+21.76	4.96	2.10	6.11	105.00	225.33	0.34	27.98
2	5	+37.90	+44.08	0.98	6.18	6.11	309.00	76.57	1.01	9.17	43	210	+18.80	+20.90	4.96	2.10	6.11	105.00	225.33	0.34	27.98
3	10	+37.80	+43.95	0.99	6.15	6.11	307.50	76.94	1.01	9.17	44	215	+17.94	+19.99	5.15	2.05	6.11	102.50	230.83	0.34	29.21
4	15	+37.70	+43.82	1.00	6.12	6.11	306.00	77.32	1.00	9.17	45	220	+17.10	+19.20	4.96	2.10	6.11	105.00	225.33	0.34	27.98
5	20	+37.60	+43.78	0.98	6.18	6.11	309.00	76.57	1.01	9.17	46	225	+16.24	+18.24	5.34	2.00	6.11	100.00	236.60	0.33	30.53
6	25	+37.50	+43.65	0.99	6.15	6.11	307.50	76.94	1.01	9.17	47	230	+15.40	+17.35	5.55	1.95	6.11	97.50	242.67	0.32	31.96
7	30	+37.40	+43.58	0.98	6.18	6.11	309.00	76.57	1.01	9.17	48	235	+14.54	+16.54	5.34	2.00	6.11	100.00	236.60	0.33	30.53
8	35	+37.30	+43.42	1.00	6.12	6.11	306.00	77.32	1.00	9.17	49	240	+13.70	+15.60	5.70	1.90	6.06	96.22	245.91	0.31	32.72
9	40	+37.20	+43.30	1.00	6.10	6.11	305.00	77.57	1.00	9.17	50	245	+12.84	+14.79	5.28	1.95	5.92	102.38	231.11	0.33	29.17
10	45	+37.10	+43.25	0.99	6.15	6.11	307.50	76.94	1.01	9.17	51	250	+12.00	+13.85	5.52	1.85	5.78	100.60	235.18	0.32	30.04
11	50	+37.00	+43.12	1.00	6.12	6.11	306.00	77.32	1.00	9.17	52	255	+10.92	+12.67	5.80	1.75	5.65	98.46	240.31	0.31	31.18
12	55	+36.90	+43.05	0.99	6.15	6.11	307.50	76.94	1.01	9.17	53	260	+9.70	+11.40	5.86	1.70	5.53	98.80	239.46	0.31	30.93
13	60	+36.80	+42.90	1.00	6.10	6.11	305.00	77.57	1.00	9.17	54	265	+8.48	+10.18	5.68	1.70	5.41	102.00	231.96	0.31	29.12
14	65	+36.70	+42.85	0.99	6.15	6.11	307.50	76.94	1.01	9.17	55	270	+7.28	+8.93	5.76	1.65	5.30	102.07	231.80	0.31	29.04
15	70	+36.60	+42.80	0.98	6.20	6.11	310.00	76.32	1.01	9.17	56	275	+5.72	+7.22	6.45	1.50	5.20	95.61	247.46	0.29	32.71
16	75	+36.50	+42.65	0.99	6.15	6.11	307.50	76.94	1.01	9.17	57	280	+4.02	+5.77	4.97	1.75	5.10	114.84	206.03	0.34	23.39
17	80	+36.40	+42.52	1.00	6.12	6.11	306.00	77.32	1.00	9.17	58	285	+2.30	+3.75	6.41	1.45	5.00	97.85	241.81	0.29	31.25
18	85	+36.30	+42.40	1.00	6.10	6.11	305.00	77.57	1.00	9.17	59	290	+0.58	+2.33	4.70	1.75	4.91	121.38	194.93	0.36	21.12
19	90	+36.20	+42.30	1.00	6.10	6.11	305.00	77.57	1.00	9.17	60	295	+0.00	+2.45	2.81	2.45	4.88	171.50	137.96	0.50	12.15
20	95	+36.10	+42.25	0.99	6.15	6.11	307.50	76.94	1.01	9.17	61	300	+0.00	+2.80	2.30	2.80	4.88	196.00	120.71	0.57	10.23
21	100	+36.00	+42.10	1.00	6.10	6.11	305.00	77.57	1.00	9.17	62	305	+0.00	+4.35	1.19	4.35	4.88	304.50	77.70	0.89	7.43
22	105	+35.52	+40.97	1.19	5.45	6.11	272.50	86.83	0.89	9.29	63	310	+0.00	+5.05	0.95	5.05	4.88	353.50	66.93	1.03	7.33
23	110	+35.04	+40.19	1.29	5.15	6.11	257.50	91.88	0.84	9.45	64	315	+0.00	+3.40	1.72	3.40	4.88	238.00	99.41	0.70	8.44
24	115	+34.58	+39.53	1.37	4.95	6.11	247.50	95.60	0.81	9.61	65	320	+0.00	+3.10	1.98	3.10	4.88	217.00	109.03	0.63	9.16
25	120	+34.10	+38.35	1.72	4.25	6.11	212.50	111.34	0.70	10.57	66	325	+0.00	+3.60	1.58	3.60	4.88	252.00	93.89	0.74	8.09
26	125	+33.26	+37.11	2.00	3.85	6.11	192.50	122.91	0.63	11.55	67	330	+0.00	+2.90	2.19	2.90	4.88	203.00	116.55	0.59	9.82
27	130	+32.40	+36.05	2.17	3.65	6.11	182.50	129.64	0.60	12.22	68	335	+0.00	+3.05	2.03	3.05	4.88	213.50	110.82	0.62	9.31
28	135	+31.54	+34.79	2.58	3.25	6.11	162.50	145.60	0.53	14.05	69	340	+0.00	+3.40	1.72	3.40	4.88	238.00	99.41	0.70	8.44
29	140	+30.70	+33.85	2.70	3.15	6.11	157.50	150.22	0.52	14.65	70	345	+0.00	+2.90	2.19	2.90	4.88	203.00	116.55	0.59	9.82
30	145	+29.84	+32.94	2.77	3.10	6.11	155.00	152.65	0.51	14.98	71	350	+0.00	+2.85	2.24	2.85	4.88	199.50	118.60	0.58	10.02
31	150	+29.00	+32.15	2.70	3.15	6.11	157.50	150.22	0.52	14.65	72	355	+0.00	+3.00	2.08	3.00	4.88	210.00	112.67	0.61	9.47
32	155	+28.14	+31.14	2.91	3.00	6.11	150.00	157.73	0.49	15.68	73	360	+0.00	+3.55	1.61	3.55	4.88	248.50	95.21	0.73	8.17
33	160	+27.30	+30.15	3.14	2.85	6.11	142.50	166.04	0.47	16.90	74	365	+0.00	+2.95	2.13	2.95	4.88	206.50	114.58	0.60	9.64
34	165	+26.44	+29.24	3.22	2.80	6.11	140.00	169.00	0.46	17.36	75	370	+0.00	+4.25	1.23	4.25	4.88	297.50	79.53	0.87	7.47
35	170	+25.60	+28.35	3.31	2.75	6.11	137.50	172.07	0.45	17.84	76	375	+0.00	+8.65	0.42	8.65	4.88	605.50	39.08	1.77	9.43
36	175	+24.76	+27.56	3.22	2.80	6.11	140.00	169.00	0.46	17.36	77	380	+0.00	+12.40	0.25	12.40	4.88	868.00	27.26	2.54	12.78
37	180	+23.90	+26.75	3.14	2.85	6.11	142.50	166.04	0.47	16.90	78	385	+0.00	+14.50	0.20	14.50	4.88	1015.00	23.31	2.97	14.78
38	185	+23.06	+25.86	3.22	2.80	6.11	140.00	169.00	0.46	17.36	79	390	+0.00	+14.65	0.19	14.65	4.88	1025.50	23.07	3.00	14.92
39	190	+22.20	+24.65	3.94	2.45	6.11	122.50	193.14	0.40	21.46											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-14 ผลการทดลอง 14-TW1 (Q=26.48 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E
	cm.	cm.	cm.		cm.	cm.	sq.cm.	cm/s		cm.		cm.	cm.	cm.		cm.	cm.	sq.cm.	cm/s		cm.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A	-95.54	+52.00	+56.39	xxx	4.39	xxx	xxx	0.00	xxx	4.39	40	195	+21.36	+24.06	3.81	2.70	6.59	135.00	196.15	0.41	22.31
B	-56.21	+39.13	+52.31	0.18	13.18	xxx	xxx	20.47	xxx	13.39	41	200	+20.50	+23.15	3.92	2.65	6.59	132.50	199.85	0.40	23.01
1	0	+38.00	+44.75	0.96	6.75	6.59	337.50	78.46	1.02	9.89	42	205	+19.66	+22.26	4.03	2.60	6.59	130.00	203.69	0.39	23.75
2	5	+37.90	+44.70	0.95	6.80	6.59	340.00	77.88	1.03	9.89	43	210	+18.80	+21.30	4.28	2.50	6.59	125.00	211.84	0.38	25.37
3	10	+37.80	+44.55	0.96	6.75	6.59	337.50	78.46	1.02	9.89	44	215	+17.94	+20.44	4.28	2.50	6.59	125.00	211.84	0.38	25.37
4	15	+37.70	+44.50	0.95	6.80	6.59	340.00	77.88	1.03	9.89	45	220	+17.10	+19.58	4.33	2.48	6.59	124.00	213.55	0.38	25.72
5	20	+37.60	+44.35	0.96	6.75	6.59	337.50	78.46	1.02	9.89	46	225	+16.24	+18.69	4.41	2.45	6.59	122.50	216.16	0.37	26.27
6	25	+37.50	+44.20	0.97	6.70	6.59	335.00	79.04	1.02	9.88	47	230	+15.40	+17.80	4.55	2.40	6.59	120.00	220.67	0.36	27.22
7	30	+37.40	+44.10	0.97	6.70	6.59	335.00	79.04	1.02	9.88	48	235	+14.54	+16.84	4.85	2.30	6.59	115.00	230.26	0.35	29.32
8	35	+37.30	+44.05	0.96	6.75	6.59	337.50	78.46	1.02	9.89	49	240	+13.70	+15.90	5.12	2.20	6.53	111.41	237.68	0.34	30.99
9	40	+37.20	+43.90	0.97	6.70	6.59	335.00	79.04	1.02	9.88	50	245	+12.84	+14.94	5.29	2.10	6.38	110.25	240.18	0.33	31.50
10	45	+37.10	+43.80	0.97	6.70	6.59	335.00	79.04	1.02	9.88	51	250	+12.00	+14.00	5.50	2.00	6.23	108.76	243.47	0.32	32.21
11	50	+37.00	+43.65	0.99	6.65	6.59	332.50	79.64	1.01	9.88	52	255	+10.92	+12.82	5.74	1.90	6.09	106.89	247.72	0.31	33.18
12	55	+36.90	+43.50	1.00	6.60	6.59	330.00	80.24	1.00	9.88	53	260	+9.70	+11.50	6.02	1.80	5.96	104.62	253.12	0.30	34.45
13	60	+36.80	+43.45	0.99	6.65	6.59	332.50	79.64	1.01	9.88	54	265	+8.48	+10.18	6.36	1.70	5.83	102.00	259.61	0.29	36.05
14	65	+36.70	+43.30	1.00	6.60	6.59	330.00	80.24	1.00	9.88	55	270	+7.28	+8.93	6.45	1.65	5.72	102.07	259.43	0.29	35.95
15	70	+36.60	+43.25	0.99	6.65	6.59	332.50	79.64	1.01	9.88	56	275	+5.72	+7.32	6.55	1.60	5.60	101.98	259.65	0.29	35.96
16	75	+36.50	+43.10	1.00	6.60	6.59	330.00	80.24	1.00	9.88	57	280	+4.02	+5.52	7.01	1.50	5.50	98.43	269.02	0.27	38.39
17	80	+36.40	+43.05	0.99	6.65	6.59	332.50	79.64	1.01	9.88	58	285	+2.30	+3.85	6.49	1.55	5.39	104.59	253.17	0.29	34.22
18	85	+36.30	+42.90	1.00	6.60	6.59	330.00	80.24	1.00	9.88	59	290	+0.58	+2.33	5.27	1.75	5.30	121.38	218.16	0.33	26.01
19	90	+36.20	+42.78	1.00	6.58	6.59	329.00	80.49	1.00	9.88	60	295	+0.00	+2.05	4.11	2.05	5.26	143.50	184.53	0.39	19.41
20	95	+36.10	+42.65	1.01	6.55	6.59	327.50	80.85	0.99	9.88	61	300	+0.00	+2.60	2.80	2.60	5.26	182.00	145.49	0.49	13.39
21	100	+36.00	+42.50	1.02	6.50	6.59	325.00	81.48	0.99	9.88	62	305	+0.00	+2.90	2.45	2.90	5.26	203.00	130.44	0.55	11.57
22	105	+35.52	+42.02	1.02	6.50	6.59	325.00	81.48	0.99	9.88	63	310	+0.00	+3.35	1.97	3.35	5.26	234.50	112.92	0.64	9.85
23	110	+35.04	+41.14	1.12	6.10	6.59	305.00	86.82	0.93	9.94	64	315	+0.00	+2.95	2.38	2.95	5.26	206.50	128.23	0.56	11.33
24	115	+34.58	+39.98	1.35	5.40	6.59	270.00	98.07	0.82	10.30	65	320	+0.00	+2.80	2.58	2.80	5.26	196.00	135.10	0.53	12.10
25	120	+34.10	+38.75	1.69	4.65	6.59	232.50	113.89	0.71	11.26	66	325	+0.00	+2.75	2.65	2.75	5.26	192.50	137.56	0.52	12.39
26	125	+33.26	+37.36	2.04	4.10	6.59	205.00	129.17	0.62	12.60	67	330	+0.00	+2.85	2.51	2.85	5.26	199.50	132.73	0.54	11.83
27	130	+32.40	+36.40	2.11	4.00	6.59	200.00	132.40	0.61	12.93	68	335	+0.00	+2.75	2.65	2.75	5.26	192.50	137.56	0.52	12.39
28	135	+31.54	+35.34	2.28	3.80	6.59	190.00	139.37	0.58	13.70	69	340	+0.00	+2.30	3.46	2.30	5.26	161.00	164.47	0.44	16.09
29	140	+30.70	+34.40	2.38	3.70	6.59	185.00	143.14	0.56	14.14	70	345	+0.00	+2.65	2.80	2.65	5.26	185.50	142.75	0.50	13.04
30	145	+29.84	+33.44	2.48	3.60	6.59	180.00	147.11	0.55	14.63	71	350	+0.00	+2.55	2.97	2.55	5.26	178.50	148.35	0.48	13.77
31	150	+29.00	+32.40	2.70	3.40	6.59	170.00	155.76	0.52	15.77	72	355	+0.00	+2.20	3.70	2.20	5.26	154.00	171.95	0.42	17.27
32	155	+28.14	+31.34	2.95	3.20	6.59	160.00	165.50	0.49	17.16	73	360	+0.00	+2.35	3.35	2.35	5.26	164.50	160.97	0.45	15.56
33	160	+27.30	+30.40	3.10	3.10	6.59	155.00	170.84	0.47	17.98	74	365	+0.00	+2.30	3.46	2.30	5.26	161.00	164.47	0.44	16.09
34	165	+26.44	+29.49	3.17	3.05	6.59	152.50	173.64	0.46	18.42	75	370	+0.00	+3.45	1.88	3.45	5.26	241.50	109.65	0.66	9.58
35	170	+25.60	+28.60	3.25	3.00	6.59	150.00	176.53	0.46	18.88	76	375	+0.00	+4.25	1.38	4.25	5.26	297.50	89.01	0.81	8.29
36	175	+24.76	+27.66	3.42	2.90	6.59	145.00	182.62	0.44	19.90	77	380	+0.00	+8.25	0.51	8.25	5.26	577.50	45.85	1.57	9.32
37	180	+23.90	+26.78	3.46	2.88	6.59	144.00	183.89	0.44	20.12	78	385	+0.00	+18.10	0.16	18.10	5.26	1267.00	20.90	3.44	18.32
38	185	+23.06	+25.86	3.61	2.80	6.59	140.00	189.14	0.43	21.03	79	390	+0.00	+18.25	0.15	18.25	5.26	1277.50	20.73	3.47	18.47
39	190	+22.20	+24.95	3.71	2.75	6.59	137.50	192.58	0.42	21.65											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-15 ผลการทดลอง 15-1W1 (Q=28.36 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Vc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Vc	E	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
	cm	cm	cm		cm	cm	sq cm	cm/s		cm	cm	cm	cm	cm		cm	cm	sq cm	cm/s		cm	
A	-95.54	+52.00	+56.53	xxx	4.53	xxx	xxx	0.00	xxx	4.53	40	195	+21.36	+24.21	3.76	2.85	6.90	142.50	199.02	0.41	23.04	
B	-56.21	+39.13	+52.72	0.19	13.59	xxx	xxx	21.69	xxx	13.82	41	200	+20.50	+23.30	3.87	2.80	6.90	140.00	202.57	0.41	23.71	
1	0	+38.00	+45.25	0.93	7.25	6.90	362.50	78.23	1.05	10.37	42	205	+19.66	+22.36	4.08	2.70	6.90	135.00	210.07	0.39	25.19	
2	5	+37.90	+45.15	0.93	7.25	6.90	362.50	78.23	1.05	10.37	43	210	+18.80	+21.50	4.08	2.70	6.90	135.00	210.07	0.39	25.19	
3	10	+37.80	+45.05	0.93	7.25	6.90	362.50	78.23	1.05	10.37	44	215	+17.94	+20.59	4.20	2.65	6.90	132.50	214.04	0.38	26.00	
4	15	+37.70	+44.90	0.94	7.20	6.90	360.00	78.78	1.04	10.36	45	220	+17.10	+19.70	4.32	2.60	6.90	130.00	218.15	0.38	26.86	
5	20	+37.60	+44.82	0.93	7.22	6.90	361.00	78.56	1.05	10.37	46	225	+16.24	+18.74	4.58	2.50	6.90	125.00	226.88	0.36	28.74	
6	25	+37.50	+44.70	0.94	7.20	6.90	360.00	78.78	1.04	10.36	47	230	+15.40	+17.92	4.53	2.52	6.90	126.00	225.08	0.37	28.34	
7	30	+37.40	+44.55	0.95	7.15	6.90	357.50	79.33	1.04	10.36	48	235	+14.54	+17.02	4.64	2.48	6.90	124.00	228.71	0.36	29.14	
8	35	+37.30	+44.50	0.94	7.20	6.90	360.00	78.78	1.04	10.36	49	240	+13.70	+16.15	4.66	2.45	6.84	124.07	228.58	0.36	29.08	
9	40	+37.20	+44.40	0.94	7.20	6.90	360.00	78.78	1.04	10.36	50	245	+12.84	+15.24	4.64	2.40	6.68	126.00	225.08	0.36	28.22	
10	45	+37.10	+44.20	0.96	7.10	6.90	355.00	79.89	1.03	10.35	51	250	+12.00	+14.30	4.77	2.30	6.52	125.07	226.75	0.35	28.50	
11	50	+37.00	+44.15	0.95	7.15	6.90	357.50	79.33	1.04	10.36	52	255	+10.92	+13.12	4.93	2.20	6.37	123.77	229.13	0.35	28.96	
12	55	+36.90	+44.00	0.96	7.10	6.90	355.00	79.89	1.03	10.35	53	260	+9.70	+11.70	5.51	2.00	6.24	116.24	243.98	0.32	32.34	
13	60	+36.80	+43.95	0.95	7.15	6.90	357.50	79.33	1.04	10.36	54	265	+8.48	+10.38	5.76	1.90	6.11	114.00	248.77	0.31	33.44	
14	65	+36.70	+43.90	0.94	7.20	6.90	360.00	78.78	1.04	10.36	55	270	+7.28	+9.08	6.06	1.80	5.98	111.35	254.70	0.30	34.86	
15	70	+36.60	+43.70	0.96	7.10	6.90	355.00	79.89	1.03	10.35	56	275	+5.72	+7.42	6.41	1.70	5.87	108.36	261.73	0.29	36.61	
16	75	+36.50	+43.55	0.97	7.05	6.90	352.50	80.45	1.02	10.35	57	280	+4.02	+5.62	6.82	1.60	5.75	104.99	270.12	0.28	38.79	
17	80	+36.40	+43.40	0.98	7.00	6.90	350.00	81.03	1.02	10.35	58	285	+2.30	+4.00	6.05	1.70	5.65	114.72	247.22	0.30	32.85	
18	85	+36.30	+43.25	0.99	6.95	6.90	347.50	81.61	1.01	10.34	59	290	+0.58	+2.48	4.98	1.90	5.54	131.78	215.20	0.34	25.50	
19	90	+36.20	+43.10	1.00	6.90	6.90	345.00	82.20	1.00	10.34	60	295	+0.00	+2.50	3.27	2.50	5.51	175.00	162.06	0.45	15.89	
20	95	+36.10	+42.95	1.01	6.85	6.90	342.50	82.80	0.99	10.34	61	300	+0.00	+2.80	2.76	2.80	5.51	196.00	114.69	0.51	13.47	
21	100	+36.00	+42.80	0.65	9.20	6.90	460.00	61.65	1.33	11.14	62	305	+0.00	+3.55	1.93	3.55	5.51	248.50	114.12	0.64	10.19	
22	105	+35.52	+40.87	1.46	5.35	6.90	267.50	106.02	0.78	11.08	63	310	+0.00	+3.60	1.89	3.60	5.51	252.00	112.54	0.65	10.06	
23	110	+35.04	+40.39	1.46	5.35	6.90	267.50	106.02	0.78	11.08	64	315	+0.00	+4.50	1.36	4.50	5.51	315.00	90.03	0.82	8.63	
24	115	+34.58	+39.58	1.62	5.00	6.90	250.00	113.44	0.73	11.56	65	320	+0.00	+3.00	2.49	3.00	5.51	210.00	135.05	0.54	12.30	
25	120	+34.10	+39.00	1.67	4.90	6.90	245.00	115.76	0.71	11.73	66	325	+0.00	+2.85	2.69	2.85	5.51	199.50	142.16	0.52	13.15	
26	125	+33.26	+37.76	1.90	4.50	6.90	225.00	126.04	0.65	12.60	67	330	+0.00	+2.85	2.69	2.85	5.51	199.50	142.16	0.52	13.15	
27	130	+32.40	+36.65	2.07	4.25	6.90	212.50	133.46	0.62	13.33	68	335	+0.00	+2.70	2.92	2.70	5.51	189.00	150.05	0.49	14.18	
28	135	+31.54	+35.54	2.26	4.00	6.90	200.00	141.80	0.58	14.25	69	340	+0.00	+2.95	2.55	2.95	5.51	206.50	137.34	0.54	12.56	
29	140	+30.70	+34.55	2.40	3.85	6.90	192.50	147.32	0.56	14.91	70	345	+0.00	+2.55	3.18	2.55	5.51	178.50	158.88	0.46	15.42	
30	145	+29.84	+33.54	2.54	3.70	6.90	185.00	153.30	0.54	15.68	71	350	+0.00	+2.40	3.48	2.40	5.51	168.00	168.81	0.44	16.92	
31	150	+29.00	+32.60	2.65	3.60	6.90	180.00	157.56	0.52	16.25	72	355	+0.00	+2.85	2.69	2.85	5.51	199.50	142.16	0.52	13.15	
32	155	+28.14	+31.64	2.77	3.50	6.90	175.00	162.06	0.51	16.89	73	360	+0.00	+3.00	2.49	3.00	5.51	210.00	135.05	0.54	12.30	
33	160	+27.30	+30.70	2.89	3.40	6.90	170.00	166.82	0.49	17.58	74	365	+0.00	+2.70	2.92	2.70	5.51	189.00	150.05	0.49	14.18	
34	165	+26.44	+29.74	3.02	3.30	6.90	165.00	171.88	0.48	18.36	75	370	+0.00	+2.80	2.76	2.80	5.51	196.00	144.69	0.51	13.47	
35	170	+25.60	+28.80	3.16	3.20	6.90	160.00	177.25	0.46	19.21	76	375	+0.00	+2.75	2.84	2.75	5.51	192.50	147.32	0.50	13.81	
36	175	+24.76	+27.86	3.32	3.10	6.90	155.00	182.97	0.45	20.16	77	380	+0.00	+4.20	1.50	4.20	5.51	294.00	96.46	0.76	8.94	
37	180	+23.90	+26.90	3.49	3.00	6.90	150.00	189.07	0.44	21.22	78	385	+0.00	+4.50	1.36	4.50	5.51	315.00	90.03	0.82	8.63	
38	185	+23.06	+26.01	3.57	2.95	6.90	147.50	192.27	0.43	21.79	79	390	+0.00	+24.00	0.11	24.00	5.51	1680.00	16.88	4.36	24.15	
39	190	+22.20	+25.10	3.67	2.90	6.90	145.00	195.59	0.42	22.40												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-16 ผลการทดลอง 16-TW1 (Q=29.33 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	V/Yc	E	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
	cm.	cm.	cm.		cm.	cm.	sq cm.	cm/s		cm.		cm.	cm.	cm.		cm.	cm.	sq cm.	cm/s		cm.	
A	-95.54	+52.00	+56.60	xxx	4.60	xxx	xxx	0.00	xxx	4.60	40	195	+21.35	+24.26	3.79	2.90	7.05	145.00	202.28	0.41	23.75	
B	-56.21	+39.13	+52.93	0.19	13.00	xxx	xxx	22.31	xxx	14.05	41	200	+20.50	+23.30	4.00	2.80	7.05	140.00	209.50	0.40	25.17	
1	0	+38.00	+45.75	0.87	7.75	7.05	387.50	75.69	1.10	10.67	42	205	+19.66	+22.41	4.11	2.75	7.05	137.50	213.31	0.39	25.94	
2	5	+37.90	+45.50	0.89	7.60	7.05	380.00	77.18	1.08	10.64	43	210	+18.80	+21.50	4.22	2.70	7.05	135.00	217.26	0.38	26.76	
3	10	+37.80	+45.35	0.90	7.55	7.05	377.50	77.70	1.07	10.63	44	215	+17.94	+20.54	4.47	2.60	7.05	130.00	225.62	0.37	28.54	
4	15	+37.70	+45.20	0.91	7.50	7.05	375.00	78.21	1.06	10.62	45	220	+17.10	+19.65	4.60	2.55	7.05	127.50	230.04	0.36	29.52	
5	20	+37.60	+45.15	0.90	7.55	7.05	377.50	77.70	1.07	10.63	46	225	+16.24	+18.74	4.74	2.50	7.05	125.00	234.64	0.35	30.56	
6	25	+37.50	+45.00	0.91	7.50	7.05	375.00	78.21	1.06	10.62	47	230	+15.40	+17.90	4.74	2.50	7.05	125.00	234.64	0.35	30.56	
7	30	+37.40	+44.85	0.92	7.45	7.05	372.50	78.74	1.06	10.61	48	235	+14.54	+17.02	4.80	2.48	7.05	124.00	236.53	0.35	31.00	
8	35	+37.30	+44.70	0.93	7.40	7.05	370.00	79.27	1.05	10.60	49	240	+13.70	+16.10	4.97	2.40	6.99	121.54	241.33	0.34	32.08	
9	40	+37.20	+44.60	0.93	7.40	7.05	370.00	79.27	1.05	10.60	50	245	+12.84	+15.22	4.86	2.38	6.83	124.95	234.73	0.35	30.46	
10	45	+37.10	+44.45	0.94	7.35	7.05	367.50	79.81	1.04	10.60	51	250	+12.00	+14.30	4.94	2.30	6.67	125.07	234.50	0.34	30.33	
11	50	+37.00	+44.30	0.95	7.30	7.05	365.00	80.36	1.04	10.59	52	255	+10.92	+13.02	5.47	2.10	6.52	118.15	248.25	0.32	33.51	
12	55	+36.90	+44.20	0.95	7.30	7.05	365.00	80.36	1.04	10.59	53	260	+9.70	+11.70	5.70	2.00	6.38	116.24	252.32	0.31	34.45	
13	60	+36.80	+44.10	0.95	7.30	7.05	365.00	80.36	1.04	10.59	54	265	+8.48	+10.38	5.96	1.90	6.25	114.00	257.28	0.30	35.64	
14	65	+36.70	+43.95	0.96	7.25	7.05	362.50	80.91	1.03	10.59	55	270	+7.28	+9.08	6.27	1.80	6.12	111.35	263.41	0.29	37.16	
15	70	+36.60	+43.80	0.97	7.20	7.05	360.00	81.47	1.02	10.58	56	275	+5.72	+7.42	6.63	1.70	6.00	108.36	270.60	0.28	39.04	
16	75	+36.50	+43.65	0.98	7.15	7.05	357.50	82.04	1.01	10.58	57	280	+4.02	+5.77	6.16	1.75	5.88	114.84	255.41	0.30	35.00	
17	80	+36.40	+43.50	0.99	7.10	7.05	355.00	82.62	1.01	10.58	58	285	+2.30	+4.10	5.75	1.80	5.77	121.46	241.47	0.31	31.52	
18	85	+36.30	+43.45	0.98	7.15	7.05	357.50	82.04	1.01	10.58	59	290	+0.58	+2.53	4.96	1.95	5.67	135.25	216.85	0.34	25.92	
19	90	+36.20	+43.30	0.99	7.10	7.05	355.00	82.62	1.01	10.58	60	295	+0.00	+2.50	3.38	2.50	5.64	175.00	167.60	0.44	16.82	
20	95	+36.10	+43.05	1.02	6.95	7.05	347.50	84.40	0.99	10.58	61	300	+0.00	+3.10	2.45	3.10	5.64	217.00	135.16	0.55	12.41	
21	100	+36.00	+42.75	1.07	6.75	7.05	337.50	86.90	0.96	10.60	62	305	+0.00	+4.25	1.53	4.25	5.64	297.50	98.59	0.75	9.20	
22	105	+35.52	+41.72	1.21	6.20	7.05	310.00	94.61	0.88	10.76	63	310	+0.00	+4.70	1.31	4.70	5.64	329.00	89.15	0.83	8.75	
23	110	+35.04	+40.54	1.45	5.50	7.05	275.00	106.65	0.78	11.30	64	315	+0.00	+3.90	1.74	3.90	5.64	273.00	107.44	0.69	9.78	
24	115	+34.58	+39.78	1.58	5.20	7.05	260.00	112.81	0.74	11.69	65	320	+0.00	+3.20	2.34	3.20	5.64	224.00	130.94	0.57	11.94	
25	120	+34.10	+39.05	1.70	4.95	7.05	247.50	118.51	0.70	12.11	66	325	+0.00	+3.25	2.28	3.25	5.64	227.50	128.92	0.58	11.72	
26	125	+33.26	+37.06	1.90	4.60	7.05	230.00	127.52	0.65	12.89	67	330	+0.00	+3.75	1.84	3.75	5.64	262.50	111.73	0.67	10.11	
27	130	+32.40	+36.70	2.10	4.30	7.05	215.00	136.42	0.61	13.79	68	335	+0.00	+3.45	2.09	3.45	5.64	241.50	121.45	0.61	10.97	
28	135	+31.54	+35.64	2.26	4.10	7.05	205.00	143.07	0.58	14.53	69	340	+0.00	+3.00	2.57	3.00	5.64	210.00	139.67	0.53	12.94	
29	140	+30.70	+34.65	2.39	3.95	7.05	197.50	148.51	0.56	15.19	70	345	+0.00	+3.80	1.81	3.80	5.64	266.00	110.26	0.67	10.00	
30	145	+29.84	+33.59	2.58	3.75	7.05	187.50	156.43	0.53	16.22	71	350	+0.00	+3.55	2.00	3.55	5.64	248.50	118.03	0.63	10.65	
31	150	+29.00	+32.60	2.71	3.60	7.05	180.00	162.94	0.51	17.13	72	355	+0.00	+3.10	2.45	3.10	5.64	217.00	135.16	0.55	12.41	
32	155	+28.14	+31.64	2.86	3.50	7.05	175.00	167.60	0.50	17.82	73	360	+0.00	+3.20	2.34	3.20	5.64	224.00	130.94	0.57	11.94	
33	160	+27.30	+30.70	2.99	3.40	7.05	170.00	172.53	0.48	18.57	74	365	+0.00	+3.65	1.92	3.65	5.64	255.50	114.79	0.65	10.37	
34	165	+26.44	+29.74	3.12	3.30	7.05	165.00	177.76	0.47	19.40	75	370	+0.00	+3.85	1.77	3.85	5.64	269.50	108.83	0.68	9.89	
35	170	+25.60	+28.80	3.27	3.20	7.05	160.00	183.31	0.45	20.33	76	375	+0.00	+4.20	1.55	4.20	5.64	294.00	99.76	0.75	9.27	
36	175	+24.76	+27.91	3.35	3.15	7.05	157.50	186.22	0.45	20.83	77	380	+0.00	+23.00	0.12	23.00	5.64	1610.00	18.22	4.08	23.17	
37	180	+23.90	+27.00	3.43	3.10	7.05	155.00	189.23	0.44	21.35	78	385	+0.00	+23.80	0.12	23.80	5.64	1666.00	17.61	4.22	23.96	
38	185	+23.06	+26.11	3.52	3.05	7.05	152.50	192.33	0.43	21.90	79	390	+0.00	+24.00	0.11	24.00	5.64	1680.00	17.46	4.26	24.16	
39	190	+22.20	+25.20	3.60	3.00	7.05	150.00	195.53	0.43	22.49												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง n-17 ผลการทดลอง 17-TW1 (Q=30.45 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E
	cm	cm	cm		cm	cm	sq cm	cm/s		cm		cm	cm	cm		cm	cm	sq cm	cm/s		cm
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A	-95.54	+52.00	+56.67	xxx	4.67	xxx	xxx	0.00	xxx	4.67	40	195	+21.36	+24.41	3.65	3.05	7.23	152.50	199.67	0.42	23.37
B	-56.21	+39.13	+53.57	0.19	14.44	xxx	xxx	23.04	xxx	14.71	41	200	+20.50	+23.45	3.84	2.95	7.23	147.50	206.44	0.41	24.67
1	0	+38.00	+46.20	0.83	8.20	7.23	410.00	74.27	1.13	11.01	42	205	+19.66	+22.66	3.74	3.00	7.23	150.00	203.00	0.41	24.00
2	5	+37.90	+45.80	0.88	7.90	7.23	395.00	77.09	1.09	10.93	43	210	+18.80	+21.65	4.04	2.85	7.23	142.50	213.68	0.39	26.12
3	10	+37.80	+45.65	0.88	7.85	7.23	392.50	77.58	1.09	10.92	44	215	+17.94	+20.69	4.26	2.75	7.23	137.50	221.45	0.38	27.75
4	15	+37.70	+45.50	0.89	7.80	7.23	390.00	78.08	1.08	10.91	45	220	+17.10	+19.75	4.51	2.65	7.23	132.50	229.81	0.37	29.57
5	20	+37.60	+45.40	0.89	7.80	7.23	390.00	78.08	1.08	10.91	46	225	+16.24	+18.84	4.64	2.60	7.23	130.00	234.23	0.36	30.56
6	25	+37.50	+45.25	0.90	7.75	7.23	387.50	78.58	1.07	10.90	47	230	+15.40	+17.95	4.77	2.55	7.23	127.50	238.82	0.35	31.62
7	30	+37.40	+45.20	0.89	7.80	7.23	390.00	78.08	1.08	10.91	48	235	+14.54	+17.04	4.92	2.50	7.23	125.00	243.60	0.35	32.75
8	35	+37.30	+45.05	0.90	7.75	7.23	387.50	78.58	1.07	10.90	49	240	+13.70	+15.95	5.69	2.25	7.17	113.94	267.25	0.31	38.65
9	40	+37.20	+44.90	0.91	7.70	7.23	385.00	79.09	1.06	10.89	50	245	+12.84	+14.99	5.87	2.15	7.00	112.88	269.77	0.31	39.24
10	45	+37.10	+44.80	0.91	7.70	7.23	385.00	79.09	1.06	10.89	51	250	+12.00	+14.20	5.48	2.20	6.84	119.64	254.52	0.32	35.22
11	50	+37.00	+44.75	0.90	7.75	7.23	387.50	78.58	1.07	10.90	52	255	+10.92	+13.07	5.48	2.15	6.68	120.96	251.74	0.32	34.45
12	55	+36.90	+44.60	0.91	7.70	7.23	385.00	79.09	1.06	10.89	53	260	+9.70	+11.70	5.91	2.00	6.54	116.24	261.96	0.31	36.98
13	60	+36.80	+44.45	0.92	7.65	7.23	382.50	79.61	1.06	10.88	54	265	+8.48	+10.43	5.95	1.95	6.40	117.00	260.26	0.30	36.47
14	65	+36.70	+44.30	0.93	7.60	7.23	380.00	80.13	1.05	10.87	55	270	+7.28	+9.28	5.56	2.00	6.27	123.72	246.12	0.32	32.87
15	70	+36.60	+44.15	0.94	7.55	7.23	377.50	80.66	1.04	10.87	56	275	+5.72	+7.77	5.20	2.05	6.15	130.67	233.04	0.33	29.73
16	75	+36.50	+44.00	0.95	7.50	7.23	375.00	81.20	1.04	10.86	57	280	+4.02	+6.12	4.87	2.10	6.03	137.80	220.97	0.35	26.99
17	80	+36.40	+43.85	0.96	7.45	7.23	372.50	81.74	1.03	10.86	58	285	+2.30	+4.45	4.57	2.15	5.92	145.08	209.88	0.36	24.60
18	85	+36.30	+43.70	0.97	7.40	7.23	370.00	82.30	1.02	10.85	59	290	+0.58	+2.83	4.15	2.25	5.81	156.06	195.12	0.39	21.65
19	90	+36.20	+43.60	0.97	7.40	7.23	370.00	82.30	1.02	10.85	60	295	+0.00	+2.50	3.51	2.50	5.78	175.00	174.00	0.43	17.93
20	95	+36.10	+43.40	0.99	7.30	7.23	365.00	83.42	1.01	10.85	61	300	+0.00	+2.75	3.05	2.75	5.78	192.50	158.18	0.48	15.50
21	100	+36.00	+43.20	1.01	7.20	7.23	360.00	84.58	1.00	10.85	62	305	+0.00	+4.00	1.74	4.00	5.78	280.00	108.75	0.69	10.03
22	105	+35.52	+42.52	1.05	7.00	7.23	350.00	87.00	0.97	10.86	63	310	+0.00	+4.55	1.43	4.55	5.78	318.50	95.60	0.79	9.21
23	110	+35.04	+41.54	1.17	6.50	7.23	325.00	93.69	0.90	10.97	64	315	+0.00	+3.80	1.87	3.80	5.78	266.00	114.47	0.66	10.48
24	115	+34.58	+40.18	1.47	5.60	7.23	280.00	108.75	0.77	11.63	65	320	+0.00	+3.15	2.48	3.15	5.78	220.50	138.10	0.55	12.87
25	120	+34.10	+39.25	1.66	5.15	7.23	257.50	118.25	0.71	12.28	66	325	+0.00	+2.80	2.96	2.80	5.78	196.00	155.36	0.48	15.10
26	125	+33.76	+38.06	1.85	4.80	7.23	240.00	126.88	0.66	13.00	67	330	+0.00	+2.70	3.13	2.70	5.78	189.00	161.11	0.47	15.93
27	130	+32.40	+36.95	2.00	4.55	7.23	227.50	133.85	0.63	13.68	68	335	+0.00	+2.50	3.51	2.50	5.78	175.00	174.00	0.43	17.93
28	135	+31.54	+35.79	2.22	4.25	7.23	212.50	143.29	0.59	14.72	69	340	+0.00	+2.65	3.22	2.65	5.78	185.50	164.15	0.46	16.38
29	140	+30.70	+34.75	2.39	4.05	7.23	202.50	150.37	0.56	15.57	70	345	+0.00	+2.50	3.51	2.50	5.78	175.00	174.00	0.43	17.93
30	145	+29.84	+33.74	2.52	3.90	7.23	195.00	156.15	0.54	16.33	71	350	+0.00	+2.80	2.96	2.80	5.78	196.00	155.36	0.48	15.10
31	150	+29.00	+32.75	2.68	3.75	7.23	187.50	162.40	0.52	17.19	72	355	+0.00	+2.60	3.31	2.60	5.78	182.00	167.31	0.45	16.87
32	155	+28.14	+31.69	2.91	3.55	7.23	177.50	171.55	0.49	18.55	73	360	+0.00	+3.20	2.43	3.20	5.78	224.00	135.94	0.55	12.62
33	160	+27.30	+30.95	2.79	3.65	7.23	182.50	166.85	0.50	17.84	74	365	+0.00	+2.95	2.74	2.95	5.78	206.50	147.46	0.51	14.03
34	165	+26.44	+29.94	2.97	3.50	7.23	175.00	174.00	0.48	18.93	75	370	+0.00	+2.90	2.81	2.90	5.78	203.00	150.00	0.50	14.37
35	170	+25.60	+29.05	3.03	3.45	7.23	172.50	176.52	0.48	19.33	76	375	+0.00	+3.10	2.54	3.10	5.78	217.00	140.32	0.54	13.14
36	175	+24.76	+28.01	3.32	3.25	7.23	162.50	187.38	0.45	21.15	77	380	+0.00	+3.85	1.84	3.85	5.78	269.50	112.99	0.67	10.36
37	180	+23.90	+27.15	3.32	3.25	7.23	162.50	187.38	0.45	21.15	78	385	+0.00	+19.85	0.16	19.85	5.78	1389.50	21.91	3.44	20.09
38	185	+23.06	+26.21	3.48	3.15	7.23	157.50	193.33	0.44	22.20	79	390	+0.00	+25.50	0.11	25.50	5.78	1785.00	17.06	4.41	25.65
39	190	+22.20	+25.20	3.74	3.00	7.23	150.00	203.00	0.41	24.00											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-18 ผลการทดลอง 18-TW1 (Q=31.75 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E
	cm.	cm.	cm.		cm.	cm.	sq cm.	cm/s		cm.		cm.	cm.	cm.		cm.	cm.	sq cm.	cm/s		cm.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A	-95.54	+52.00	+56.76	xxx	4.76	xxx	xxx	0.00	xxx	4.76	40	195	+21.36	+24.36	3.90	3.00	7.44	150.00	211.67	0.40	25.84
B	-56.21	+39.13	+53.73	0.20	14.60	xxx	xxx	23.86	xxx	14.89	41	200	+20.50	+23.45	4.00	2.95	7.44	147.50	215.25	0.40	26.57
1	0	+38.00	+46.40	0.82	8.48	7.44	424.00	74.08	1.14	11.34	42	205	+19.66	+22.56	4.11	2.90	7.44	145.00	218.97	0.39	27.34
2	5	+37.90	+46.00	0.88	8.10	7.44	405.00	78.40	1.09	11.23	43	210	+18.00	+21.65	4.21	2.85	7.44	142.50	222.81	0.38	28.15
3	10	+37.80	+45.85	0.89	8.05	7.44	402.50	78.88	1.08	11.22	44	215	+17.94	+20.74	4.33	2.80	7.44	140.00	226.79	0.38	29.01
4	15	+37.70	+45.80	0.88	8.10	7.44	405.00	78.40	1.09	11.23	45	220	+17.10	+19.85	4.45	2.75	7.44	137.50	230.91	0.37	29.93
5	20	+37.60	+45.65	0.89	8.05	7.44	402.50	78.88	1.08	11.22	46	225	+16.24	+18.94	4.57	2.70	7.44	135.00	235.19	0.36	30.89
6	25	+37.50	+45.50	0.90	8.00	7.44	400.00	79.38	1.08	11.21	47	230	+15.40	+18.00	4.84	2.60	7.44	130.00	244.23	0.35	33.00
7	30	+37.40	+45.35	0.90	7.95	7.44	397.50	79.87	1.07	11.20	48	235	+14.54	+17.04	5.13	2.50	7.44	125.00	254.00	0.34	35.38
8	35	+37.30	+45.20	0.91	7.90	7.44	395.00	80.38	1.06	11.19	49	240	+13.70	+16.10	5.38	2.40	7.37	121.54	261.24	0.33	37.18
9	40	+37.20	+45.05	0.92	7.85	7.44	392.50	80.89	1.06	11.19	50	245	+12.84	+15.09	5.72	2.25	7.20	118.13	268.78	0.31	39.07
10	45	+37.10	+44.98	0.92	7.88	7.44	394.00	80.58	1.06	11.19	51	250	+12.00	+14.10	6.13	2.10	7.03	114.20	278.03	0.30	41.50
11	50	+37.00	+44.75	0.94	7.75	7.44	387.50	81.94	1.04	11.17	52	255	+10.92	+12.92	6.37	2.00	6.87	112.52	282.17	0.29	42.58
12	55	+36.90	+44.60	0.95	7.70	7.44	385.00	82.47	1.04	11.17	53	260	+9.70	+11.65	6.41	1.95	6.73	113.33	280.15	0.29	41.95
13	60	+36.80	+44.45	0.96	7.65	7.44	382.50	83.01	1.03	11.16	54	265	+8.48	+10.33	6.71	1.85	6.58	111.00	286.04	0.28	43.55
14	65	+36.70	+44.30	0.97	7.60	7.44	380.00	83.55	1.02	11.16	55	270	+7.28	+8.98	7.39	1.70	6.45	105.16	301.92	0.26	48.16
15	70	+36.60	+44.20	0.97	7.60	7.44	380.00	83.55	1.02	11.16	56	275	+5.72	+7.37	7.50	1.65	6.32	105.17	301.89	0.26	48.10
16	75	+36.50	+44.05	0.98	7.55	7.44	377.50	84.11	1.02	11.16	57	280	+4.02	+5.62	7.63	1.60	6.20	104.99	302.40	0.26	48.21
17	80	+36.40	+43.90	0.99	7.50	7.44	375.00	84.67	1.01	11.15	58	285	+2.30	+4.10	6.22	1.80	6.09	121.46	261.39	0.30	36.63
18	85	+36.30	+43.80	0.99	7.50	7.44	375.00	84.67	1.01	11.15	59	290	+0.58	+3.08	3.70	2.50	5.98	173.40	183.10	0.42	19.59
19	90	+36.20	+43.72	0.98	7.52	7.44	376.00	84.44	1.01	11.15	60	295	+0.00	+3.10	2.65	3.10	5.94	217.00	146.31	0.52	14.01
20	95	+36.10	+43.55	1.00	7.45	7.44	372.50	85.23	1.00	11.15	61	300	+0.00	+3.50	2.21	3.50	5.94	245.00	129.59	0.59	12.06
21	100	+36.00	+43.00	1.09	7.00	7.44	350.00	90.71	0.94	11.19	62	305	+0.00	+4.05	1.78	4.05	5.94	283.50	111.99	0.68	10.44
22	105	+35.52	+42.02	1.22	6.50	7.44	325.00	97.69	0.87	11.36	63	310	+0.00	+4.55	1.49	4.55	5.94	318.50	99.69	0.77	9.61
23	110	+35.04	+40.89	1.43	5.85	7.44	292.50	108.55	0.79	11.86	64	315	+0.00	+4.55	1.49	4.55	5.94	318.50	99.69	0.77	9.61
24	115	+34.58	+40.08	1.57	5.50	7.44	275.00	115.45	0.74	12.29	65	320	+0.00	+4.75	1.40	4.75	5.94	332.50	95.49	0.80	9.40
25	120	+34.10	+39.30	1.71	5.20	7.44	260.00	122.12	0.70	12.80	66	325	+0.00	+3.00	2.79	3.00	5.94	210.00	151.19	0.50	14.65
26	125	+33.26	+38.16	1.87	4.90	7.44	245.00	129.59	0.66	13.46	67	330	+0.00	+3.25	2.47	3.25	5.94	227.50	139.56	0.55	13.18
27	130	+32.40	+36.90	2.12	4.50	7.44	225.00	141.11	0.61	14.65	68	335	+0.00	+3.70	2.03	3.70	5.94	259.00	122.59	0.62	11.36
28	135	+31.54	+35.94	2.20	4.40	7.44	220.00	144.32	0.59	15.02	69	340	+0.00	+3.60	2.12	3.60	5.94	252.00	125.99	0.61	11.69
29	140	+30.70	+34.90	2.36	4.20	7.44	210.00	151.19	0.56	15.85	70	345	+0.00	+3.10	2.65	3.10	5.94	217.00	146.31	0.52	14.01
30	145	+29.84	+33.94	2.44	4.10	7.44	205.00	154.88	0.55	16.33	71	350	+0.00	+3.05	2.72	3.05	5.94	213.50	148.71	0.51	14.32
31	150	+29.00	+32.90	2.63	3.90	7.44	195.00	162.82	0.52	17.41	72	355	+0.00	+3.55	2.17	3.55	5.94	248.50	127.77	0.60	11.87
32	155	+28.14	+31.94	2.74	3.80	7.44	190.00	167.11	0.51	18.03	73	360	+0.00	+3.25	2.47	3.25	5.94	227.50	139.56	0.55	13.18
33	160	+27.30	+31.00	2.85	3.70	7.44	185.00	171.62	0.50	18.71	74	365	+0.00	+2.85	3.01	2.85	5.94	199.50	159.15	0.48	15.76
34	165	+26.44	+30.04	2.97	3.60	7.44	180.00	176.39	0.48	19.46	75	370	+0.00	+4.55	1.49	4.55	5.94	318.50	99.69	0.77	9.61
35	170	+25.60	+29.10	3.10	3.50	7.44	175.00	181.43	0.47	20.28	76	375	+0.00	+6.50	0.87	6.50	5.94	455.00	69.78	1.09	8.98
36	175	+24.76	+28.16	3.23	3.40	7.44	170.00	186.76	0.46	21.18	77	380	+0.00	+24.50	0.12	24.50	5.94	1715.00	18.51	4.12	24.67
37	180	+23.90	+27.20	3.38	3.30	7.44	165.00	192.42	0.44	22.17	78	385	+0.00	+24.00	0.12	24.00	5.94	1680.00	18.90	4.04	24.18
38	185	+23.06	+26.26	3.54	3.20	7.44	160.00	198.44	0.43	23.27	79	390	+0.00	+24.50	0.12	24.50	5.94	1715.00	18.51	4.12	24.67
39	190	+22.20	+25.30	3.71	3.10	7.44	155.00	204.84	0.42	24.49											

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-19 ผลการทดลอง 19-TWI (Q=36.45 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	
	cm	cm	cm		cm	cm	sq.cm	cm/s		cm		cm	cm	cm		cm	cm	sq.cm	cm/s		cm	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
A	-95.54	+52.00	+57.07	xxx	5.07	xxx	xxx	0.00	xxx	5.07	40	195	+21.36	+24.96	3.41	3.60	8.15	180.00	202.50	0.44	24.50	
B	-56.21	+39.13	+53.28	0.23	14.15	xxx	xxx	26.81	xxx	14.52	41	200	+20.50	+24.05	3.48	3.55	8.15	177.50	205.35	0.44	25.04	
1	0	+38.00	+46.65	0.91	8.65	8.15	432.50	84.28	1.06	12.27	42	205	+19.66	+23.16	3.55	3.50	8.15	175.00	208.29	0.43	25.61	
2	5	+37.90	+46.50	0.92	8.60	8.15	430.00	84.77	1.05	12.26	43	210	+18.80	+22.20	3.71	3.40	8.15	170.00	214.41	0.42	26.83	
3	10	+37.80	+46.45	0.91	8.65	8.15	432.50	84.28	1.06	12.27	44	215	+17.94	+21.29	3.80	3.35	8.15	167.50	217.61	0.41	27.49	
4	15	+37.70	+46.30	0.92	8.60	8.15	430.00	84.77	1.05	12.26	45	220	+17.10	+20.40	3.88	3.30	8.15	165.00	220.91	0.40	28.17	
5	20	+37.60	+46.15	0.93	8.55	8.15	427.50	85.26	1.05	12.26	46	225	+16.24	+19.52	3.92	3.28	8.15	164.00	222.26	0.40	28.46	
6	25	+37.50	+46.00	0.94	8.50	8.15	425.00	85.76	1.04	12.25	47	230	+15.40	+18.60	4.07	3.20	8.15	160.00	227.81	0.39	29.65	
7	30	+37.40	+45.95	0.93	8.55	8.15	427.50	85.26	1.05	12.26	48	235	+14.54	+17.64	4.26	3.10	8.15	155.00	235.16	0.38	31.29	
8	35	+37.30	+45.90	0.92	8.60	8.15	430.00	84.77	1.05	12.26	49	240	+13.70	+16.65	4.54	2.95	8.08	149.39	244.00	0.36	33.29	
9	40	+37.20	+45.75	0.93	8.55	8.15	427.50	85.26	1.05	12.26	50	245	+12.84	+15.64	4.73	2.80	7.89	147.00	247.96	0.35	34.14	
10	45	+37.10	+45.60	0.94	8.50	8.15	425.00	85.76	1.04	12.25	51	250	+12.00	+14.70	4.82	2.70	7.71	146.83	248.25	0.35	34.11	
11	50	+37.00	+45.52	0.94	8.52	8.15	426.00	85.56	1.05	12.25	52	255	+10.92	+13.52	4.93	2.60	7.54	146.28	249.19	0.35	34.25	
12	55	+36.90	+45.40	0.94	8.50	8.15	425.00	85.76	1.01	12.25	53	260	+9.70	+12.20	5.07	2.50	7.37	145.30	250.86	0.34	34.57	
13	60	+36.80	+45.25	0.95	8.45	8.15	422.50	86.27	1.04	12.24	54	265	+8.48	+10.88	5.22	2.40	7.22	144.00	253.13	0.33	35.06	
14	65	+36.70	+45.10	0.96	8.40	8.15	420.00	86.79	1.03	12.24	55	270	+7.28	+9.58	5.39	2.30	7.07	142.28	256.19	0.33	35.75	
15	70	+36.60	+45.00	0.96	8.40	8.15	420.00	86.79	1.03	12.24	56	275	+5.72	+7.92	5.60	2.20	6.93	140.23	259.93	0.32	36.64	
16	75	+36.50	+44.85	0.96	8.35	8.15	417.50	87.31	1.02	12.23	57	280	+4.02	+6.12	5.83	2.10	6.80	137.80	264.51	0.31	37.76	
17	80	+36.40	+44.70	0.97	8.30	8.15	415.00	87.83	1.02	12.23	58	285	+2.30	+4.80	4.36	2.50	6.68	168.70	216.06	0.37	26.29	
18	85	+36.30	+44.62	0.97	8.32	8.15	416.00	87.62	1.02	12.23	59	290	+0.58	+3.28	3.78	2.70	6.55	187.27	194.64	0.41	22.01	
19	90	+36.20	+44.48	0.98	8.28	8.15	414.00	88.04	1.02	12.23	60	295	+0.00	+2.80	3.55	2.80	6.51	196.00	185.97	0.43	20.43	
20	95	+36.10	+44.30	0.99	8.20	8.15	410.00	88.90	1.01	12.23	61	300	+0.00	+2.70	3.75	2.70	6.51	189.00	192.86	0.41	21.66	
21	100	+36.00	+44.10	1.01	8.10	8.15	405.00	90.00	0.99	12.23	62	305	+0.00	+4.05	2.04	4.05	6.51	283.50	128.57	0.62	12.48	
22	105	+35.52	+43.12	1.11	7.60	8.15	380.00	95.92	0.93	12.29	63	310	+0.00	+4.30	1.86	4.30	6.51	301.00	121.10	0.66	11.77	
23	110	+35.04	+41.44	1.44	6.40	8.15	320.00	113.91	0.79	13.01	64	315	+0.00	+3.80	2.24	3.80	6.51	266.00	137.03	0.58	13.37	
24	115	+34.58	+40.68	1.54	6.10	8.15	305.00	119.51	0.75	13.38	65	320	+0.00	+3.45	2.59	3.45	6.51	241.50	150.93	0.53	15.06	
25	120	+34.10	+40.00	1.62	5.90	8.15	295.00	123.56	0.72	13.68	66	325	+0.00	+3.05	3.12	3.05	6.51	213.50	170.73	0.47	17.91	
26	125	+33.26	+38.76	1.80	5.50	8.15	275.00	132.55	0.67	14.45	67	330	+0.00	+3.25	2.84	3.25	6.51	227.50	160.22	0.50	16.33	
27	130	+32.40	+37.60	1.96	5.20	8.15	260.00	140.19	0.64	15.22	68	335	+0.00	+2.95	3.28	2.95	6.51	206.50	176.51	0.45	18.83	
28	135	+31.54	+36.54	2.08	5.00	8.15	250.00	145.80	0.61	15.83	69	340	+0.00	+3.45	2.59	3.45	6.51	241.50	150.93	0.53	15.06	
29	140	+30.70	+35.50	2.21	4.80	8.15	240.00	151.88	0.59	16.56	70	345	+0.00	+3.30	2.77	3.30	6.51	231.00	157.79	0.51	15.99	
30	145	+29.84	+34.44	2.36	4.60	8.15	230.00	158.48	0.56	17.40	71	350	+0.00	+3.20	2.90	3.20	6.51	224.00	162.72	0.49	16.70	
31	150	+29.00	+33.40	2.52	4.40	8.15	220.00	165.68	0.54	18.39	72	355	+0.00	+2.85	3.46	2.85	6.51	199.50	182.71	0.44	19.86	
32	155	+28.14	+32.44	2.61	4.30	8.15	215.00	169.53	0.53	18.95	73	360	+0.00	+2.75	3.65	2.75	6.51	192.50	189.35	0.42	21.02	
33	160	+27.30	+31.50	2.70	4.20	8.15	210.00	173.57	0.52	19.56	74	365	+0.00	+2.55	4.08	2.55	6.51	178.50	204.20	0.39	23.80	
34	165	+26.44	+30.54	2.80	4.10	8.15	205.00	177.80	0.50	20.21	75	370	+0.00	+2.75	3.65	2.75	6.51	192.50	189.35	0.42	21.02	
35	170	+25.60	+29.50	3.02	3.90	8.15	195.00	186.92	0.48	21.71	76	375	+0.00	+2.65	3.85	2.65	6.51	185.50	196.50	0.41	22.33	
36	175	+24.76	+28.56	3.14	3.80	8.15	190.00	191.84	0.47	22.56	77	380	+0.00	+5.50	1.29	5.50	6.51	385.00	94.68	0.84	10.07	
37	180	+23.90	+27.65	3.21	3.75	8.15	187.50	194.40	0.46	23.01	78	385	+0.00	+26.50	0.12	26.50	6.51	1855.00	19.65	4.07	26.70	
38	185	+23.06	+26.76	3.27	3.70	8.15	185.00	197.03	0.45	23.49	79	390	+0.00	+27.10	0.12	27.10	6.51	1897.00	19.21	4.16	27.29	
39	190	+22.20	+25.85	3.34	3.65	8.15	182.50	199.73	0.45	23.98												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ตาราง ก-20 ผลการทดลอง 20-TW1 (Q=40.66 l/s)

NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	NO	STA	EL_B	EL_W	Fr	Y	Yc	A	V	Y/Yc	E	
	cm	cm	cm		cm	cm	sq cm	cm/s		cm		cm	cm	cm		cm	cm	sq cm	cm/s		cm	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
A	-95.54	+52.00	+57.32	xxx	5.32	xxx	xxx	0.00	xxx	5.32	40	155	+21.36	+25.21	3.44	3.85	8.77	192.50	211.22	0.44	26.59	
B	-56.21	+39.13	+54.18	0.24	15.05	xxx	xxx	29.41	xxx	15.49	41	200	+20.50	+24.25	3.58	3.75	8.77	187.50	216.85	0.43	27.72	
1	0	+38.00	+47.20	0.93	9.20	8.77	460.00	88.39	1.05	13.18	42	205	+19.66	+23.31	3.72	3.65	8.77	182.50	222.79	0.42	28.95	
2	5	+37.90	+47.05	0.94	9.15	8.77	457.50	88.87	1.04	13.18	43	210	+18.80	+22.30	3.97	3.50	8.77	175.00	232.34	0.40	31.01	
3	10	+37.80	+46.90	0.95	9.10	8.77	455.00	89.36	1.04	13.17	44	215	+17.94	+21.44	3.97	3.50	8.77	175.00	232.34	0.40	31.01	
4	15	+37.70	+46.85	0.94	9.15	8.77	457.50	88.87	1.04	13.18	45	220	+17.10	+20.65	3.88	3.55	8.77	177.50	229.07	0.40	30.29	
5	20	+37.60	+46.60	0.96	9.00	8.77	450.00	90.36	1.03	13.16	46	225	+16.24	+19.74	3.97	3.50	8.77	175.00	232.34	0.40	31.01	
6	25	+37.50	+46.45	0.97	8.95	8.77	447.50	90.86	1.02	13.16	47	230	+15.40	+18.85	4.05	3.45	8.77	172.50	235.71	0.39	31.77	
7	30	+37.40	+46.30	0.98	8.90	8.77	445.00	91.37	1.02	13.16	48	235	+14.54	+17.79	4.43	3.25	8.77	162.50	250.22	0.37	35.16	
8	35	+37.30	+46.25	0.97	8.95	8.77	447.50	90.86	1.02	13.16	49	240	+13.70	+16.70	4.93	3.00	8.69	151.92	267.61	0.35	39.51	
9	40	+37.20	+46.20	0.96	9.00	8.77	450.00	90.36	1.03	13.16	50	245	+12.84	+15.79	4.88	2.95	8.49	154.88	262.53	0.35	38.00	
10	45	+37.10	+46.20	0.95	9.10	8.77	455.00	89.36	1.04	13.17	51	250	+12.00	+14.85	4.96	2.85	8.29	154.98	262.35	0.34	37.93	
11	50	+37.00	+46.05	0.95	9.05	8.77	452.50	89.86	1.03	13.17	52	255	+10.92	+13.72	4.92	2.80	8.11	157.53	258.11	0.35	36.76	
12	55	+36.90	+45.90	0.96	9.00	8.77	450.00	90.36	1.03	13.16	53	260	+9.70	+12.45	4.90	2.75	7.93	159.83	254.40	0.35	35.74	
13	60	+36.80	+45.60	0.99	8.80	8.77	440.00	92.41	1.00	13.15	54	265	+8.48	+11.18	4.88	2.70	7.76	162.00	250.99	0.35	34.81	
14	65	+36.70	+45.55	0.99	8.85	8.77	442.50	91.89	1.01	13.15	55	270	+7.28	+9.88	5.01	2.60	7.61	160.84	252.00	0.34	35.17	
15	70	+36.60	+45.35	1.00	8.75	8.77	437.50	92.94	1.00	13.15	56	275	+5.72	+8.27	5.00	2.55	7.46	162.54	250.16	0.34	34.45	
16	75	+36.50	+45.30	0.99	8.80	8.77	440.00	92.41	1.00	13.15	57	280	+4.02	+6.52	5.00	2.50	7.31	164.05	247.85	0.34	33.81	
17	80	+36.40	+45.05	1.02	8.65	8.77	432.50	94.01	0.99	13.15	58	285	+2.30	+5.05	4.22	2.75	7.18	185.57	219.11	0.38	27.22	
18	85	+36.30	+45.05	1.00	8.75	8.77	437.50	92.94	1.00	13.15	59	290	+0.50	+3.73	3.35	3.15	7.05	218.40	186.10	0.45	20.80	
19	90	+36.20	+45.00	0.99	8.80	8.77	440.00	92.41	1.00	13.15	60	295	+0.00	+3.40	2.96	3.40	7.01	238.00	170.84	0.49	18.28	
20	95	+36.10	+44.85	1.00	8.75	8.77	437.50	92.94	1.00	13.15	61	300	+0.00	+3.55	2.77	3.55	7.01	248.50	163.62	0.51	17.20	
21	100	+36.00	+44.70	1.01	8.70	8.77	435.00	93.47	0.99	13.15	62	305	+0.00	+4.35	2.04	4.35	7.01	304.50	133.53	0.62	13.44	
22	105	+35.52	+44.22	1.01	8.70	8.77	435.00	93.47	0.99	13.15	63	310	+0.00	+4.40	2.01	4.40	7.01	308.00	132.01	0.63	13.28	
23	110	+35.04	+43.29	1.10	8.25	8.77	412.50	98.57	0.94	13.20	64	315	+0.00	+4.70	1.82	4.70	7.01	329.00	123.59	0.67	12.18	
24	115	+34.58	+41.33	1.48	6.75	8.77	337.50	120.47	0.77	14.15	65	320	+0.00	+3.45	2.89	3.45	7.01	241.50	168.36	0.49	17.90	
25	120	+34.10	+40.55	1.58	6.45	8.77	322.50	126.08	0.74	14.55	66	325	+0.00	+3.30	3.09	3.30	7.01	231.00	176.02	0.47	19.09	
26	125	+33.26	+39.31	1.74	6.05	8.77	302.50	134.41	0.69	15.26	67	330	+0.00	+3.35	3.02	3.35	7.01	234.50	173.39	0.48	18.67	
27	130	+32.40	+38.10	1.91	5.70	8.77	285.00	142.67	0.65	16.07	68	335	+0.00	+3.60	2.72	3.60	7.01	252.00	161.35	0.51	16.87	
28	135	+31.54	+36.94	2.07	5.40	8.77	270.00	150.59	0.62	16.96	69	340	+0.00	+3.40	2.96	3.40	7.01	238.00	170.84	0.49	18.28	
29	140	+30.70	+35.90	2.19	5.20	8.77	260.00	156.38	0.59	17.66	70	345	+0.00	+3.25	3.17	3.25	7.01	227.50	178.73	0.46	19.53	
30	145	+29.84	+34.89	2.29	5.05	8.77	252.50	161.03	0.58	18.27	71	350	+0.00	+3.20	3.24	3.20	7.01	224.00	181.52	0.46	19.99	
31	150	+29.00	+33.95	2.36	4.95	8.77	247.50	164.28	0.56	18.71	72	355	+0.00	+3.35	3.02	3.35	7.01	234.50	173.39	0.48	18.67	
32	155	+28.14	+32.89	2.51	4.75	8.77	237.50	171.20	0.54	19.69	73	360	+0.00	+3.25	3.17	3.25	7.01	227.50	178.73	0.46	19.53	
33	160	+27.30	+31.80	2.72	4.50	8.77	225.00	180.71	0.51	21.14	74	365	+0.00	+3.55	2.77	3.55	7.01	248.50	163.62	0.51	17.20	
34	165	+26.44	+30.89	2.77	4.45	8.77	222.50	182.74	0.51	21.47	75	370	+0.00	+3.75	2.55	3.75	7.01	267.50	154.90	0.54	15.98	
35	170	+25.60	+29.90	2.91	4.30	8.77	215.00	189.12	0.49	22.53	76	375	+0.00	+4.25	2.12	4.25	7.01	297.50	136.67	0.61	13.77	
36	175	+24.76	+29.01	2.96	4.25	8.77	212.50	191.34	0.48	22.91	77	380	+0.00	+25.85	0.14	25.85	7.01	1809.50	22.47	3.69	26.11	
37	180	+23.90	+28.00	3.13	4.10	8.77	205.00	198.34	0.47	24.15	78	385	+0.00	+25.50	0.14	25.50	7.01	1785.00	22.78	3.64	25.76	
38	185	+23.06	+27.16	3.13	4.10	8.77	205.00	198.34	0.47	24.15	79	390	+0.00	+25.00	0.15	25.00	7.01	1750.00	23.23	3.57	25.28	
39	190	+22.20	+26.20	3.25	4.00	8.77	200.00	203.30	0.46	25.07												

หมายเหตุ

ความกว้างแบบจำลอง 50 ซม. ที่ STA.0 ถึง STA.235

ความกว้างแบบจำลองเพิ่มจาก 50 ซม. ที่ STA. 235 เป็น 70 ซม. ที่ STA. 295

ความกว้างแบบจำลอง 70 ซม. ที่ STA.295 ถึง STA.390

ภาคผนวก ข.

ผลการคำนวณแบบจำลอง ที่อัตราการไหลต่าง ๆ

ค่าในตารางภาคผนวก ข. คือการคำนวณเพื่อเปรียบเทียบค่าต่างๆ ที่ได้จากการทดลอง (ภาคผนวก ก.) โดยในกรณีเปรียบเทียบคำนวณเทียบกับการทดลองได้กำหนดอัตราการไหลให้เท่ากับค่าในการทดลอง และใช้ค่า Manning'n จากรูป 4-3 ในการคำนวณ

ผลจากค่าที่ได้เป็นผลการคำนวณของแบบจำลองที่อัตราการไหลต่างกัน

ค่าต่างๆตามตาราง ข. -1 ถึง ตาราง ข. -20 ดังนี้คือ

- (1) ลำดับที่ในการวัดข้อมูลในแบบจำลอง
- (2) ระยะทางตามแนวศูนย์กลางที่ทำการวัดข้อมูลในแบบจำลอง หน่วยเป็น ซม.
- (4) ระดับพื้นของแบบจำลอง (อ้างอิงระดับพื้นห้องปฏิบัติการเป็น +0.00) หน่วยเป็น ซม.
- (5) ระดับผิวน้ำในแบบจำลอง คำนวณโดยวิธี standard step หน่วยเป็น ซม.
- (6) ระดับความลึกวิกฤติ (critical depth) ในแบบจำลอง หน่วยเป็น ซม.
- (7) ระดับพลังงานจำเพาะ (specific energy) ของแบบจำลอง หน่วยเป็น ซม.
- (8) ค่า froude number ในแบบจำลอง

$$Fr = \frac{V}{\sqrt{gD}}$$

- (9) ความลึกการไหลที่ได้จากการคำนวณในแบบจำลอง หน่วยเป็น ซม.
- (10) ความลึกวิกฤติ (critical depth) ในแบบจำลอง หน่วยเป็น ซม.

$$Y_c = \sqrt[3]{\frac{q^2}{g}}$$

- (11) ความกว้างของแบบจำลอง หน่วยเป็น ซม.

$$VH = \frac{V^2}{2g}$$

- (12) พื้นที่หน้าตัดการไหลในแบบจำลอง หน่วยเป็น ตร.ซม.
- (13) ความเร็วในแบบจำลอง หน่วยเป็น ซม./วินาที
- (14) ความสูงเนื่องจากความเร็วการไหล (velocity head) หน่วยเป็น ซม.
- (15) อัตราส่วนระหว่าง ความลึกการไหลกับความลึกวิกฤติ ในแบบจำลอง
- (16) พลังงานจำเพาะ (specific energy) ในแบบจำลอง

$$E = y + \frac{V^2}{2g}$$

ตาราง ข.-1 ผลการคำนวณระดับน้ำในแบบจำลอง

NO	STA	Q	EL_B	EL_W	EL_Yc	EL E	Fr	Y	Yc	B	A	V	VH	Y/Yc	E	Yn
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm		cm	cm
1	0	6.16	+38.00	+40.48	+40.48	+41.74	1.01	2.48	2.48	50.00	124.00	49.64	1.26	1.00	3.74	2.013
2	110	6.16	+35.04	+36.32	+37.54	+41.06	2.72	1.28	2.50	50.00	64.00	96.45	4.74	0.51	6.02	2.013
3	150	6.16	+29.00	+29.86	+31.48	+40.18	4.90	0.86	2.48	50.00	43.00	142.27	10.32	0.35	11.18	1.044
4	290	6.16	+0.58	+0.96	+2.58	+29.40	12.24	0.38	2.00	70.00	26.60	236.32	28.44	0.19	28.82	0.695
1	0	7.27	+38.00	+40.78	+40.78	+42.18	1.00	2.78	2.78	50.00	139.00	52.47	1.40	1.00	4.18	2.3070
2	110	7.27	+35.04	+36.52	+37.82	+41.48	2.59	1.48	2.78	50.00	74.00	98.71	4.96	0.53	6.44	2.3070
3	150	7.27	+29.00	+30.02	+31.78	+40.42	4.52	1.02	2.78	50.00	51.00	142.84	10.40	0.37	11.42	1.1940
4	290	7.27	+0.58	+1.02	+2.82	+30.90	11.66	0.44	2.24	70.00	30.80	242.25	29.88	0.20	30.32	0.794
1	0	8.28	+38.00	+41.04	+41.04	+42.56	1.00	3.04	3.04	50.00	152.00	54.59	1.52	1.00	4.56	2.5730
2	110	8.28	+35.04	+36.70	+38.08	+41.84	2.49	1.66	3.04	50.00	83.00	100.55	5.14	0.55	6.80	2.5730
3	150	8.28	+29.00	+30.14	+32.02	+40.76	4.32	1.14	3.02	50.00	57.00	144.39	10.62	0.38	11.76	1.3290
4	290	8.28	+0.58	+1.08	+3.02	+29.70	10.70	0.50	2.44	70.00	35.00	237.02	28.62	0.20	29.12	0.883
1	0	15.36	+38.00	+42.58	+42.58	+44.88	1.00	4.58	4.58	50.00	229.00	67.03	2.30	1.00	6.88	4.4000
2	110	15.36	+35.04	+38.42	+39.62	+42.66	1.59	3.38	4.58	50.00	169.00	91.36	4.24	0.74	7.62	4.4000
3	150	15.36	+29.00	+31.14	+33.56	+41.72	3.15	2.14	4.56	50.00	107.00	144.11	10.58	0.47	12.72	2.2460
4	290	15.36	+0.58	+1.46	+4.26	+33.58	8.54	0.88	3.68	70.00	61.60	251.02	32.10	0.24	32.98	1.4815
1	0	16.46	+38.00	+42.80	+42.80	+45.20	1.00	4.80	4.80	50.00	240.00	68.59	2.40	1.00	7.20	4.6760
2	110	16.46	+35.04	+38.60	+39.84	+42.98	1.57	3.56	4.80	50.00	178.00	92.63	4.38	0.74	7.94	4.6760
3	150	16.46	+29.00	+31.26	+33.78	+42.02	3.08	2.26	4.78	50.00	113.00	145.24	10.74	0.47	13.00	2.3830
4	290	16.46	+0.58	+1.52	+4.42	+34.74	8.41	0.94	3.84	70.00	65.80	255.41	33.24	0.24	34.18	1.5700
1	0	16.97	+38.00	+42.90	+42.90	+45.34	1.00	4.90	4.90	50.00	245.00	69.30	2.44	1.00	7.34	4.8030
2	110	16.97	+35.04	+38.68	+39.94	+43.12	1.56	3.64	4.90	50.00	182.00	93.34	4.44	0.74	8.08	4.8030
3	150	16.97	+29.00	+31.32	+33.88	+42.18	3.06	2.32	4.88	50.00	116.00	145.95	10.86	0.48	13.18	2.4460
4	290	16.97	+0.58	+1.54	+4.52	+35.26	8.38	0.96	3.94	70.00	67.20	257.25	33.72	0.24	34.68	1.6107
1	0	18.34	+38.00	+43.14	+43.14	+45.74	1.01	5.14	5.14	50.00	257.00	71.42	2.60	1.00	7.74	5.1430
2	110	18.34	+35.04	+38.86	+40.20	+43.60	1.58	3.82	5.16	50.00	191.00	96.45	4.74	0.74	8.56	5.1430
3	150	18.34	+29.00	+31.48	+34.14	+42.64	3.00	2.48	5.14	50.00	124.00	147.93	11.16	0.48	13.64	2.6130
4	290	18.34	+0.58	+1.62	+4.72	+34.50	7.96	1.04	4.14	70.00	72.80	254.13	32.88	0.25	33.92	1.7192
1	0	19.32	+38.00	+43.34	+43.34	+46.00	1.00	5.34	5.34	50.00	267.00	72.41	2.66	1.00	8.00	5.3820
2	110	19.32	+35.04	+39.06	+40.38	+43.78	1.53	4.02	5.34	50.00	201.00	96.31	4.72	0.75	8.74	5.3820
3	150	19.32	+29.00	+31.60	+34.32	+42.84	2.94	2.60	5.32	50.00	130.00	148.49	11.24	0.49	13.84	2.7310
4	290	19.32	+0.58	+1.66	+4.86	+35.56	7.92	1.08	4.28	70.00	75.60	257.95	33.90	0.25	34.98	1.7950
1	0	19.43	+38.00	+43.36	+43.36	+46.04	1.00	5.36	5.36	50.00	268.00	72.55	2.68	1.00	8.04	5.4100
2	110	19.43	+35.04	+39.08	+40.40	+43.82	1.53	4.04	5.36	50.00	202.00	96.31	4.72	0.75	8.76	5.4100
3	150	19.43	+29.00	+31.62	+34.34	+42.86	2.93	2.62	5.34	50.00	131.00	148.63	11.24	0.49	13.86	2.7440
4	290	19.43	+0.58	+1.66	+4.88	+35.62	7.93	1.08	4.30	70.00	75.60	258.09	33.94	0.25	35.02	1.8035
1	0	20.11	+38.00	+43.48	+43.48	+46.22	1.00	5.48	5.48	50.00	274.00	73.40	2.74	1.00	8.22	5.5750
2	110	20.11	+35.04	+39.18	+40.52	+44.00	1.52	4.14	5.48	50.00	207.00	97.16	4.82	0.76	8.96	5.5750
3	150	20.11	+29.00	+31.70	+34.46	+43.06	2.90	2.70	5.46	50.00	135.00	149.48	11.38	0.49	14.08	2.8250
4	290	20.11	+0.58	+1.70	+4.96	+36.10	7.84	1.12	4.40	70.00	78.40	259.79	34.40	0.25	35.52	1.8555

ตาราง ข.-2 ผลการคำนวณระดับน้ำในแบบจำลอง

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	Y/Yc	E	Yn
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm		cm	cm
1	0	21.02	+38.00	+43.64	+43.64	+46.46	1.00	5.64	5.64	50.00	282.00	74.67	2.84	1.00	8.48	5.7920
2	110	21.02	+35.04	+39.32	+40.68	+44.24	1.51	4.28	5.64	50.00	214.00	98.15	4.92	0.76	9.20	5.7920
3	150	21.02	+29.00	+31.80	+34.64	+43.32	2.87	2.80	5.64	50.00	140.00	150.33	11.52	0.50	14.32	2.9310
4	290	21.02	+0.58	+1.76	+5.12	+35.84	7.60	1.18	4.54	70.00	82.60	258.66	34.10	0.26	35.28	1.9240
1	0	22.44	+38.00	+43.90	+43.90	+46.84	1.00	5.90	5.90	50.00	295.00	76.08	2.96	1.00	8.86	6.1270
2	110	22.44	+35.04	+39.54	+40.94	+44.62	1.50	4.50	5.90	50.00	225.00	99.70	5.06	0.76	9.56	6.1270
3	150	22.44	+29.00	+31.96	+34.88	+43.68	2.81	2.96	5.88	50.00	148.00	151.60	11.72	0.50	14.68	3.0950
4	290	22.44	+0.58	+1.82	+5.30	+36.44	7.47	1.24	4.72	70.00	86.80	260.64	34.62	0.26	35.86	2.0285
1	0	23.66	+38.00	+44.10	+44.10	+47.16	1.00	6.10	6.10	50.00	305.00	77.50	3.06	1.00	9.16	6.3930
2	110	23.66	+35.04	+39.74	+41.14	+44.92	1.49	4.70	6.10	50.00	235.00	100.97	5.20	0.77	9.90	6.3930
3	150	23.66	+29.00	+32.10	+35.10	+44.00	2.77	3.10	6.10	50.00	155.00	152.88	11.90	0.51	15.00	3.2240
4	290	23.66	+0.58	+1.88	+5.48	+37.20	7.37	1.30	4.90	70.00	91.00	263.33	35.32	0.27	36.62	2.0555
1	0	26.48	+38.00	+44.56	+44.56	+47.88	1.00	6.56	6.56	50.00	328.00	80.61	3.32	1.00	9.88	7.3820
2	110	26.48	+35.04	+40.14	+41.64	+45.64	1.47	5.10	6.60	50.00	255.00	103.94	5.50	0.77	10.60	7.3820
3	150	26.48	+29.00	+32.42	+35.58	+44.70	2.68	3.42	6.58	50.00	171.00	155.28	12.30	0.52	15.72	3.7020
4	290	26.48	+0.58	+2.02	+5.86	+38.12	7.08	1.44	5.28	70.00	100.80	266.15	36.10	0.27	37.54	2.4160
1	0	28.36	+38.00	+44.90	+44.90	+48.34	1.00	6.90	6.90	50.00	345.00	82.31	3.44	1.00	10.34	7.4340
2	110	28.36	+35.04	+40.42	+41.94	+46.10	1.45	5.38	6.90	50.00	269.00	105.64	5.70	0.78	11.08	7.4340
3	150	28.36	+29.00	+32.62	+35.88	+45.16	2.63	3.62	6.88	50.00	181.00	156.98	12.56	0.53	16.18	3.7270
4	290	28.36	+0.58	+2.10	+6.10	+39.48	7.02	1.52	5.52	70.00	106.40	270.96	37.38	0.28	38.90	2.4320
1	0	29.33	+38.00	+45.04	+45.04	+48.58	1.00	7.04	7.04	50.00	352.00	83.16	3.52	1.00	10.56	7.6320
2	110	29.33	+35.04	+40.56	+42.08	+46.34	1.45	5.52	7.04	50.00	276.00	106.49	5.78	0.78	11.30	7.6320
3	150	29.33	+29.00	+32.72	+36.04	+45.40	2.61	3.72	7.04	50.00	186.00	157.83	12.68	0.53	16.40	3.8220
4	290	29.33	+0.58	+2.16	+6.24	+39.06	6.84	1.58	5.66	70.00	110.60	269.12	36.92	0.28	38.50	2.4925
1	0	30.45	+38.00	+45.22	+45.22	+48.84	1.00	7.22	7.22	50.00	361.00	84.29	3.62	1.00	10.84	7.8540
2	110	30.45	+35.04	+40.72	+42.26	+46.60	1.44	5.68	7.22	50.00	284.00	107.48	5.88	0.79	11.56	7.8540
3	150	30.45	+29.00	+32.84	+36.22	+45.66	2.59	3.84	7.22	50.00	192.00	158.67	12.82	0.53	16.66	3.9280
4	290	30.45	+0.58	+2.20	+6.38	+39.76	6.81	1.62	5.80	70.00	113.40	271.53	37.56	0.28	39.18	2.5600
1	0	31.75	+38.00	+45.42	+45.42	+49.16	1.00	7.42	7.42	50.00	371.00	85.56	3.74	1.00	11.16	8.1040
2	110	31.75	+35.04	+40.88	+42.48	+46.92	1.44	5.84	7.44	50.00	292.00	108.75	6.02	0.78	11.86	8.1040
3	150	31.75	+29.00	+32.94	+36.44	+46.16	2.59	3.94	7.44	50.00	197.00	161.08	13.22	0.53	17.16	4.0470
4	290	31.75	+0.58	+2.20	+6.54	+43.12	7.11	1.62	5.96	70.00	113.40	283.41	40.92	0.27	42.54	2.6350
1	0	36.45	+38.00	+46.14	+46.14	+50.22	1.00	8.14	8.14	50.00	407.00	89.52	4.08	1.00	12.22	8.9090
2	110	36.45	+35.04	+41.54	+43.22	+47.98	1.41	6.50	8.18	50.00	325.00	112.43	6.44	0.79	12.94	8.9090
3	150	36.45	+29.00	+33.46	+37.16	+47.12	2.48	4.46	8.16	50.00	223.00	163.77	13.66	0.55	18.12	4.4300
4	290	36.45	+0.58	+2.50	+7.12	+41.10	6.34	1.92	6.54	70.00	134.40	275.35	38.62	0.29	40.54	2.8765
1	0	40.66	+38.00	+46.76	+46.76	+51.14	1.00	8.76	8.76	50.00	438.00	92.91	4.40	1.00	13.16	9.4860
2	110	40.66	+35.04	+42.08	+43.82	+48.90	1.39	7.04	8.78	50.00	352.00	115.68	6.82	0.80	13.86	9.4860
3	150	40.66	+29.00	+33.88	+37.78	+48.02	2.41	4.88	8.78	50.00	244.00	166.59	14.14	0.56	19.02	4.7022
4	290	40.66	+0.58	+2.68	+7.60	+42.16	6.13	2.10	7.02	69.36	145.66	278.32	39.46	0.30	41.56	3.0480

ต้นฉบับ หน้าขาดหาย

ภาคผนวก ค.

ผลการทดลองการปรับปรุงด้านท้ายน้ำ ที่อัตราการไหลต่าง ๆ

ผลจากค่าที่ได้เป็นผลทดลองแบบจำลองที่อัตราการไหลต่างกัน โดยมีการปรับปรุงด้านท้ายน้ำเป็น 4 ระดับ คือ TW2 TW3 TW4 และ TW5 โดยทำการยกกระดานท้ายน้ำให้สูงขึ้น 4.7, 6.2, 7.2, และ 7.7 ซม. ตามลำดับ

ค่าที่นำไปใช้ในการคำนวณ ตาราง ค. คือ ค่าอัตราการไหล จากรูป 4-1 ค่า Manning'n จากรูป 4-3 ค่าต่างๆตามตาราง ค. -1 ถึง ตาราง ค. -20 ดังนี้คือ

- (2) ระยะทางตามแนวศูนย์กลางที่ทำการวัดข้อมูลในแบบจำลอง หน่วยเป็น ซม.
- (4) ระดับพื้นของแบบจำลอง (อ้างอิงระดับพื้นห้องปฏิบัติการเป็น +0.00) หน่วยเป็น ซม.
- (5) ระดับผิวน้ำจากการวัดค่าในแบบจำลอง หน่วยเป็น ซม.
- (6) ระดับความลึกวิกฤติ (critical depth) ที่คำนวณสำหรับแบบจำลอง หน่วยเป็น ซม.
- (7) ระดับพลังงานจำเพาะ (specific energy) ที่คำนวณสำหรับแบบจำลอง หน่วยเป็น ซม.
- (8) ค่า froude number ในแบบจำลอง คำนวณจากสูตร

$$Fr = \frac{v}{\sqrt{gD}}$$

- (9) ความลึกการไหลที่ได้จากการวัดค่าในแบบจำลอง หน่วยเป็น ซม.
- (10) ความลึกวิกฤติ (critical depth) ในแบบจำลอง หน่วยเป็น ซม. คำนวณจากสูตร

$$Y_c = \sqrt[3]{\frac{q^2}{g}}$$

- (11) ความกว้างของแบบจำลอง หน่วยเป็น ซม.
- (12) พื้นที่หน้าตัดการไหลที่คำนวณสำหรับแบบจำลอง หน่วยเป็น ตร.ซม.
- (13) ความเร็วที่คำนวณสำหรับแบบจำลอง หน่วยเป็น ซม./วินาที
- (14) ความสูงเนื่องจากความเร็วการไหล (velocity head) หน่วยเป็น ซม. คำนวณจากสูตร

$$VH = \frac{v^2}{2g}$$

- (15) อัตราส่วนระหว่าง ความลึกการไหลกับความลึกวิกฤติ ในแบบจำลอง
- (16) พลังงานจำเพาะ (specific energy) ในแบบจำลอง คำนวณจากสูตร

$$E = y + \frac{v^2}{2g}$$

- (17) หมายเหตุ เกี่ยวกับข้อมูลในแบบจำลอง

ตาราง ค-1 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=6.16 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VII	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	6.16	+0.58	+1.83	+2.57	+4.36	2.01	1.25	1.99	70.00	87.50	70.40	2.53	3.78	
TW2	295	6.16	+0.00	+5.15	+1.99	+5.30	0.24	5.15	1.99	70.00	360.50	17.09	0.15	5.30	
TW2	300	6.16	+0.00	+5.65	+1.99	+5.77	0.21	5.65	1.99	70.00	395.50	15.58	0.12	5.77	
TW2	305	6.16	+0.00	+5.95	+1.99	+6.06	0.19	5.95	1.99	70.00	416.50	14.79	0.11	6.06	
TW2	310	6.16	+0.00	+5.95	+1.99	+6.06	0.19	5.95	1.99	70.00	416.50	14.79	0.11	6.06	
TW2	315	6.16	+0.00	+5.80	+1.99	+5.92	0.20	5.80	1.99	70.00	406.00	15.17	0.12	5.92	
TW2	320	6.16	+0.00	+5.10	+1.99	+5.25	0.24	5.10	1.99	70.00	357.00	17.25	0.15	5.25	
TW2	325	6.16	+0.00	+5.30	+1.99	+5.44	0.23	5.30	1.99	70.00	371.00	16.00	0.14	5.44	
TW2	330	6.16	+0.00	+5.35	+1.99	+5.49	0.23	5.35	1.99	70.00	374.50	16.45	0.14	5.49	
TW2	335	6.16	+0.00	+4.85	+1.99	+5.02	0.26	4.85	1.99	70.00	339.50	18.14	0.17	5.02	
TW2	340	6.16	+0.00	+4.90	+1.99	+5.06	0.26	4.90	1.99	70.00	343.00	17.96	0.16	5.06	
TW2	345	6.16	+0.00	+4.90	+1.99	+5.06	0.26	4.90	1.99	70.00	343.00	17.96	0.16	5.06	
TW2	350	6.16	+0.00	+4.70	+1.99	+4.80	0.28	4.70	1.99	70.00	329.00	18.72	0.18	4.80	
TW2	355	6.16	+0.00	+4.90	+1.99	+5.06	0.26	4.90	1.99	70.00	343.00	17.96	0.16	5.06	
TW2	360	6.16	+0.00	+5.20	+1.99	+5.35	0.24	5.20	1.99	70.00	364.00	16.92	0.15	5.35	
TW2	370	6.16	+0.00	+5.75	+1.99	+5.87	0.20	5.75	1.99	70.00	402.50	15.30	0.12	5.87	
TW2	380	6.16	+0.00	+5.75	+1.99	+5.87	0.20	5.75	1.99	70.00	402.50	15.30	0.12	5.87	
TW2	390	6.16	+0.00	+5.80	+1.99	+5.92	0.20	5.80	1.99	70.00	406.00	15.17	0.12	5.92	
TW3	290	6.16	+0.58	+8.63	+2.57	+8.69	0.12	8.05	1.99	70.00	563.50	10.93	0.06	8.11	
TW3	295	6.16	+0.00	+7.95	+1.99	+8.01	0.13	7.95	1.99	70.00	556.50	11.07	0.06	8.01	
TW3	300	6.16	+0.00	+7.30	+1.99	+7.37	0.14	7.30	1.99	70.00	511.00	12.05	0.07	7.37	
TW3	305	6.16	+0.00	+7.50	+1.99	+7.57	0.14	7.50	1.99	70.00	525.00	11.73	0.07	7.57	
TW3	310	6.16	+0.00	+7.20	+1.99	+7.28	0.15	7.20	1.99	70.00	504.00	12.22	0.08	7.28	
TW3	315	6.16	+0.00	+7.35	+1.99	+7.42	0.14	7.35	1.99	70.00	514.50	11.97	0.07	7.42	
TW3	320	6.16	+0.00	+7.40	+1.99	+7.47	0.14	7.40	1.99	70.00	518.00	11.89	0.07	7.47	
TW3	325	6.16	+0.00	+7.05	+1.99	+7.13	0.15	7.05	1.99	70.00	493.50	12.48	0.08	7.13	
TW3	330	6.16	+0.00	+7.10	+1.99	+7.18	0.15	7.10	1.99	70.00	497.00	12.39	0.08	7.18	
TW3	335	6.16	+0.00	+6.95	+1.99	+7.03	0.15	6.95	1.99	70.00	486.50	12.66	0.08	7.03	
TW3	340	6.16	+0.00	+7.00	+1.99	+7.08	0.15	7.00	1.99	70.00	490.00	12.57	0.08	7.08	
TW3	345	6.16	+0.00	+7.15	+1.99	+7.23	0.15	7.15	1.99	70.00	500.50	12.31	0.08	7.23	
TW3	350	6.16	+0.00	+7.05	+1.99	+7.13	0.15	7.05	1.99	70.00	493.50	12.48	0.08	7.13	
TW3	355	6.16	+0.00	+7.45	+1.99	+7.52	0.14	7.45	1.99	70.00	521.50	11.81	0.07	7.52	
TW3	360	6.16	+0.00	+7.30	+1.99	+7.37	0.14	7.30	1.99	70.00	511.00	12.05	0.07	7.37	
TW3	370	6.16	+0.00	+7.30	+1.99	+7.37	0.14	7.30	1.99	70.00	511.00	12.05	0.07	7.37	
TW3	380	6.16	+0.00	+7.30	+1.99	+7.37	0.14	7.30	1.99	70.00	511.00	12.05	0.07	7.37	
TW3	390	6.16	+0.00	+7.35	+1.99	+7.42	0.14	7.35	1.99	70.00	514.50	11.97	0.07	7.42	
TW4	290	6.16	+0.58	+5.93	+2.57	+6.07	0.23	5.35	1.99	70.00	374.50	16.45	0.14	5.49	
TW4	295	6.16	+0.00	+8.50	+1.99	+8.55	0.11	8.50	1.99	70.00	595.00	10.35	0.05	8.55	
TW4	300	6.16	+0.00	+8.20	+1.99	+8.26	0.12	8.20	1.99	70.00	574.00	10.73	0.06	8.26	
TW4	305	6.16	+0.00	+8.05	+1.99	+8.11	0.12	8.05	1.99	70.00	563.50	10.93	0.06	8.11	
TW4	310	6.16	+0.00	+7.95	+1.99	+8.01	0.13	7.95	1.99	70.00	556.50	11.07	0.06	8.01	
TW4	315	6.16	+0.00	+7.85	+1.99	+7.91	0.13	7.85	1.99	70.00	549.50	11.21	0.06	7.91	
TW4	320	6.16	+0.00	+8.10	+1.99	+8.16	0.12	8.10	1.99	70.00	567.00	10.86	0.06	8.16	
TW4	325	6.16	+0.00	+7.65	+1.99	+7.72	0.13	7.65	1.99	70.00	535.50	11.50	0.07	7.72	
TW4	330	6.16	+0.00	+7.10	+1.99	+7.18	0.15	7.10	1.99	70.00	497.00	12.39	0.08	7.18	
TW4	335	6.16	+0.00	+7.35	+1.99	+7.42	0.14	7.35	1.99	70.00	514.50	11.97	0.07	7.42	
TW4	340	6.16	+0.00	+7.35	+1.99	+7.42	0.14	7.35	1.99	70.00	514.50	11.97	0.07	7.42	
TW4	345	6.16	+0.00	+7.50	+1.99	+7.57	0.14	7.50	1.99	70.00	525.00	11.73	0.07	7.57	
TW4	350	6.16	+0.00	+7.30	+1.99	+7.37	0.14	7.30	1.99	70.00	511.00	12.05	0.07	7.37	
TW4	355	6.16	+0.00	+7.65	+1.99	+7.72	0.13	7.65	1.99	70.00	535.50	11.50	0.07	7.72	
TW4	360	6.16	+0.00	+7.30	+1.99	+7.37	0.14	7.30	1.99	70.00	511.00	12.05	0.07	7.37	
TW4	370	6.16	+0.00	+7.70	+1.99	+7.77	0.13	7.70	1.99	70.00	539.00	11.43	0.07	7.77	
TW4	380	6.16	+0.00	+7.70	+1.99	+7.77	0.13	7.70	1.99	70.00	539.00	11.43	0.07	7.77	
TW4	390	6.16	+0.00	+7.70	+1.99	+7.77	0.13	7.70	1.99	70.00	539.00	11.43	0.07	7.77	
TW5	290	6.16	+0.58	+6.18	+2.57	+6.31	0.21	5.60	1.99	70.00	392.00	15.71	0.13	5.73	
TW5	295	6.16	+0.00	+8.50	+1.99	+8.55	0.11	8.50	1.99	70.00	595.00	10.35	0.05	8.55	
TW5	300	6.16	+0.00	+8.70	+1.99	+8.75	0.11	8.70	1.99	70.00	609.00	10.11	0.05	8.75	
TW5	305	6.16	+0.00	+8.85	+1.99	+8.90	0.11	8.85	1.99	70.00	619.50	9.94	0.05	8.90	
TW5	310	6.16	+0.00	+8.45	+1.99	+8.51	0.11	8.45	1.99	70.00	591.50	10.41	0.06	8.51	
TW5	315	6.16	+0.00	+8.70	+1.99	+8.75	0.11	8.70	1.99	70.00	609.00	10.11	0.05	8.75	
TW5	320	6.16	+0.00	+8.15	+1.99	+8.21	0.12	8.15	1.99	70.00	570.50	10.80	0.06	8.21	
TW5	325	6.16	+0.00	+8.45	+1.99	+8.51	0.11	8.45	1.99	70.00	591.50	10.41	0.06	8.51	
TW5	330	6.16	+0.00	+7.80	+1.99	+7.86	0.13	7.80	1.99	70.00	546.00	11.28	0.06	7.86	
TW5	335	6.16	+0.00	+8.15	+1.99	+8.21	0.12	8.15	1.99	70.00	570.50	10.80	0.06	8.21	
TW5	340	6.16	+0.00	+8.00	+1.99	+8.06	0.12	8.00	1.99	70.00	560.00	11.00	0.06	8.06	
TW5	345	6.16	+0.00	+7.60	+1.99	+7.67	0.13	7.60	1.99	70.00	532.00	11.58	0.07	7.67	
TW5	350	6.16	+0.00	+7.85	+1.99	+7.91	0.13	7.85	1.99	70.00	549.50	11.21	0.06	7.91	
TW5	355	6.16	+0.00	+7.80	+1.99	+7.86	0.13	7.80	1.99	70.00	546.00	11.28	0.06	7.86	
TW5	360	6.16	+0.00	+8.30	+1.99	+8.36	0.12	8.30	1.99	70.00	581.00	10.60	0.06	8.36	
TW5	370	6.16	+0.00	+8.30	+1.99	+8.36	0.12	8.30	1.99	70.00	581.00	10.60	0.06	8.36	
TW5	380	6.16	+0.00	+8.45	+1.99	+8.51	0.11	8.45	1.99	70.00	591.50	10.41	0.06	8.51	
TW5	390	6.16	+0.00	+8.40	+1.99	+8.46	0.12	8.40	1.99	70.00	588.00	10.48	0.06	8.46	

ตาราง ค-2 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=7.27 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm.	l/s	cm	cm.	cm	cm.		cm.	cm.	cm.	sq cm	cm/s	cm	cm.	
TW2	290	7.27	+0.58	+3.38	+2.80	+4.08	0.71	2.80	2.22	70.00	196.00	37.09	0.70	3.50	
TW2	295	7.27	+0.00	+5.00	+2.22	+5.22	0.30	5.00	2.22	70.00	350.00	20.77	0.22	5.22	
TW2	300	7.27	+0.00	+6.10	+2.22	+6.25	0.22	6.10	2.22	70.00	427.00	17.03	0.15	6.25	
TW2	305	7.27	+0.00	+5.90	+2.22	+6.06	0.23	5.90	2.22	70.00	413.00	17.60	0.16	6.06	
TW2	310	7.27	+0.00	+6.50	+2.22	+6.63	0.20	6.50	2.22	70.00	455.00	15.98	0.13	6.63	
TW2	315	7.27	+0.00	+5.85	+2.22	+6.01	0.23	5.85	2.22	70.00	409.50	17.75	0.16	6.01	
TW2	320	7.27	+0.00	+5.55	+2.22	+5.73	0.25	5.55	2.22	70.00	388.50	18.71	0.18	5.73	
TW2	325	7.27	+0.00	+5.15	+2.22	+5.36	0.28	5.15	2.22	70.00	360.50	20.17	0.21	5.36	
TW2	330	7.27	+0.00	+5.10	+2.22	+5.31	0.29	5.10	2.22	70.00	357.00	20.36	0.21	5.31	
TW2	335	7.27	+0.00	+5.00	+2.22	+5.22	0.30	5.00	2.22	70.00	350.00	20.77	0.22	5.22	
TW2	340	7.27	+0.00	+4.95	+2.22	+5.17	0.30	4.95	2.22	70.00	346.50	20.98	0.22	5.17	
TW2	345	7.27	+0.00	+4.45	+2.22	+4.73	0.35	4.45	2.22	70.00	311.50	23.34	0.28	4.73	
TW2	350	7.27	+0.00	+5.55	+2.22	+5.73	0.25	5.55	2.22	70.00	388.50	18.71	0.18	5.73	
TW2	355	7.27	+0.00	+6.25	+2.22	+6.39	0.21	6.25	2.22	70.00	437.50	16.62	0.14	6.39	
TW2	360	7.27	+0.00	+5.05	+2.22	+5.27	0.29	5.05	2.22	70.00	353.50	20.57	0.22	5.27	
TW2	370	7.27	+0.00	+5.40	+2.22	+5.59	0.26	5.40	2.22	70.00	378.00	19.23	0.19	5.59	
TW2	380	7.27	+0.00	+5.45	+2.22	+5.64	0.26	5.45	2.22	70.00	381.50	19.06	0.19	5.64	
TW2	390	7.27	+0.00	+5.50	+2.22	+5.68	0.26	5.50	2.22	70.00	385.00	18.88	0.18	5.68	
TW3	290	7.27	+0.58	+6.68	+2.80	+6.83	0.22	6.10	2.22	70.00	427.00	17.03	0.15	6.25	
TW3	295	7.27	+0.00	+9.15	+2.22	+9.22	0.12	9.15	2.22	70.00	640.50	11.35	0.07	9.22	
TW3	300	7.27	+0.00	+8.81	+2.22	+8.88	0.13	8.81	2.22	70.00	616.70	11.79	0.07	8.88	
TW3	305	7.27	+0.00	+8.45	+2.22	+8.53	0.13	8.45	2.22	70.00	591.50	12.29	0.08	8.53	
TW3	310	7.27	+0.00	+8.80	+2.22	+8.87	0.13	8.80	2.22	70.00	616.00	11.80	0.07	8.87	
TW3	315	7.27	+0.00	+8.65	+2.22	+8.72	0.13	8.65	2.22	70.00	605.50	12.01	0.07	8.72	
TW3	320	7.27	+0.00	+8.00	+2.22	+8.09	0.15	8.00	2.22	70.00	560.00	12.98	0.09	8.09	
TW3	325	7.27	+0.00	+8.60	+2.22	+8.67	0.13	8.60	2.22	70.00	602.00	12.08	0.07	8.67	
TW3	330	7.27	+0.00	+7.60	+2.22	+7.70	0.16	7.60	2.22	70.00	532.00	13.67	0.10	7.70	
TW3	335	7.27	+0.00	+8.35	+2.22	+8.43	0.14	8.35	2.22	70.00	584.50	12.44	0.08	8.43	
TW3	340	7.27	+0.00	+8.30	+2.22	+8.38	0.14	8.30	2.22	70.00	581.00	12.51	0.08	8.38	
TW3	345	7.27	+0.00	+8.15	+2.22	+8.23	0.14	8.15	2.22	70.00	570.50	12.74	0.08	8.23	
TW3	350	7.27	+0.00	+8.75	+2.22	+8.82	0.13	8.75	2.22	70.00	612.50	11.87	0.07	8.82	
TW3	355	7.27	+0.00	+9.60	+2.22	+9.66	0.11	9.60	2.22	70.00	672.00	10.82	0.06	9.66	
TW3	360	7.27	+0.00	+8.35	+2.22	+8.43	0.14	8.35	2.22	70.00	584.50	12.44	0.08	8.43	
TW3	370	7.27	+0.00	+8.50	+2.22	+8.58	0.13	8.50	2.22	70.00	595.00	12.22	0.08	8.58	
TW3	380	7.27	+0.00	+8.45	+2.22	+8.53	0.13	8.45	2.22	70.00	591.50	12.29	0.08	8.53	
TW3	390	7.27	+0.00	+8.50	+2.22	+8.58	0.13	8.50	2.22	70.00	595.00	12.22	0.08	8.58	
TW4	290	7.27	+0.58	+9.59	+2.80	+9.66	0.12	9.01	2.22	70.00	630.70	11.53	0.07	9.08	
TW4	295	7.27	+0.00	+8.93	+2.22	+9.00	0.12	8.93	2.22	70.00	625.10	11.63	0.07	9.00	
TW4	300	7.27	+0.00	+8.90	+2.22	+8.97	0.12	8.90	2.22	70.00	623.00	11.67	0.07	8.97	
TW4	305	7.27	+0.00	+8.75	+2.22	+8.82	0.13	8.75	2.22	70.00	612.50	11.87	0.07	8.82	
TW4	310	7.27	+0.00	+8.45	+2.22	+8.53	0.13	8.45	2.22	70.00	591.50	12.29	0.08	8.53	
TW4	315	7.27	+0.00	+8.11	+2.22	+8.19	0.14	8.11	2.22	70.00	567.70	12.81	0.08	8.19	
TW4	320	7.27	+0.00	+7.90	+2.22	+7.99	0.15	7.90	2.22	70.00	553.00	13.15	0.09	7.99	
TW4	325	7.27	+0.00	+7.60	+2.22	+7.70	0.16	7.60	2.22	70.00	532.00	13.67	0.10	7.70	
TW4	330	7.27	+0.00	+7.86	+2.22	+7.95	0.15	7.86	2.22	70.00	550.20	13.21	0.09	7.95	
TW4	335	7.27	+0.00	+7.81	+2.22	+7.90	0.15	7.81	2.22	70.00	546.70	13.30	0.09	7.90	
TW4	340	7.27	+0.00	+7.70	+2.22	+7.79	0.16	7.70	2.22	70.00	539.00	13.49	0.09	7.79	
TW4	345	7.27	+0.00	+7.72	+2.22	+7.81	0.15	7.72	2.22	70.00	540.40	13.45	0.09	7.81	
TW4	350	7.27	+0.00	+7.75	+2.22	+7.84	0.15	7.75	2.22	70.00	542.50	13.40	0.09	7.84	
TW4	355	7.27	+0.00	+7.71	+2.22	+7.80	0.15	7.71	2.22	70.00	539.70	13.47	0.09	7.80	
TW4	360	7.27	+0.00	+7.69	+2.22	+7.78	0.16	7.69	2.22	70.00	538.30	13.51	0.09	7.78	
TW4	370	7.27	+0.00	+7.71	+2.22	+7.80	0.15	7.71	2.22	70.00	539.70	13.47	0.09	7.80	
TW4	380	7.27	+0.00	+7.80	+2.22	+7.89	0.15	7.80	2.22	70.00	546.00	13.32	0.09	7.89	
TW4	390	7.27	+0.00	+7.75	+2.22	+7.84	0.15	7.75	2.22	70.00	542.50	13.40	0.09	7.84	
TW5	290	7.27	+0.58	+9.85	+2.80	+9.91	0.12	9.27	2.22	70.00	648.90	11.20	0.06	9.33	
TW5	295	7.27	+0.00	+8.73	+2.22	+8.80	0.13	8.73	2.22	70.00	611.10	11.90	0.07	8.80	
TW5	300	7.27	+0.00	+8.50	+2.22	+8.58	0.13	8.50	2.22	70.00	595.00	12.22	0.08	8.58	
TW5	305	7.27	+0.00	+8.44	+2.22	+8.52	0.14	8.44	2.22	70.00	590.80	12.31	0.08	8.52	
TW5	310	7.27	+0.00	+8.17	+2.22	+8.25	0.14	8.17	2.22	70.00	571.90	12.71	0.08	8.25	
TW5	315	7.27	+0.00	+7.85	+2.22	+7.94	0.15	7.85	2.22	70.00	549.50	13.23	0.09	7.94	
TW5	320	7.27	+0.00	+7.85	+2.22	+7.94	0.15	7.85	2.22	70.00	549.50	13.23	0.09	7.94	
TW5	325	7.27	+0.00	+7.56	+2.22	+7.66	0.16	7.56	2.22	70.00	529.20	13.74	0.10	7.66	
TW5	330	7.27	+0.00	+7.83	+2.22	+7.92	0.15	7.83	2.22	70.00	548.10	13.20	0.09	7.92	
TW5	335	7.27	+0.00	+7.97	+2.22	+8.06	0.15	7.97	2.22	70.00	557.90	13.03	0.09	8.06	
TW5	340	7.27	+0.00	+7.88	+2.22	+7.97	0.15	7.88	2.22	70.00	551.60	13.18	0.09	7.97	
TW5	345	7.27	+0.00	+7.80	+2.22	+7.89	0.15	7.80	2.22	70.00	546.00	13.32	0.09	7.89	
TW5	350	7.27	+0.00	+7.85	+2.22	+7.94	0.15	7.85	2.22	70.00	549.50	13.23	0.09	7.94	
TW5	355	7.27	+0.00	+8.08	+2.22	+8.16	0.14	8.08	2.22	70.00	565.60	12.85	0.08	8.16	
TW5	360	7.27	+0.00	+7.76	+2.22	+7.85	0.15	7.76	2.22	70.00	543.20	13.38	0.09	7.85	
TW5	370	7.27	+0.00	+7.99	+2.22	+8.08	0.15	7.99	2.22	70.00	559.30	13.00	0.09	8.08	
TW5	380	7.27	+0.00	+7.89	+2.22	+7.98	0.15	7.89	2.22	70.00	552.30	13.16	0.09	7.98	
TW5	390	7.27	+0.00	+7.77	+2.22	+7.86	0.15	7.77	2.22	70.00	543.90	13.37	0.09	7.86	

ตาราง ค-3 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=8.28 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	8.28	+0.58	+2.68	+3.01	+4.30	1.24	2.10	2.43	70.00	147.00	56.33	1.62	3.72	
TW2	295	8.28	+0.00	+2.60	+2.43	+3.65	0.90	2.60	2.43	70.00	182.00	45.49	1.05	3.65	
TW2	300	8.28	+0.00	+4.85	+2.43	+5.15	0.35	4.85	2.43	70.00	339.50	24.39	0.30	5.15	
TW2	305	8.28	+0.00	+5.40	+2.43	+5.64	0.30	5.40	2.43	70.00	378.00	21.90	0.24	5.64	
TW2	310	8.28	+0.00	+5.80	+2.43	+6.01	0.27	5.80	2.43	70.00	406.00	20.39	0.21	6.01	
TW2	315	8.28	+0.00	+6.00	+2.43	+6.20	0.26	6.00	2.43	70.00	420.00	19.71	0.20	6.20	
TW2	320	8.28	+0.00	+5.95	+2.43	+6.15	0.26	5.95	2.43	70.00	416.50	19.88	0.20	6.15	
TW2	325	8.28	+0.00	+5.85	+2.43	+6.06	0.27	5.85	2.43	70.00	409.50	20.22	0.21	6.06	
TW2	330	8.28	+0.00	+5.00	+2.43	+5.29	0.34	5.00	2.43	70.00	350.00	23.66	0.29	5.29	
TW2	335	8.28	+0.00	+4.75	+2.43	+5.07	0.36	4.75	2.43	70.00	332.50	24.90	0.32	5.07	
TW2	340	8.28	+0.00	+4.35	+2.43	+4.73	0.42	4.35	2.43	70.00	304.50	27.19	0.38	4.73	
TW2	345	8.28	+0.00	+4.70	+2.43	+5.02	0.37	4.70	2.43	70.00	329.00	25.17	0.32	5.02	
TW2	350	8.28	+0.00	+4.50	+2.43	+4.85	0.40	4.50	2.43	70.00	315.00	26.29	0.35	4.85	
TW2	355	8.28	+0.00	+4.75	+2.43	+5.07	0.36	4.75	2.43	70.00	332.50	24.90	0.32	5.07	
TW2	360	8.28	+0.00	+4.85	+2.43	+5.15	0.35	4.85	2.43	70.00	339.50	24.39	0.30	5.15	
TW2	370	8.28	+0.00	+5.80	+2.43	+6.01	0.27	5.80	2.43	70.00	406.00	20.39	0.21	6.01	
TW2	380	8.28	+0.00	+5.70	+2.43	+5.92	0.28	5.70	2.43	70.00	399.00	20.75	0.22	5.92	
TW2	390	8.28	+0.00	+5.85	+2.43	+6.06	0.27	5.85	2.43	70.00	409.50	20.22	0.21	6.06	
TW3	290	8.28	+0.58	+7.88	+3.01	+8.01	0.19	7.30	2.43	70.00	511.00	16.20	0.13	7.43	
TW3	295	8.28	+0.00	+10.00	+2.43	+10.07	0.12	10.00	2.43	70.00	700.00	11.83	0.07	10.07	
TW3	300	8.28	+0.00	+9.90	+2.43	+9.97	0.12	9.90	2.43	70.00	693.00	11.95	0.07	9.97	
TW3	305	8.28	+0.00	+10.10	+2.43	+10.17	0.12	10.10	2.43	70.00	707.00	11.71	0.07	10.17	
TW3	310	8.28	+0.00	+9.20	+2.43	+9.28	0.14	9.20	2.43	70.00	644.00	12.86	0.08	9.28	
TW3	315	8.28	+0.00	+9.20	+2.43	+9.28	0.14	9.20	2.43	70.00	644.00	12.86	0.08	9.28	
TW3	320	8.28	+0.00	+8.61	+2.43	+8.71	0.15	8.61	2.43	70.00	602.70	13.74	0.10	8.71	
TW3	325	8.28	+0.00	+8.65	+2.43	+8.75	0.15	8.65	2.43	70.00	605.50	13.67	0.10	8.75	
TW3	330	8.28	+0.00	+8.90	+2.43	+8.99	0.14	8.90	2.43	70.00	623.00	13.29	0.09	8.99	
TW3	335	8.28	+0.00	+8.80	+2.43	+8.89	0.14	8.80	2.43	70.00	616.00	13.44	0.09	8.89	
TW3	340	8.28	+0.00	+8.45	+2.43	+8.55	0.15	8.45	2.43	70.00	591.50	14.00	0.10	8.55	
TW3	345	8.28	+0.00	+8.50	+2.43	+8.60	0.15	8.50	2.43	70.00	595.00	13.92	0.10	8.60	
TW3	350	8.28	+0.00	+9.75	+2.43	+9.83	0.12	9.75	2.43	70.00	682.50	12.13	0.08	9.83	
TW3	355	8.28	+0.00	+9.25	+2.43	+9.33	0.13	9.25	2.43	70.00	647.50	12.79	0.08	9.33	
TW3	360	8.28	+0.00	+9.10	+2.43	+9.19	0.14	9.10	2.43	70.00	637.00	13.00	0.09	9.19	
TW3	370	8.28	+0.00	+9.05	+2.43	+9.14	0.14	9.05	2.43	70.00	633.50	13.07	0.09	9.14	
TW3	380	8.28	+0.00	+9.10	+2.43	+9.19	0.14	9.10	2.43	70.00	637.00	13.00	0.09	9.19	
TW3	390	8.28	+0.00	+9.10	+2.43	+9.19	0.14	9.10	2.43	70.00	637.00	13.00	0.09	9.19	
TW4	290	8.28	+0.58	+8.68	+3.01	+8.79	0.16	8.10	2.43	70.00	567.00	14.60	0.11	8.21	
TW4	295	8.28	+0.00	+10.60	+2.43	+10.66	0.11	10.60	2.43	70.00	742.00	11.16	0.06	10.66	
TW4	300	8.28	+0.00	+11.80	+2.43	+11.85	0.09	11.80	2.43	70.00	826.00	10.02	0.05	11.85	
TW4	305	8.28	+0.00	+11.05	+2.43	+11.11	0.10	11.05	2.43	70.00	773.50	10.70	0.06	11.11	
TW4	310	8.28	+0.00	+11.35	+2.43	+11.41	0.10	11.35	2.43	70.00	794.50	10.42	0.06	11.41	
TW4	315	8.28	+0.00	+11.00	+2.43	+11.06	0.10	11.00	2.43	70.00	770.00	10.75	0.06	11.06	
TW4	320	8.28	+0.00	+10.70	+2.43	+10.76	0.11	10.70	2.43	70.00	749.00	11.05	0.06	10.76	
TW4	325	8.28	+0.00	+10.95	+2.43	+11.01	0.10	10.95	2.43	70.00	766.50	10.80	0.06	11.01	
TW4	330	8.28	+0.00	+9.90	+2.43	+9.97	0.12	9.90	2.43	70.00	693.00	11.95	0.07	9.97	
TW4	335	8.28	+0.00	+10.30	+2.43	+10.37	0.11	10.30	2.43	70.00	721.00	11.48	0.07	10.37	
TW4	340	8.28	+0.00	+10.20	+2.43	+10.27	0.12	10.20	2.43	70.00	714.00	11.60	0.07	10.27	
TW4	345	8.28	+0.00	+10.10	+2.43	+10.17	0.12	10.10	2.43	70.00	707.00	11.71	0.07	10.17	
TW4	350	8.28	+0.00	+9.85	+2.43	+9.92	0.12	9.85	2.43	70.00	689.50	12.01	0.07	9.92	
TW4	355	8.28	+0.00	+10.11	+2.43	+10.18	0.12	10.11	2.43	70.00	707.70	11.70	0.07	10.18	
TW4	360	8.28	+0.00	+10.70	+2.43	+10.76	0.11	10.70	2.43	70.00	749.00	11.05	0.06	10.76	
TW4	370	8.28	+0.00	+10.90	+2.43	+10.96	0.10	10.90	2.43	70.00	763.00	10.85	0.06	10.96	
TW4	380	8.28	+0.00	+10.95	+2.43	+11.01	0.10	10.95	2.43	70.00	766.50	10.80	0.06	11.01	
TW4	390	8.28	+0.00	+11.10	+2.43	+11.16	0.10	11.10	2.43	70.00	777.00	10.66	0.06	11.16	
TW5	290	8.28	+0.58	+9.78	+3.01	+9.86	0.14	9.20	2.43	70.00	644.00	12.86	0.08	9.28	
TW5	295	8.28	+0.00	+11.60	+2.43	+11.65	0.10	11.60	2.43	70.00	812.00	10.20	0.05	11.65	
TW5	300	8.28	+0.00	+11.70	+2.43	+11.75	0.09	11.70	2.43	70.00	819.00	10.11	0.05	11.75	
TW5	305	8.28	+0.00	+11.85	+2.43	+11.90	0.09	11.85	2.43	70.00	829.50	9.98	0.05	11.90	
TW5	310	8.28	+0.00	+11.25	+2.43	+11.31	0.10	11.25	2.43	70.00	787.50	10.51	0.06	11.31	
TW5	315	8.28	+0.00	+11.55	+2.43	+11.60	0.10	11.55	2.43	70.00	808.50	10.24	0.05	11.60	
TW5	320	8.28	+0.00	+11.55	+2.43	+11.60	0.10	11.55	2.43	70.00	808.50	10.24	0.05	11.60	
TW5	325	8.28	+0.00	+11.45	+2.43	+11.50	0.10	11.45	2.43	70.00	801.50	10.33	0.05	11.50	
TW5	330	8.28	+0.00	+10.40	+2.43	+10.47	0.11	10.40	2.43	70.00	720.00	11.37	0.07	10.47	
TW5	335	8.28	+0.00	+10.05	+2.43	+10.12	0.12	10.05	2.43	70.00	703.50	11.77	0.07	10.12	
TW5	340	8.28	+0.00	+11.30	+2.43	+11.36	0.10	11.30	2.43	70.00	791.00	10.47	0.06	11.36	
TW5	345	8.28	+0.00	+11.65	+2.43	+11.70	0.09	11.65	2.43	70.00	815.50	10.15	0.05	11.70	
TW5	350	8.28	+0.00	+10.75	+2.43	+10.81	0.11	10.75	2.43	70.00	752.50	11.00	0.06	10.81	
TW5	355	8.28	+0.00	+11.00	+2.43	+11.06	0.10	11.00	2.43	70.00	770.00	10.75	0.06	11.06	
TW5	360	8.28	+0.00	+10.65	+2.43	+10.71	0.11	10.65	2.43	70.00	745.50	11.11	0.06	10.71	
TW5	370	8.28	+0.00	+11.25	+2.43	+11.31	0.10	11.25	2.43	70.00	787.50	10.51	0.06	11.31	
TW5	380	8.28	+0.00	+10.95	+2.43	+11.01	0.10	10.95	2.43	70.00	766.50	10.80	0.06	11.01	
TW5	390	8.28	+0.00	+10.90	+2.43	+10.96	0.10	10.90	2.43	70.00	763.00	10.85	0.06	10.96	

ตาราง ค-4 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=15.36 l/s

NO	STA cm	Q l/s	EL_R cm	EL_W cm	EL_Yc cm	EL_F cm	Fr	Y cm	Yc cm	B cm	A sq.cm	V cm/s	VH cm	E cm	Remark	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
TW2	290	15.36	+0.58	+2.23	+4.24	+11.24	3.31	1.65	3.66	70.00	115.50	132.99	9.01	10.66		
TW2	295	15.36	+0.00	+1.80	+3.66	+9.37	2.90	1.80	3.66	70.00	126.00	121.90	7.57	9.37		
TW2	300	15.36	+0.00	+2.00	+3.66	+8.14	2.48	2.00	3.66	70.00	140.00	109.71	6.14	8.14		
TW2	305	15.36	+0.00	+4.40	+3.66	+5.67	0.76	4.40	3.66	70.00	308.00	49.87	1.27	5.67		
TW2	310	15.36	+0.00	+6.30	+3.66	+6.92	0.44	6.30	3.66	70.00	441.00	34.83	0.62	6.92		
TW2	315	15.36	+0.00	+5.85	+3.66	+6.57	0.50	5.85	3.66	70.00	409.50	37.51	0.72	6.57		
TW2	320	15.36	+0.00	+5.85	+3.66	+6.57	0.50	5.85	3.66	70.00	409.50	37.51	0.72	6.57		
TW2	325	15.36	+0.00	+7.05	+3.66	+7.54	0.37	7.05	3.66	70.00	493.50	31.12	0.49	7.54		
TW2	330	15.36	+0.00	+5.75	+3.66	+6.49	0.51	5.75	3.66	70.00	402.50	38.16	0.74	6.49		
TW2	335	15.36	+0.00	+6.00	+3.66	+6.68	0.48	6.00	3.66	70.00	420.00	36.57	0.68	6.68		
TW2	340	15.36	+0.00	+5.25	+3.66	+6.14	0.58	5.25	3.66	70.00	367.50	41.80	0.89	6.14		
TW2	345	15.36	+0.00	+5.10	+3.66	+6.04	0.61	5.10	3.66	70.00	357.00	43.03	0.94	6.04		
TW2	350	15.36	+0.00	+4.40	+3.66	+5.67	0.76	4.40	3.66	70.00	308.00	49.87	1.27	5.67		
TW2	355	15.36	+0.00	+4.60	+3.66	+5.76	0.71	4.60	3.66	70.00	322.00	47.70	1.16	5.76		
TW2	360	15.36	+0.00	+4.75	+3.66	+5.84	0.68	4.75	3.66	70.00	332.50	46.20	1.09	5.84		
TW2	370	15.36	+0.00	+4.05	+3.66	+5.55	0.86	4.05	3.66	70.00	283.50	54.18	1.50	5.55		
TW2	380	15.36	+0.00	+6.25	+3.66	+6.88	0.45	6.25	3.66	70.00	437.50	35.11	0.63	6.88		
TW2	390	15.36	+0.00	+6.30	+3.66	+6.92	0.44	6.30	3.66	70.00	441.00	34.83	0.62	6.92		
TW3	290	15.36	+0.58	+6.28	+4.24	+7.11	0.50	5.80	3.66	70.00	406.00	37.83	0.73	6.53		
TW3	295	15.36	+0.00	+7.50	+3.66	+7.94	0.34	7.50	3.66	70.00	525.00	29.26	0.44	7.94		
TW3	300	15.36	+0.00	+9.15	+3.66	+9.44	0.25	9.15	3.66	70.00	640.50	23.98	0.29	9.44		
TW3	305	15.36	+0.00	+9.05	+3.66	+9.63	0.25	9.35	3.66	70.00	654.50	23.47	0.28	9.63		
TW3	310	15.36	+0.00	+8.85	+3.66	+9.16	0.27	8.85	3.66	70.00	619.50	24.79	0.31	9.16		
TW3	315	15.36	+0.00	+9.25	+3.66	+9.54	0.25	9.25	3.66	70.00	647.50	23.72	0.29	9.54		
TW3	320	15.36	+0.00	+9.20	+3.66	+9.49	0.25	9.20	3.66	70.00	644.00	23.85	0.29	9.49		
TW3	325	15.36	+0.00	+8.50	+3.66	+8.84	0.28	8.50	3.66	70.00	595.00	25.82	0.34	8.84		
TW3	330	15.36	+0.00	+8.15	+3.66	+8.52	0.30	8.15	3.66	70.00	570.50	26.92	0.37	8.52		
TW3	335	15.36	+0.00	+8.35	+3.66	+8.70	0.29	8.35	3.66	70.00	584.50	26.28	0.35	8.70		
TW3	340	15.36	+0.00	+7.90	+3.66	+8.29	0.32	7.90	3.66	70.00	553.00	27.78	0.39	8.29		
TW3	345	15.36	+0.00	+7.70	+3.66	+8.11	0.33	7.70	3.66	70.00	539.00	28.50	0.41	8.11		
TW3	350	15.36	+0.00	+7.70	+3.66	+8.11	0.33	7.70	3.66	70.00	539.00	28.50	0.41	8.11		
TW3	355	15.36	+0.00	+7.35	+3.66	+7.80	0.35	7.35	3.66	70.00	514.50	29.85	0.45	7.80		
TW3	360	15.36	+0.00	+8.50	+3.66	+8.84	0.28	8.50	3.66	70.00	595.00	25.82	0.34	8.84		
TW3	370	15.36	+0.00	+9.30	+3.66	+9.58	0.25	9.30	3.66	70.00	651.00	23.59	0.28	9.58		
TW3	380	15.36	+0.00	+9.15	+3.66	+9.44	0.25	9.15	3.66	70.00	640.50	23.98	0.29	9.44		
TW3	390	15.36	+0.00	+9.25	+3.66	+9.54	0.25	9.25	3.66	70.00	647.50	23.72	0.29	9.54		
TW4	290	15.36	+0.58	+6.68	+4.24	+7.34	0.47	6.10	3.66	70.00	427.00	35.97	0.66	6.76		
TW4	295	15.36	+0.00	+10.75	+3.66	+10.96	0.20	10.75	3.66	70.00	752.50	20.41	0.21	10.96		
TW4	300	15.36	+0.00	+11.10	+3.66	+11.30	0.19	11.10	3.66	70.00	777.00	19.77	0.20	11.30		
TW4	305	15.36	+0.00	+10.55	+3.66	+10.77	0.20	10.55	3.66	70.00	738.50	20.80	0.22	10.77		
TW4	310	15.36	+0.00	+10.25	+3.66	+10.48	0.21	10.25	3.66	70.00	717.50	21.41	0.23	10.48		
TW4	315	15.36	+0.00	+10.30	+3.66	+10.53	0.21	10.30	3.66	70.00	721.00	21.30	0.23	10.53		
TW4	320	15.36	+0.00	+9.90	+3.66	+10.15	0.22	9.90	3.66	70.00	693.00	22.16	0.25	10.15		
TW4	325	15.36	+0.00	+8.90	+3.66	+9.21	0.26	8.90	3.66	70.00	623.00	24.65	0.31	9.21		
TW4	330	15.36	+0.00	+9.00	+3.66	+9.30	0.26	9.00	3.66	70.00	630.00	24.38	0.30	9.30		
TW4	335	15.36	+0.00	+9.50	+3.66	+9.77	0.24	9.50	3.66	70.00	665.00	23.10	0.27	9.77		
TW4	340	15.36	+0.00	+8.45	+3.66	+8.79	0.28	8.45	3.66	70.00	591.50	25.97	0.34	8.79		
TW4	345	15.36	+0.00	+8.85	+3.66	+9.16	0.27	8.85	3.66	70.00	619.50	24.79	0.31	9.16		
TW4	350	15.36	+0.00	+9.35	+3.66	+9.63	0.25	9.35	3.66	70.00	654.50	23.47	0.28	9.63		
TW4	355	15.36	+0.00	+9.10	+3.66	+9.40	0.26	9.10	3.66	70.00	637.00	24.11	0.30	9.40		
TW4	360	15.36	+0.00	+11.15	+3.66	+11.35	0.19	11.15	3.66	70.00	780.50	19.68	0.20	11.35		
TW4	370	15.36	+0.00	+10.05	+3.66	+10.29	0.22	10.05	3.66	70.00	703.50	21.83	0.24	10.29		
TW4	380	15.36	+0.00	+9.95	+3.66	+10.20	0.22	9.95	3.66	70.00	696.50	22.05	0.25	10.20		
TW4	390	15.36	+0.00	+10.15	+3.66	+10.39	0.22	10.15	3.66	70.00	710.50	21.62	0.24	10.39		
TW5	290	15.36	+0.58	+9.18	+4.24	+9.51	0.28	8.60	3.66	70.00	602.00	25.51	0.33	8.93		
TW5	295	15.36	+0.00	+8.75	+3.66	+9.07	0.27	8.75	3.66	70.00	612.50	25.08	0.32	9.07		
TW5	300	15.36	+0.00	+11.25	+3.66	+11.44	0.19	11.25	3.66	70.00	787.50	19.50	0.19	11.44		
TW5	305	15.36	+0.00	+11.65	+3.66	+11.83	0.18	11.65	3.66	70.00	815.50	18.84	0.18	11.83		
TW5	310	15.36	+0.00	+11.55	+3.66	+11.73	0.18	11.55	3.66	70.00	803.50	19.00	0.18	11.73		
TW5	315	15.36	+0.00	+11.10	+3.66	+11.30	0.19	11.10	3.66	70.00	777.00	19.77	0.20	11.30		
TW5	320	15.36	+0.00	+11.60	+3.66	+11.78	0.18	11.60	3.66	70.00	812.00	18.92	0.18	11.78		
TW5	325	15.36	+0.00	+10.65	+3.66	+10.87	0.20	10.65	3.66	70.00	745.50	20.60	0.22	10.87		
TW5	330	15.36	+0.00	+9.60	+3.66	+9.87	0.24	9.60	3.66	70.00	672.00	22.86	0.27	9.87		
TW5	335	15.36	+0.00	+9.75	+3.66	+10.01	0.23	9.75	3.66	70.00	682.50	22.51	0.26	10.01		
TW5	340	15.36	+0.00	+9.90	+3.66	+10.15	0.22	9.90	3.66	70.00	693.00	22.16	0.25	10.15		
TW5	345	15.36	+0.00	+9.95	+3.66	+10.20	0.22	9.95	3.66	70.00	696.50	22.05	0.25	10.20		
TW5	350	15.36	+0.00	+9.95	+3.66	+10.20	0.22	9.95	3.66	70.00	696.50	22.05	0.25	10.20		
TW5	355	15.36	+0.00	+10.50	+3.66	+10.72	0.21	10.50	3.66	70.00	735.00	20.90	0.22	10.72		
TW5	360	15.36	+0.00	+12.25	+3.66	+12.41	0.16	12.25	3.66	70.00	857.50	17.91	0.16	12.41		
TW5	370	15.36	+0.00	+10.00	+3.66	+10.25	0.22	10.00	3.66	70.00	700.00	21.94	0.25	10.25		
TW5	380	15.36	+0.00	+10.30	+3.66	+10.53	0.21	10.30	3.66	70.00	721.00	21.30	0.23	10.53		
TW5	390	15.36	+0.00	+10.30	+3.66	+10.44	0.22	10.20	3.66	70.00	714.00	21.51	0.24	10.44		

ตาราง ค-5 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=16.46 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_F	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm.	l/s	cm.	cm.	cm.	cm.		cm.	cm.	cm.	sq cm.	cm/s	cm.	cm.	
TW2	290	16.46	+0.58	+2.93	+4.41	+8.03	2.08	2.35	3.83	70.00	164.50	100.06	5.10	7.45	
TW2	295	16.46	+0.00	+2.05	+3.93	+8.76	2.56	2.05	3.83	70.00	143.50	114.70	6.71	8.76	
TW2	300	16.46	+0.00	+1.40	+3.83	+15.78	4.53	1.40	3.83	70.00	98.00	167.96	14.38	15.78	
TW2	305	16.46	+0.00	+2.80	+3.83	+6.39	1.60	2.80	3.83	70.00	196.00	83.98	3.59	6.39	
TW2	310	16.46	+0.00	+2.00	+3.83	+9.05	2.65	2.00	3.83	70.00	140.00	117.57	7.05	9.05	
TW2	315	16.46	+0.00	+1.85	+3.83	+10.08	2.98	1.85	3.83	70.00	129.50	127.10	8.23	10.08	
TW2	320	16.46	+0.00	+5.30	+3.83	+6.30	0.62	5.30	3.83	70.00	371.00	44.37	1.00	6.30	
TW2	325	16.46	+0.00	+7.25	+3.83	+7.79	0.38	7.25	3.83	70.00	507.50	32.43	0.54	7.79	
TW2	330	16.46	+0.00	+8.00	+3.83	+8.44	0.33	8.00	3.83	70.00	560.00	29.39	0.44	8.44	
TW2	335	16.46	+0.00	+8.80	+3.83	+9.16	0.29	8.80	3.83	70.00	616.00	26.72	0.36	9.16	
TW2	340	16.46	+0.00	+8.60	+3.83	+8.98	0.30	8.60	3.83	70.00	602.00	27.34	0.38	8.98	
TW2	345	16.46	+0.00	+8.80	+3.83	+9.16	0.29	8.80	3.83	70.00	616.00	26.72	0.36	9.16	
TW2	350	16.46	+0.00	+8.65	+3.83	+9.03	0.30	8.65	3.83	70.00	605.50	27.18	0.38	9.03	
TW2	355	16.46	+0.00	+7.75	+3.83	+8.22	0.35	7.75	3.83	70.00	542.50	30.34	0.47	8.22	
TW2	360	16.46	+0.00	+6.80	+3.83	+7.41	0.42	6.80	3.83	70.00	476.00	34.58	0.61	7.41	
TW2	370	16.46	+0.00	+6.25	+3.83	+6.97	0.48	6.25	3.83	70.00	437.50	37.62	0.72	6.97	
TW2	380	16.46	+0.00	+6.70	+3.83	+7.33	0.43	6.70	3.83	70.00	469.00	35.10	0.63	7.33	
TW2	390	16.46	+0.00	+7.85	+3.83	+8.31	0.34	7.85	3.83	70.00	549.50	29.95	0.46	8.31	
TW3	290	16.46	+0.58	+6.13	+4.41	+7.04	0.57	5.55	3.83	70.00	388.50	42.37	0.91	6.46	
TW3	295	16.46	+0.00	+8.05	+3.83	+8.48	0.33	8.05	3.83	70.00	563.50	29.21	0.43	8.48	
TW3	300	16.46	+0.00	+10.70	+3.83	+10.95	0.21	10.70	3.83	70.00	749.00	21.98	0.25	10.95	
TW3	305	16.46	+0.00	+12.10	+3.83	+12.29	0.18	12.10	3.83	70.00	847.00	19.43	0.19	12.29	
TW3	310	16.46	+0.00	+10.10	+3.83	+10.38	0.23	10.10	3.83	70.00	707.00	23.28	0.28	10.38	
TW3	315	16.46	+0.00	+11.00	+3.83	+11.23	0.21	11.00	3.83	70.00	770.00	21.38	0.23	11.23	
TW3	320	16.46	+0.00	+9.10	+3.83	+9.44	0.27	9.10	3.83	70.00	637.00	25.84	0.34	9.44	
TW3	325	16.46	+0.00	+9.35	+3.83	+9.67	0.26	9.35	3.83	70.00	654.50	25.15	0.32	9.67	
TW3	330	16.46	+0.00	+8.65	+3.83	+9.03	0.30	8.65	3.83	70.00	605.50	27.18	0.38	9.03	
TW3	335	16.46	+0.00	+9.40	+3.83	+9.72	0.26	9.40	3.83	70.00	658.00	25.02	0.32	9.72	
TW3	340	16.46	+0.00	+7.50	+3.83	+8.00	0.37	7.50	3.83	70.00	525.00	31.35	0.50	8.00	
TW3	345	16.46	+0.00	+9.15	+3.83	+9.49	0.27	9.15	3.83	70.00	640.50	25.70	0.34	9.49	
TW3	350	16.46	+0.00	+11.25	+3.83	+11.47	0.20	11.25	3.83	70.00	787.50	20.90	0.22	11.47	
TW3	355	16.46	+0.00	+11.70	+3.83	+11.91	0.19	11.70	3.83	70.00	819.00	20.10	0.21	11.91	
TW3	360	16.46	+0.00	+8.25	+3.83	+8.66	0.32	8.25	3.83	70.00	577.50	28.50	0.41	8.66	
TW3	370	16.46	+0.00	+10.65	+3.83	+10.90	0.22	10.65	3.83	70.00	745.50	22.08	0.25	10.90	
TW3	380	16.46	+0.00	+10.25	+3.83	+10.52	0.23	10.25	3.83	70.00	717.50	22.94	0.27	10.52	
TW3	390	16.46	+0.00	+10.45	+3.83	+10.71	0.22	10.45	3.83	70.00	731.50	22.50	0.26	10.71	
TW4	290	16.46	+0.58	+10.03	+4.41	+10.35	0.26	9.45	3.83	70.00	661.50	24.88	0.32	9.77	
TW4	295	16.46	+0.00	+12.00	+3.83	+12.20	0.18	12.00	3.83	70.00	940.00	19.60	0.20	12.20	
TW4	300	16.46	+0.00	+12.15	+3.83	+12.34	0.18	12.15	3.83	70.00	850.50	19.35	0.19	12.34	
TW4	305	16.46	+0.00	+11.35	+3.83	+11.57	0.20	11.35	3.83	70.00	794.50	20.72	0.22	11.57	
TW4	310	16.46	+0.00	+11.15	+3.83	+11.38	0.20	11.15	3.83	70.00	780.50	21.09	0.23	11.38	
TW4	315	16.46	+0.00	+12.30	+3.83	+12.49	0.17	12.30	3.83	70.00	861.00	19.12	0.19	12.49	
TW4	320	16.46	+0.00	+12.35	+3.83	+12.53	0.17	12.35	3.83	70.00	864.50	19.04	0.18	12.53	
TW4	325	16.46	+0.00	+11.70	+3.83	+11.91	0.19	11.70	3.83	70.00	819.00	20.10	0.21	11.91	
TW4	330	16.46	+0.00	+11.85	+3.83	+12.05	0.18	11.85	3.83	70.00	829.50	19.84	0.20	12.05	
TW4	335	16.46	+0.00	+10.70	+3.83	+10.95	0.21	10.70	3.83	70.00	749.00	21.98	0.25	10.95	
TW4	340	16.46	+0.00	+12.15	+3.83	+12.34	0.18	12.15	3.83	70.00	850.50	19.35	0.19	12.34	
TW4	345	16.46	+0.00	+12.70	+3.83	+12.87	0.17	12.70	3.83	70.00	889.00	18.52	0.17	12.87	
TW4	350	16.46	+0.00	+13.00	+3.83	+13.17	0.16	13.00	3.83	70.00	910.00	18.09	0.17	13.17	
TW4	355	16.46	+0.00	+13.15	+3.83	+13.31	0.16	13.15	3.83	70.00	920.50	17.88	0.16	13.31	
TW4	360	16.46	+0.00	+12.65	+3.83	+12.83	0.17	12.65	3.83	70.00	885.50	18.59	0.18	12.83	
TW4	370	16.46	+0.00	+12.40	+3.83	+12.58	0.17	12.40	3.83	70.00	868.00	18.96	0.18	12.58	
TW4	380	16.46	+0.00	+12.65	+3.83	+12.83	0.17	12.65	3.83	70.00	885.50	18.59	0.18	12.83	
TW4	390	16.46	+0.00	+12.10	+3.83	+12.29	0.18	12.10	3.83	70.00	847.00	19.43	0.19	12.29	
TW5	290	16.46	+0.58	+12.43	+4.41	+12.63	0.18	11.85	3.83	70.00	829.50	19.84	0.20	12.05	
TW5	295	16.46	+0.00	+13.35	+3.83	+13.51	0.15	13.35	3.83	70.00	934.50	17.61	0.16	13.51	
TW5	300	16.46	+0.00	+13.55	+3.83	+13.70	0.15	13.55	3.83	70.00	948.50	17.35	0.15	13.70	
TW5	305	16.46	+0.00	+14.90	+3.83	+15.03	0.13	14.90	3.83	70.00	1043.00	15.78	0.13	15.03	
TW5	310	16.46	+0.00	+13.75	+3.83	+13.90	0.15	13.75	3.83	70.00	962.50	17.10	0.15	13.90	
TW5	315	16.46	+0.00	+13.85	+3.83	+14.00	0.15	13.85	3.83	70.00	969.50	16.98	0.15	14.00	
TW5	320	16.46	+0.00	+13.50	+3.83	+13.65	0.15	13.50	3.83	70.00	945.00	17.42	0.15	13.65	
TW5	325	16.46	+0.00	+13.40	+3.83	+13.56	0.15	13.40	3.83	70.00	938.00	17.55	0.16	13.56	
TW5	330	16.46	+0.00	+13.30	+3.83	+13.46	0.15	13.30	3.83	70.00	931.00	17.68	0.16	13.46	
TW5	335	16.46	+0.00	+13.70	+3.83	+13.85	0.15	13.70	3.83	70.00	959.00	17.16	0.15	13.85	
TW5	340	16.46	+0.00	+14.20	+3.83	+14.34	0.14	14.20	3.83	70.00	994.00	16.56	0.14	14.34	
TW5	345	16.46	+0.00	+14.80	+3.83	+14.93	0.13	14.80	3.83	70.00	1036.00	15.89	0.13	14.93	
TW5	350	16.46	+0.00	+13.40	+3.83	+13.56	0.15	13.40	3.83	70.00	938.00	17.55	0.16	13.56	
TW5	355	16.46	+0.00	+13.70	+3.83	+13.85	0.15	13.70	3.83	70.00	959.00	17.16	0.15	13.85	
TW5	360	16.46	+0.00	+13.90	+3.83	+14.05	0.14	13.90	3.83	70.00	973.00	16.92	0.15	14.05	
TW5	370	16.46	+0.00	+14.00	+3.83	+14.14	0.14	14.00	3.83	70.00	980.00	16.80	0.14	14.14	
TW5	380	16.46	+0.00	+13.95	+3.83	+14.09	0.14	13.95	3.83	70.00	976.50	16.86	0.14	14.09	
TW5	390	16.46	+0.00	+13.95	+3.83	+14.09	0.14	13.95	3.83	70.00	976.50	16.86	0.14	14.09	

ตาราง ค-6 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=16.97 l/s

NO	STA	O	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	16.97	+0.58	+1.68	+4.49	+26.44	6.71	1.10	3.91	70.00	77.00	220.39	24.76	25.86	
TW2	295	16.97	+0.00	+1.35	+3.91	+17.79	4.93	1.35	3.91	70.00	94.50	179.58	16.44	17.79	
TW2	300	16.97	+0.00	+5.25	+3.91	+6.34	0.64	5.25	3.91	70.00	367.50	46.18	1.09	6.34	
TW2	305	16.97	+0.00	+5.80	+3.91	+6.69	0.55	5.80	3.91	70.00	406.00	41.80	0.89	6.69	
TW2	310	16.97	+0.00	+8.55	+3.91	+7.25	0.46	6.55	3.91	70.00	458.50	37.01	0.70	7.25	
TW2	315	16.97	+0.00	+8.10	+3.91	+8.56	0.34	8.10	3.91	70.00	567.00	29.93	0.46	8.56	
TW2	320	16.97	+0.00	+6.75	+3.91	+7.41	0.44	6.75	3.91	70.00	472.50	35.92	0.66	7.41	
TW2	325	16.97	+0.00	+6.20	+3.91	+6.98	0.50	6.20	3.91	70.00	434.00	39.10	0.78	6.98	
TW2	330	16.97	+0.00	+7.50	+3.91	+8.03	0.38	7.50	3.91	70.00	525.00	32.32	0.53	8.03	
TW2	335	16.97	+0.00	+5.90	+3.91	+6.76	0.54	5.90	3.91	70.00	413.00	41.09	0.86	6.76	
TW2	340	16.97	+0.00	+5.00	+3.91	+6.20	0.69	5.00	3.91	70.00	350.00	48.49	1.20	6.20	
TW2	345	16.97	+0.00	+5.65	+3.91	+6.59	0.58	5.65	3.91	70.00	395.50	42.91	0.94	6.59	
TW2	350	16.97	+0.00	+4.05	+3.91	+5.88	0.95	4.05	3.91	70.00	283.50	59.86	1.83	5.88	
TW2	355	16.97	+0.00	+4.30	+3.91	+5.92	0.87	4.30	3.91	70.00	301.00	56.38	1.62	5.92	
TW2	360	16.97	+0.00	+4.15	+3.91	+5.89	0.92	4.15	3.91	70.00	290.50	58.42	1.74	5.89	
TW2	370	16.97	+0.00	+5.70	+3.91	+6.62	0.57	5.70	3.91	70.00	399.00	42.53	0.92	6.62	
TW2	380	16.97	+0.00	+5.60	+3.91	+6.56	0.58	5.60	3.91	70.00	392.00	43.29	0.96	6.56	
TW2	390	16.97	+0.00	+5.25	+3.91	+6.34	0.64	5.25	3.91	70.00	367.50	46.18	1.09	6.34	
TW3	290	16.97	+0.58	+8.98	+4.49	+9.40	0.32	8.40	3.91	70.00	588.00	28.86	0.42	8.82	
TW3	295	16.97	+0.00	+9.80	+3.91	+10.11	0.25	9.80	3.91	70.00	686.00	24.74	0.31	10.11	
TW3	300	16.97	+0.00	+8.85	+3.91	+9.23	0.29	8.85	3.91	70.00	619.50	27.39	0.38	9.23	
TW3	305	16.97	+0.00	+9.60	+3.91	+9.93	0.26	9.60	3.91	70.00	672.00	25.25	0.33	9.93	
TW3	310	16.97	+0.00	+10.40	+3.91	+10.68	0.23	10.40	3.91	70.00	728.00	23.31	0.28	10.68	
TW3	315	16.97	+0.00	+9.65	+3.91	+9.97	0.26	9.65	3.91	70.00	675.50	25.12	0.32	9.97	
TW3	320	16.97	+0.00	+8.50	+3.91	+8.91	0.31	8.50	3.91	70.00	595.00	28.52	0.41	8.91	
TW3	325	16.97	+0.00	+8.80	+3.91	+9.19	0.30	8.80	3.91	70.00	616.00	27.55	0.39	9.19	
TW3	330	16.97	+0.00	+8.05	+3.91	+8.51	0.34	8.05	3.91	70.00	563.50	30.12	0.46	8.51	
TW3	335	16.97	+0.00	+9.05	+3.91	+9.42	0.28	9.05	3.91	70.00	633.50	26.79	0.37	9.42	
TW3	340	16.97	+0.00	+8.40	+3.91	+8.82	0.32	8.40	3.91	70.00	588.00	28.86	0.42	8.82	
TW3	345	16.97	+0.00	+7.85	+3.91	+8.34	0.35	7.85	3.91	70.00	549.50	30.88	0.49	8.34	
TW3	350	16.97	+0.00	+10.10	+3.91	+10.39	0.24	10.10	3.91	70.00	707.00	24.00	0.29	10.39	
TW3	355	16.97	+0.00	+8.25	+3.91	+8.69	0.33	8.25	3.91	70.00	577.50	29.39	0.44	8.69	
TW3	360	16.97	+0.00	+9.05	+3.91	+9.42	0.28	9.05	3.91	70.00	633.50	26.79	0.37	9.42	
TW3	370	16.97	+0.00	+9.95	+3.91	+10.25	0.25	9.95	3.91	70.00	696.50	24.36	0.30	10.25	
TW3	380	16.97	+0.00	+10.10	+3.91	+10.39	0.24	10.10	3.91	70.00	707.00	24.00	0.29	10.39	
TW3	390	16.97	+0.00	+10.15	+3.91	+10.44	0.24	10.15	3.91	70.00	710.50	23.88	0.29	10.44	
TW4	290	16.97	+0.58	+9.98	+4.49	+10.32	0.27	9.40	3.91	70.00	658.00	25.79	0.34	9.74	
TW4	295	16.97	+0.00	+10.65	+3.91	+10.91	0.22	10.65	3.91	70.00	745.50	22.76	0.26	10.91	
TW4	300	16.97	+0.00	+10.25	+3.91	+10.54	0.24	10.25	3.91	70.00	717.50	23.65	0.29	10.54	
TW4	305	16.97	+0.00	+10.90	+3.91	+11.15	0.22	10.90	3.91	70.00	763.00	22.24	0.25	11.15	
TW4	310	16.97	+0.00	+10.05	+3.91	+10.35	0.24	10.05	3.91	70.00	703.50	24.12	0.30	10.35	
TW4	315	16.97	+0.00	+10.25	+3.91	+10.54	0.24	10.25	3.91	70.00	717.50	23.65	0.29	10.54	
TW4	320	16.97	+0.00	+9.45	+3.91	+9.79	0.27	9.45	3.91	70.00	661.50	25.65	0.34	9.79	
TW4	325	16.97	+0.00	+10.00	+3.91	+10.30	0.24	10.00	3.91	70.00	700.00	24.24	0.30	10.30	
TW4	330	16.97	+0.00	+9.90	+3.91	+10.21	0.25	9.90	3.91	70.00	693.00	24.49	0.31	10.21	
TW4	335	16.97	+0.00	+9.80	+3.91	+10.11	0.25	9.80	3.91	70.00	686.00	24.74	0.31	10.11	
TW4	340	16.97	+0.00	+10.25	+3.91	+10.54	0.24	10.25	3.91	70.00	717.50	23.65	0.29	10.54	
TW4	345	16.97	+0.00	+11.05	+3.91	+11.30	0.21	11.05	3.91	70.00	773.50	21.94	0.25	11.30	
TW4	350	16.97	+0.00	+11.55	+3.91	+11.77	0.20	11.55	3.91	70.00	808.50	20.99	0.22	11.77	
TW4	355	16.97	+0.00	+10.95	+3.91	+11.20	0.21	10.95	3.91	70.00	766.50	22.14	0.25	11.20	
TW4	360	16.97	+0.00	+11.05	+3.91	+11.30	0.21	11.05	3.91	70.00	773.50	21.94	0.25	11.30	
TW4	370	16.97	+0.00	+10.95	+3.91	+11.20	0.21	10.95	3.91	70.00	766.50	22.14	0.25	11.20	
TW4	380	16.97	+0.00	+11.00	+3.91	+11.25	0.21	11.00	3.91	70.00	770.00	22.04	0.25	11.25	
TW4	390	16.97	+0.00	+11.00	+3.91	+11.25	0.21	11.00	3.91	70.00	770.00	22.04	0.25	11.25	
TW5	290	16.97	+0.58	+12.08	+4.49	+12.31	0.20	11.50	3.91	70.00	805.00	21.08	0.23	11.73	
TW5	295	16.97	+0.00	+11.75	+3.91	+11.97	0.19	11.75	3.91	70.00	822.50	20.63	0.22	11.97	
TW5	300	16.97	+0.00	+13.00	+3.91	+13.18	0.17	13.00	3.91	70.00	910.00	18.65	0.18	13.18	
TW5	305	16.97	+0.00	+11.90	+3.91	+12.11	0.19	11.90	3.91	70.00	833.00	20.37	0.21	12.11	
TW5	310	16.97	+0.00	+11.85	+3.91	+12.06	0.19	11.85	3.91	70.00	829.50	20.46	0.21	12.06	
TW5	315	16.97	+0.00	+12.45	+3.91	+12.64	0.18	12.45	3.91	70.00	871.50	19.47	0.19	12.64	
TW5	320	16.97	+0.00	+10.80	+3.91	+11.06	0.22	10.80	3.91	70.00	756.00	22.45	0.26	11.06	
TW5	325	16.97	+0.00	+11.70	+3.91	+11.92	0.19	11.70	3.91	70.00	819.00	20.72	0.22	11.92	
TW5	330	16.97	+0.00	+11.00	+3.91	+11.25	0.21	11.00	3.91	70.00	770.00	22.04	0.25	11.25	
TW5	335	16.97	+0.00	+11.45	+3.91	+11.68	0.20	11.45	3.91	70.00	801.50	21.17	0.23	11.68	
TW5	340	16.97	+0.00	+11.75	+3.91	+11.97	0.19	11.75	3.91	70.00	822.50	20.63	0.22	11.97	
TW5	345	16.97	+0.00	+11.55	+3.91	+11.77	0.20	11.55	3.91	70.00	808.50	20.99	0.22	11.77	
TW5	350	16.97	+0.00	+11.10	+3.91	+11.34	0.21	11.10	3.91	70.00	777.00	21.84	0.24	11.34	
TW5	355	16.97	+0.00	+11.55	+3.91	+11.77	0.20	11.55	3.91	70.00	808.50	20.99	0.22	11.77	
TW5	360	16.97	+0.00	+12.65	+3.91	+12.84	0.17	12.65	3.91	70.00	885.50	19.16	0.19	12.84	
TW5	370	16.97	+0.00	+12.45	+3.91	+12.64	0.18	12.45	3.91	70.00	871.50	19.47	0.19	12.64	
TW5	380	16.97	+0.00	+12.50	+3.91	+12.69	0.18	12.50	3.91	70.00	875.00	19.39	0.19	12.69	
TW5	390	16.97	+0.00	+12.50	+3.91	+12.69	0.18	12.50	3.91	70.00	875.00	19.39	0.19	12.69	

ตาราง ค-7 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=18.34 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	18.34	+0.58	+3.48	+4.70	+7.64	1.69	2.90	4.12	70.00	203.00	90.34	4.16	7.06	
TW2	295	18.34	+0.00	+2.50	+4.12	+8.10	2.12	2.50	4.12	70.00	175.00	104.80	5.60	8.10	
TW2	300	18.34	+0.00	+2.45	+4.12	+8.28	2.18	2.45	4.12	70.00	171.50	106.94	5.83	8.28	
TW2	305	18.34	+0.00	+1.45	+4.12	+18.09	4.79	1.45	4.12	70.00	101.50	180.69	16.64	18.09	
TW2	310	18.34	+0.00	+2.35	+4.12	+8.69	2.32	2.35	4.12	70.00	164.50	111.49	6.34	8.69	
TW2	315	18.34	+0.00	+1.80	+4.12	+12.60	3.46	1.80	4.12	70.00	126.00	145.56	10.80	12.60	
TW2	320	18.34	+0.00	+1.80	+4.12	+12.60	3.46	1.80	4.12	70.00	126.00	145.56	10.80	12.60	
TW2	325	18.34	+0.00	+4.15	+4.12	+6.18	0.99	4.15	4.12	70.00	290.50	63.13	2.03	6.18	
TW2	330	18.34	+0.00	+4.70	+4.12	+6.28	0.82	4.70	4.12	70.00	329.00	55.74	1.58	6.28	
TW2	335	18.34	+0.00	+7.45	+4.12	+8.08	0.41	7.45	4.12	70.00	521.50	35.17	0.63	8.08	
TW2	340	18.34	+0.00	+8.10	+4.12	+8.63	0.36	8.10	4.12	70.00	567.00	32.35	0.53	8.63	
TW2	345	18.34	+0.00	+9.65	+4.12	+10.03	0.28	9.65	4.12	70.00	675.50	27.15	0.38	10.03	
TW2	350	18.34	+0.00	+8.70	+4.12	+9.16	0.33	8.70	4.12	70.00	609.00	30.11	0.46	9.16	
TW2	355	18.34	+0.00	+9.35	+4.12	+9.75	0.29	9.35	4.12	70.00	654.50	28.02	0.40	9.75	
TW2	360	18.34	+0.00	+7.90	+4.12	+8.46	0.38	7.90	4.12	70.00	553.00	33.16	0.56	8.46	
TW2	370	18.34	+0.00	+7.00	+4.12	+7.71	0.45	7.00	4.12	70.00	490.00	37.43	0.71	7.71	
TW2	380	18.34	+0.00	+7.20	+4.12	+7.87	0.43	7.20	4.12	70.00	504.00	36.39	0.67	7.87	
TW2	390	18.34	+0.00	+7.45	+4.12	+8.08	0.41	7.45	4.12	70.00	521.50	35.17	0.63	8.08	
TW3	290	18.34	+0.58	+2.78	+4.70	+10.01	2.56	2.20	4.12	70.00	154.00	119.09	7.23	9.43	
TW3	295	18.34	+0.00	+8.45	+4.12	+8.94	0.34	8.45	4.12	70.00	591.50	31.01	0.49	8.94	
TW3	300	18.34	+0.00	+9.60	+4.12	+9.98	0.28	9.60	4.12	70.00	672.00	27.29	0.38	9.98	
TW3	305	18.34	+0.00	+9.30	+4.12	+9.70	0.29	9.30	4.12	70.00	651.00	28.17	0.40	9.70	
TW3	310	18.34	+0.00	+9.95	+4.12	+10.30	0.27	9.95	4.12	70.00	696.50	26.33	0.35	10.30	
TW3	315	18.34	+0.00	+10.25	+4.12	+10.58	0.25	10.25	4.12	70.00	717.50	25.56	0.33	10.58	
TW3	320	18.34	+0.00	+9.75	+4.12	+10.12	0.27	9.75	4.12	70.00	682.50	26.87	0.37	10.12	
TW3	325	18.34	+0.00	+8.95	+4.12	+9.39	0.31	8.95	4.12	70.00	626.50	29.27	0.44	9.39	
TW3	330	18.34	+0.00	+8.15	+4.12	+8.68	0.36	8.15	4.12	70.00	570.50	32.15	0.53	8.68	
TW3	335	18.34	+0.00	+7.85	+4.12	+8.42	0.38	7.85	4.12	70.00	549.50	33.38	0.57	8.42	
TW3	340	18.34	+0.00	+8.50	+4.12	+8.98	0.34	8.50	4.12	70.00	595.00	30.82	0.48	8.98	
TW3	345	18.34	+0.00	+9.85	+4.12	+10.21	0.27	9.85	4.12	70.00	689.50	26.60	0.36	10.21	
TW3	350	18.34	+0.00	+7.65	+4.12	+8.25	0.40	7.65	4.12	70.00	535.50	34.25	0.60	8.25	
TW3	355	18.34	+0.00	+7.80	+4.12	+8.38	0.38	7.80	4.12	70.00	546.00	33.59	0.58	8.38	
TW3	360	18.34	+0.00	+8.50	+4.12	+8.98	0.34	8.50	4.12	70.00	595.00	30.82	0.48	8.98	
TW3	370	18.34	+0.00	+10.00	+4.12	+10.35	0.26	10.00	4.12	70.00	700.00	26.20	0.35	10.35	
TW3	380	18.34	+0.00	+10.20	+4.12	+10.54	0.26	10.20	4.12	70.00	714.00	25.69	0.34	10.54	
TW3	390	18.34	+0.00	+10.25	+4.12	+10.58	0.25	10.25	4.12	70.00	717.50	25.56	0.33	10.58	
TW4	290	18.34	+0.58	+9.58	+4.70	+10.01	0.31	9.00	4.12	70.00	630.00	29.11	0.43	9.43	
TW4	295	18.34	+0.00	+11.65	+4.12	+11.91	0.21	11.65	4.12	70.00	815.50	22.49	0.26	11.91	
TW4	300	18.34	+0.00	+11.50	+4.12	+11.76	0.21	11.50	4.12	70.00	805.00	22.78	0.26	11.76	
TW4	305	18.34	+0.00	+13.35	+4.12	+13.55	0.17	13.35	4.12	70.00	934.50	19.63	0.20	13.55	
TW4	310	18.34	+0.00	+12.65	+4.12	+12.87	0.19	12.65	4.12	70.00	885.50	20.71	0.22	12.87	
TW4	315	18.34	+0.00	+12.05	+4.12	+12.29	0.20	12.05	4.12	70.00	843.50	21.74	0.24	12.29	
TW4	320	18.34	+0.00	+11.80	+4.12	+12.05	0.21	11.80	4.12	70.00	826.00	22.20	0.25	12.05	
TW4	325	18.34	+0.00	+12.65	+4.12	+12.87	0.19	12.65	4.12	70.00	885.50	20.71	0.22	12.87	
TW4	330	18.34	+0.00	+11.65	+4.12	+11.91	0.21	11.65	4.12	70.00	815.50	22.49	0.26	11.91	
TW4	335	18.34	+0.00	+11.90	+4.12	+12.15	0.20	11.90	4.12	70.00	833.00	22.02	0.25	12.15	
TW4	340	18.34	+0.00	+12.45	+4.12	+12.68	0.19	12.45	4.12	70.00	871.50	21.04	0.23	12.68	
TW4	345	18.34	+0.00	+12.65	+4.12	+12.87	0.19	12.65	4.12	70.00	885.50	20.71	0.22	12.87	
TW4	350	18.34	+0.00	+10.75	+4.12	+11.05	0.24	10.75	4.12	70.00	752.50	24.37	0.30	11.05	
TW4	355	18.34	+0.00	+12.70	+4.12	+12.92	0.18	12.70	4.12	70.00	889.00	20.63	0.22	12.92	
TW4	360	18.34	+0.00	+12.40	+4.12	+12.63	0.19	12.40	4.12	70.00	868.00	21.13	0.23	12.63	
TW4	370	18.34	+0.00	+12.20	+4.12	+12.44	0.20	12.20	4.12	70.00	854.00	21.48	0.24	12.44	
TW4	380	18.34	+0.00	+12.45	+4.12	+12.68	0.19	12.45	4.12	70.00	871.50	21.04	0.23	12.68	
TW4	390	18.34	+0.00	+11.75	+4.12	+12.00	0.21	11.75	4.12	70.00	822.50	22.30	0.25	12.00	
TW5	290	18.34	+0.58	+13.03	+4.70	+13.26	0.19	12.45	4.12	70.00	871.50	21.04	0.23	12.68	
TW5	295	18.34	+0.00	+13.55	+4.12	+13.74	0.17	13.55	4.12	70.00	948.50	19.34	0.19	13.74	
TW5	300	18.34	+0.00	+13.35	+4.12	+13.55	0.17	13.35	4.12	70.00	934.50	19.63	0.20	13.55	
TW5	305	18.34	+0.00	+13.70	+4.12	+13.89	0.16	13.70	4.12	70.00	959.00	19.12	0.19	13.89	
TW5	310	18.34	+0.00	+13.70	+4.12	+13.89	0.16	13.70	4.12	70.00	959.00	19.12	0.19	13.89	
TW5	315	18.34	+0.00	+11.90	+4.12	+12.15	0.20	11.90	4.12	70.00	833.00	22.02	0.25	12.15	
TW5	320	18.34	+0.00	+13.20	+4.12	+13.40	0.17	13.20	4.12	70.00	924.00	19.85	0.20	13.40	
TW5	325	18.34	+0.00	+13.00	+4.12	+13.21	0.18	13.00	4.12	70.00	910.00	20.15	0.21	13.21	
TW5	330	18.34	+0.00	+12.10	+4.12	+12.34	0.20	12.10	4.12	70.00	847.00	21.65	0.24	12.34	
TW5	335	18.34	+0.00	+12.35	+4.12	+12.58	0.19	12.35	4.12	70.00	864.50	21.21	0.23	12.58	
TW5	340	18.34	+0.00	+12.40	+4.12	+12.63	0.19	12.40	4.12	70.00	868.00	21.13	0.23	12.63	
TW5	345	18.34	+0.00	+12.25	+4.12	+12.48	0.20	12.25	4.12	70.00	857.50	21.39	0.23	12.48	
TW5	350	18.34	+0.00	+13.60	+4.12	+13.79	0.17	13.60	4.12	70.00	952.00	19.26	0.19	13.79	
TW5	355	18.34	+0.00	+11.70	+4.12	+11.96	0.21	11.70	4.12	70.00	819.00	22.39	0.26	11.96	
TW5	360	18.34	+0.00	+14.20	+4.12	+14.37	0.16	14.20	4.12	70.00	994.00	18.45	0.17	14.37	
TW5	370	18.34	+0.00	+13.40	+4.12	+13.59	0.17	13.40	4.12	70.00	938.00	19.55	0.19	13.59	
TW5	380	18.34	+0.00	+14.00	+4.12	+14.18	0.16	14.00	4.12	70.00	980.00	18.71	0.18	14.18	
TW5	390	18.34	+0.00	+14.20	+4.12	+14.37	0.16	14.20	4.12	70.00	994.00	18.45	0.17	14.37	

ตาราง ค-8 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=19.32 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	FL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm.	cm/s	cm	cm	
TW2	290	19.32	+0.58	+3.13	+4.85	+9.10	2.16	2.55	4.27	70.00	178.50	108.24	5.97	8.52	
TW2	295	19.32	+0.00	+2.40	+4.27	+9.14	2.37	2.40	4.27	70.00	168.00	115.00	6.74	9.14	
TW2	300	19.32	+0.00	+2.65	+4.27	+8.18	2.04	2.65	4.27	70.00	185.50	104.15	5.53	8.18	
TW2	305	19.32	+0.00	+3.25	+4.27	+6.93	1.50	3.25	4.27	70.00	227.50	84.92	3.68	6.93	
TW2	310	19.32	+0.00	+3.55	+4.27	+6.63	1.32	3.55	4.27	70.00	248.50	77.75	3.08	6.63	
TW2	315	19.32	+0.00	+4.60	+4.27	+6.43	0.89	4.60	4.27	70.00	322.00	60.00	1.83	6.43	
TW2	320	19.32	+0.00	+6.45	+4.27	+7.38	0.54	6.45	4.27	70.00	451.50	42.79	0.93	7.38	
TW2	325	19.32	+0.00	+8.45	+4.27	+8.99	0.36	8.45	4.27	70.00	591.50	32.66	0.54	8.99	
TW2	330	19.32	+0.00	+8.55	+4.27	+9.08	0.35	8.55	4.27	70.00	598.50	32.28	0.53	9.08	
TW2	335	19.32	+0.00	+9.15	+4.27	+9.61	0.32	9.15	4.27	70.00	640.50	30.16	0.46	9.61	
TW2	340	19.32	+0.00	+9.70	+4.27	+10.11	0.29	9.70	4.27	70.00	679.00	28.45	0.41	10.11	
TW2	345	19.32	+0.00	+8.00	+4.27	+8.61	0.39	8.00	4.27	70.00	560.00	34.50	0.61	8.61	
TW2	350	19.32	+0.00	+7.90	+4.27	+8.52	0.40	7.90	4.27	70.00	553.00	34.94	0.62	8.52	
TW2	355	19.32	+0.00	+7.60	+4.27	+8.27	0.42	7.60	4.27	70.00	532.00	36.32	0.67	8.27	
TW2	360	19.32	+0.00	+6.75	+4.27	+7.60	0.50	6.75	4.27	70.00	472.50	40.89	0.85	7.60	
TW2	370	19.32	+0.00	+5.20	+4.27	+6.64	0.74	5.20	4.27	70.00	364.00	53.08	1.44	6.64	
TW2	380	19.32	+0.00	+6.75	+4.27	+7.60	0.50	6.75	4.27	70.00	472.50	40.89	0.85	7.60	
TW2	390	19.32	+0.00	+6.70	+4.27	+7.56	0.51	6.70	4.27	70.00	469.00	41.19	0.86	7.56	
TW3	290	19.32	+0.58	+10.13	+4.85	+10.56	0.30	9.55	4.27	70.00	668.50	28.90	0.43	9.98	
TW3	295	19.32	+0.00	+8.35	+4.27	+8.91	0.37	8.35	4.27	70.00	584.50	33.05	0.56	8.91	
TW3	300	19.32	+0.00	+9.55	+4.27	+9.98	0.30	9.55	4.27	70.00	668.50	28.90	0.43	9.98	
TW3	305	19.32	+0.00	+9.90	+4.27	+10.30	0.28	9.90	4.27	70.00	693.00	27.88	0.40	10.30	
TW3	310	19.32	+0.00	+9.65	+4.27	+10.07	0.29	9.65	4.27	70.00	675.50	28.60	0.42	10.07	
TW3	315	19.32	+0.00	+9.70	+4.27	+10.11	0.29	9.70	4.27	70.00	679.00	28.45	0.41	10.11	
TW3	320	19.32	+0.00	+9.35	+4.27	+9.79	0.31	9.35	4.27	70.00	654.50	29.52	0.44	9.79	
TW3	325	19.32	+0.00	+8.35	+4.27	+8.91	0.37	8.35	4.27	70.00	584.50	33.05	0.56	8.91	
TW3	330	19.32	+0.00	+9.55	+4.27	+9.98	0.30	9.55	4.27	70.00	668.50	28.90	0.43	9.98	
TW3	335	19.32	+0.00	+8.30	+4.27	+8.86	0.37	8.30	4.27	70.00	581.00	33.25	0.56	8.86	
TW3	340	19.32	+0.00	+9.00	+4.27	+9.48	0.33	9.00	4.27	70.00	630.00	30.67	0.48	9.48	
TW3	345	19.32	+0.00	+8.70	+4.27	+9.21	0.34	8.70	4.27	70.00	609.00	31.72	0.51	9.21	
TW3	350	19.32	+0.00	+8.50	+4.27	+9.04	0.36	8.50	4.27	70.00	595.00	32.47	0.54	9.04	
TW3	355	19.32	+0.00	+9.20	+4.27	+9.66	0.32	9.20	4.27	70.00	644.00	30.00	0.46	9.66	
TW3	360	19.32	+0.00	+7.70	+4.27	+8.35	0.41	7.70	4.27	70.00	539.00	35.84	0.65	8.35	
TW3	370	19.32	+0.00	+9.20	+4.27	+9.66	0.32	9.20	4.27	70.00	644.00	30.00	0.46	9.66	
TW3	380	19.32	+0.00	+9.15	+4.27	+9.61	0.32	9.15	4.27	70.00	640.50	30.16	0.46	9.61	
TW3	390	19.32	+0.00	+9.40	+4.27	+9.84	0.31	9.40	4.27	70.00	658.00	29.36	0.44	9.84	
TW4	290	19.32	+0.58	+12.13	+4.85	+12.42	0.22	11.55	4.27	70.00	808.50	23.90	0.29	11.84	
TW4	295	19.32	+0.00	+13.40	+4.27	+13.62	0.18	13.40	4.27	70.00	938.00	20.60	0.22	13.62	
TW4	300	19.32	+0.00	+13.50	+4.27	+13.71	0.18	13.50	4.27	70.00	945.00	20.44	0.21	13.71	
TW4	305	19.32	+0.00	+13.15	+4.27	+13.37	0.18	13.15	4.27	70.00	920.50	20.99	0.22	13.37	
TW4	310	19.32	+0.00	+14.45	+4.27	+14.64	0.16	14.45	4.27	70.00	1011.50	19.10	0.19	14.64	
TW4	315	19.32	+0.00	+12.60	+4.27	+12.84	0.20	12.60	4.27	70.00	882.00	21.90	0.24	12.84	
TW4	320	19.32	+0.00	+12.70	+4.27	+12.94	0.19	12.70	4.27	70.00	889.00	21.73	0.24	12.94	
TW4	325	19.32	+0.00	+11.30	+4.27	+11.60	0.23	11.30	4.27	70.00	791.00	24.42	0.30	11.60	
TW4	330	19.32	+0.00	+12.00	+4.27	+12.27	0.21	12.00	4.27	70.00	840.00	23.00	0.27	12.27	
TW4	335	19.32	+0.00	+13.80	+4.27	+14.00	0.17	13.80	4.27	70.00	966.00	20.00	0.20	14.00	
TW4	340	19.32	+0.00	+12.10	+4.27	+12.37	0.21	12.10	4.27	70.00	847.00	22.81	0.27	12.37	
TW4	345	19.32	+0.00	+14.30	+4.27	+14.49	0.16	14.30	4.27	70.00	1001.00	19.30	0.19	14.49	
TW4	350	19.32	+0.00	+14.10	+4.27	+14.30	0.17	14.10	4.27	70.00	987.00	19.57	0.20	14.30	
TW4	355	19.32	+0.00	+11.65	+4.27	+11.94	0.22	11.65	4.27	70.00	815.50	23.69	0.29	11.94	
TW4	360	19.32	+0.00	+12.60	+4.27	+12.84	0.20	12.60	4.27	70.00	882.00	21.90	0.24	12.84	
TW4	370	19.32	+0.00	+12.80	+4.27	+13.04	0.19	12.80	4.27	70.00	896.00	21.56	0.24	13.04	
TW4	380	19.32	+0.00	+12.70	+4.27	+12.94	0.19	12.70	4.27	70.00	889.00	21.73	0.24	12.94	
TW4	390	19.32	+0.00	+12.60	+4.27	+12.84	0.20	12.60	4.27	70.00	882.00	21.90	0.24	12.84	
TW5	290	19.32	+0.58	+14.03	+4.85	+14.24	0.18	13.45	4.27	70.00	941.50	20.52	0.21	13.66	
TW5	295	19.32	+0.00	+14.20	+4.27	+14.39	0.16	14.20	4.27	70.00	994.00	19.44	0.19	14.39	
TW5	300	19.32	+0.00	+13.50	+4.27	+13.71	0.18	13.50	4.27	70.00	945.00	20.44	0.21	13.71	
TW5	305	19.32	+0.00	+14.05	+4.27	+14.25	0.17	14.05	4.27	70.00	983.50	19.64	0.20	14.25	
TW5	310	19.32	+0.00	+15.15	+4.27	+15.32	0.15	15.15	4.27	70.00	1060.50	18.22	0.17	15.32	
TW5	315	19.32	+0.00	+14.15	+4.27	+14.34	0.17	14.15	4.27	70.00	990.50	19.51	0.19	14.34	
TW5	320	19.32	+0.00	+13.50	+4.27	+13.71	0.18	13.50	4.27	70.00	945.00	20.44	0.21	13.71	
TW5	325	19.32	+0.00	+12.40	+4.27	+12.65	0.20	12.40	4.27	70.00	868.00	22.26	0.25	12.65	
TW5	330	19.32	+0.00	+14.10	+4.27	+14.30	0.17	14.10	4.27	70.00	987.00	19.57	0.20	14.30	
TW5	335	19.32	+0.00	+12.40	+4.27	+12.65	0.20	12.40	4.27	70.00	868.00	22.26	0.25	12.65	
TW5	340	19.32	+0.00	+13.40	+4.27	+13.62	0.18	13.40	4.27	70.00	938.00	20.60	0.22	13.62	
TW5	345	19.32	+0.00	+13.00	+4.27	+13.23	0.19	13.00	4.27	70.00	910.00	21.23	0.23	13.23	
TW5	350	19.32	+0.00	+14.00	+4.27	+14.20	0.17	14.00	4.27	70.00	980.00	19.71	0.20	14.20	
TW5	355	19.32	+0.00	+14.75	+4.27	+14.93	0.16	14.75	4.27	70.00	1032.50	18.71	0.18	14.93	
TW5	360	19.32	+0.00	+14.90	+4.27	+15.07	0.15	14.90	4.27	70.00	1043.00	18.52	0.17	15.07	
TW5	370	19.32	+0.00	+14.50	+4.27	+14.68	0.16	14.50	4.27	70.00	1015.00	19.03	0.18	14.68	
TW5	380	19.32	+0.00	+14.45	+4.27	+14.64	0.16	14.45	4.27	70.00	1011.50	19.10	0.19	14.64	
TW5	390	19.32	+0.00	+14.60	+4.27	+14.78	0.16	14.60	4.27	70.00	1022.00	18.90	0.18	14.78	

ตาราง ก-9 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=19.43 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
TW2	290	19.43	+0.58	+1.83	+4.86	+26.96	6.34	1.25	4.28	70.00	87.50	222.06	25.13	26.38	
TW2	295	19.43	+0.00	+1.15	+4.28	+30.84	7.19	1.15	4.28	70.00	80.50	241.37	29.69	30.84	
TW2	300	19.43	+0.00	+1.75	+4.28	+14.57	3.83	1.75	4.28	70.00	122.50	158.61	12.82	14.57	
TW2	305	19.43	+0.00	+2.25	+4.28	+10.01	2.63	2.25	4.28	70.00	157.50	123.37	7.76	10.01	
TW2	310	19.43	+0.00	+2.25	+4.28	+10.01	2.63	2.25	4.28	70.00	157.50	123.37	7.76	10.01	
TW2	315	19.43	+0.00	+2.25	+4.28	+10.01	2.63	2.25	4.28	70.00	157.50	123.37	7.76	10.01	
TW2	320	19.43	+0.00	+2.10	+4.28	+11.00	2.91	2.10	4.28	70.00	147.00	132.18	8.90	11.00	
TW2	325	19.43	+0.00	+2.55	+4.28	+8.59	2.18	2.55	4.28	70.00	178.50	108.85	6.04	8.59	
TW2	330	19.43	+0.00	+2.90	+4.28	+7.57	1.79	2.90	4.28	70.00	203.00	95.71	4.87	7.57	
TW2	335	19.43	+0.00	+2.25	+4.28	+10.01	2.63	2.25	4.28	70.00	157.50	123.37	7.76	10.01	
TW2	340	19.43	+0.00	+6.25	+4.28	+7.26	0.57	6.25	4.28	70.00	437.50	44.41	1.01	7.26	
TW2	345	19.43	+0.00	+8.75	+4.28	+9.26	0.34	8.75	4.28	70.00	812.50	31.72	0.51	9.26	
TW2	350	19.43	+0.00	+9.40	+4.28	+9.84	0.31	9.40	4.28	70.00	658.00	29.53	0.44	9.84	
TW2	355	19.43	+0.00	+9.05	+4.28	+9.53	0.33	9.05	4.28	70.00	633.50	30.67	0.48	9.53	
TW2	360	19.43	+0.00	+9.20	+4.28	+9.66	0.32	9.20	4.28	70.00	644.00	30.17	0.48	9.66	
TW2	370	19.43	+0.00	+9.50	+4.28	+9.94	0.30	9.50	4.28	70.00	685.00	29.22	0.44	9.94	
TW2	380	19.43	+0.00	+9.25	+4.28	+9.71	0.32	9.25	4.28	70.00	647.50	30.01	0.46	9.71	
TW2	390	19.43	+0.00	+9.60	+4.28	+10.03	0.30	9.60	4.28	70.00	672.00	28.91	0.43	10.03	
TW3	290	19.43	+0.58	+6.83	+4.86	+7.84	0.57	6.25	4.28	70.00	437.50	44.41	1.01	7.26	
TW3	295	19.43	+0.00	+9.40	+4.28	+9.84	0.31	9.40	4.28	70.00	658.00	29.53	0.44	9.84	
TW3	300	19.43	+0.00	+10.45	+4.28	+10.81	0.26	10.45	4.28	70.00	731.50	26.56	0.36	10.81	
TW3	305	19.43	+0.00	+10.25	+4.28	+10.62	0.27	10.25	4.28	70.00	717.50	27.08	0.37	10.62	
TW3	310	19.43	+0.00	+9.20	+4.28	+9.66	0.32	9.20	4.28	70.00	644.00	30.17	0.46	9.66	
TW3	315	19.43	+0.00	+10.20	+4.28	+10.58	0.27	10.20	4.28	70.00	714.00	27.21	0.38	10.58	
TW3	320	19.43	+0.00	+8.95	+4.28	+9.44	0.33	8.95	4.28	70.00	626.50	31.01	0.49	9.44	
TW3	325	19.43	+0.00	+8.95	+4.28	+9.44	0.33	8.95	4.28	70.00	626.50	31.01	0.49	9.44	
TW3	330	19.43	+0.00	+10.15	+4.28	+10.53	0.27	10.15	4.28	70.00	710.50	27.35	0.38	10.53	
TW3	335	19.43	+0.00	+8.20	+4.28	+8.78	0.38	8.20	4.28	70.00	574.00	33.85	0.58	8.78	
TW3	340	19.43	+0.00	+8.65	+4.28	+9.17	0.35	8.65	4.28	70.00	605.50	32.09	0.52	9.17	
TW3	345	19.43	+0.00	+7.65	+4.28	+8.32	0.42	7.65	4.28	70.00	535.50	36.28	0.67	8.32	
TW3	350	19.43	+0.00	+7.85	+4.28	+8.49	0.40	7.85	4.28	70.00	549.50	35.36	0.64	8.49	
TW3	355	19.43	+0.00	+11.50	+4.28	+11.80	0.23	11.50	4.28	70.00	805.00	24.14	0.30	11.80	
TW3	360	19.43	+0.00	+10.05	+4.28	+10.44	0.28	10.05	4.28	70.00	703.50	27.62	0.39	10.44	
TW3	370	19.43	+0.00	+11.75	+4.28	+12.03	0.22	11.75	4.28	70.00	822.50	23.62	0.28	12.03	
TW3	380	19.43	+0.00	+12.45	+4.28	+12.70	0.20	12.45	4.28	70.00	871.50	22.29	0.25	12.70	
TW3	390	19.43	+0.00	+12.50	+4.28	+12.75	0.20	12.50	4.28	70.00	875.00	22.21	0.25	12.75	
TW4	290	19.43	+0.58	+10.33	+4.86	+10.74	0.29	9.75	4.28	70.00	682.50	28.47	0.41	10.16	
TW4	295	19.43	+0.00	+11.45	+4.28	+11.75	0.23	11.45	4.28	70.00	801.50	24.24	0.30	11.75	
TW4	300	19.43	+0.00	+11.75	+4.28	+12.03	0.22	11.75	4.28	70.00	822.50	23.62	0.28	12.03	
TW4	305	19.43	+0.00	+11.75	+4.28	+12.03	0.22	11.75	4.28	70.00	822.50	23.62	0.28	12.03	
TW4	310	19.43	+0.00	+12.70	+4.28	+12.94	0.20	12.70	4.28	70.00	889.00	21.86	0.24	12.94	
TW4	315	19.43	+0.00	+12.25	+4.28	+12.51	0.21	12.25	4.28	70.00	857.50	22.66	0.26	12.51	
TW4	320	19.43	+0.00	+11.85	+4.28	+12.13	0.22	11.85	4.28	70.00	829.50	23.42	0.28	12.13	
TW4	325	19.43	+0.00	+10.90	+4.28	+11.23	0.25	10.90	4.28	70.00	763.00	25.47	0.33	11.23	
TW4	330	19.43	+0.00	+10.75	+4.28	+11.09	0.25	10.75	4.28	70.00	752.50	25.82	0.34	11.09	
TW4	335	19.43	+0.00	+11.65	+4.28	+11.94	0.22	11.65	4.28	70.00	815.50	23.83	0.29	11.94	
TW4	340	19.43	+0.00	+11.75	+4.28	+12.03	0.22	11.75	4.28	70.00	822.50	23.62	0.28	12.03	
TW4	345	19.43	+0.00	+12.25	+4.28	+12.51	0.21	12.25	4.28	70.00	857.50	22.66	0.26	12.51	
TW4	350	19.43	+0.00	+11.95	+4.28	+12.22	0.21	11.95	4.28	70.00	836.50	23.23	0.27	12.22	
TW4	355	19.43	+0.00	+12.15	+4.28	+12.42	0.21	12.15	4.28	70.00	850.50	22.85	0.27	12.42	
TW4	360	19.43	+0.00	+11.10	+4.28	+11.42	0.24	11.10	4.28	70.00	777.00	25.01	0.32	11.42	
TW4	370	19.43	+0.00	+12.30	+4.28	+12.58	0.21	12.30	4.28	70.00	861.00	22.57	0.28	12.58	
TW4	380	19.43	+0.00	+12.20	+4.28	+12.46	0.21	12.20	4.28	70.00	854.00	22.75	0.26	12.46	
TW4	390	19.43	+0.00	+12.40	+4.28	+12.66	0.20	12.40	4.28	70.00	868.00	22.38	0.26	12.66	
TW5	290	19.43	+0.58	+12.88	+4.86	+13.14	0.21	12.30	4.28	70.00	861.00	22.57	0.26	12.58	
TW5	295	19.43	+0.00	+14.35	+4.28	+14.54	0.16	14.35	4.28	70.00	1004.50	19.34	0.19	14.54	
TW5	300	19.43	+0.00	+13.70	+4.28	+13.91	0.17	13.70	4.28	70.00	959.00	20.26	0.21	13.91	
TW5	305	19.43	+0.00	+14.35	+4.28	+14.54	0.16	14.35	4.28	70.00	1004.50	19.34	0.19	14.54	
TW5	310	19.43	+0.00	+14.20	+4.28	+14.39	0.17	14.20	4.28	70.00	994.00	19.55	0.19	14.39	
TW5	315	19.43	+0.00	+15.15	+4.28	+15.37	0.15	15.15	4.28	70.00	1060.50	18.32	0.17	15.32	
TW5	320	19.43	+0.00	+13.30	+4.28	+13.52	0.18	13.30	4.28	70.00	931.00	20.87	0.22	13.52	
TW5	325	19.43	+0.00	+12.75	+4.28	+12.99	0.19	12.75	4.28	70.00	892.50	21.77	0.24	12.99	
TW5	330	19.43	+0.00	+13.50	+4.28	+13.72	0.18	13.50	4.28	70.00	945.00	20.56	0.22	13.72	
TW5	335	19.43	+0.00	+12.70	+4.28	+12.94	0.20	12.70	4.28	70.00	889.00	21.86	0.24	12.94	
TW5	340	19.43	+0.00	+12.05	+4.28	+12.32	0.21	12.05	4.28	70.00	843.50	23.03	0.27	12.32	
TW5	345	19.43	+0.00	+13.75	+4.28	+13.96	0.17	13.75	4.28	70.00	962.50	20.19	0.21	13.96	
TW5	350	19.43	+0.00	+13.15	+4.28	+13.38	0.19	13.15	4.28	70.00	920.50	21.11	0.23	13.38	
TW5	355	19.43	+0.00	+15.00	+4.28	+15.17	0.15	15.00	4.28	70.00	1050.00	18.50	0.17	15.17	
TW5	360	19.43	+0.00	+16.10	+4.28	+16.25	0.14	16.10	4.28	70.00	1127.00	17.24	0.15	16.25	
TW5	370	19.43	+0.00	+15.20	+4.28	+15.37	0.15	15.20	4.28	70.00	1064.00	18.26	0.17	15.37	
TW5	380	19.43	+0.00	+14.95	+4.28	+15.13	0.15	14.95	4.28	70.00	1046.50	18.57	0.18	15.13	
TW5	390	19.43	+0.00	+15.10	+4.28	+15.27	0.15	15.10	4.28	70.00	1057.00	18.38	0.17	15.27	

ตาราง ค-10 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=20.11 l/s

NO	STA	Q	EL_R	EL_W	EL_Yc	EL_F	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	20.11	+0.58	+2.23	+4.96	+17.68	4.33	1.65	4.38	70.00	115.50	174.11	15.45	17.10	
TW2	295	20.11	+0.00	+1.65	+4.38	+17.10	4.33	1.65	4.38	70.00	115.50	174.11	15.45	17.10	
TW2	300	20.11	+0.00	+1.75	+4.38	+15.49	3.96	1.75	4.38	70.00	122.50	164.16	13.74	15.49	
TW2	305	20.11	+0.00	+2.50	+4.38	+9.23	2.32	2.50	4.38	70.00	175.00	114.91	6.73	9.23	
TW2	310	20.11	+0.00	+2.35	+4.38	+9.97	2.55	2.35	4.38	70.00	164.50	122.25	7.62	9.97	
TW2	315	20.11	+0.00	+2.50	+4.38	+9.23	2.32	2.50	4.38	70.00	175.00	114.91	6.73	9.23	
TW2	320	20.11	+0.00	+2.20	+4.38	+10.89	2.81	2.20	4.38	70.00	154.00	130.58	8.69	10.89	
TW2	325	20.11	+0.00	+4.25	+4.38	+6.58	1.05	4.25	4.38	70.00	297.50	87.60	2.33	6.58	
TW2	330	20.11	+0.00	+4.60	+4.38	+6.59	0.93	4.60	4.38	70.00	322.00	62.45	1.99	6.59	
TW2	335	20.11	+0.00	+6.40	+4.38	+7.43	0.57	6.40	4.38	70.00	448.00	44.89	1.03	7.43	
TW2	340	20.11	+0.00	+8.05	+4.38	+8.70	0.40	8.05	4.38	70.00	563.50	35.69	0.65	8.70	
TW2	345	20.11	+0.00	+8.05	+4.38	+8.70	0.40	8.05	4.38	70.00	563.50	35.69	0.65	8.70	
TW2	350	20.11	+0.00	+7.40	+4.38	+8.17	0.46	7.40	4.38	70.00	518.00	38.82	0.77	8.17	
TW2	355	20.11	+0.00	+9.10	+4.38	+9.61	0.33	9.10	4.38	70.00	637.00	31.57	0.51	9.61	
TW2	360	20.11	+0.00	+7.65	+4.38	+8.37	0.43	7.65	4.38	70.00	535.50	37.55	0.72	8.37	
TW2	370	20.11	+0.00	+7.65	+4.38	+8.37	0.43	7.65	4.38	70.00	535.50	37.55	0.72	8.37	
TW2	380	20.11	+0.00	+7.50	+4.38	+8.25	0.45	7.50	4.38	70.00	525.00	38.30	0.75	8.25	
TW2	390	20.11	+0.00	+7.85	+4.38	+8.53	0.42	7.85	4.38	70.00	549.50	36.60	0.68	8.53	
TW3	290	20.11	+0.58	+8.03	+4.96	+8.79	0.45	7.45	4.38	70.00	521.50	38.56	0.76	8.21	
TW3	295	20.11	+0.00	+9.40	+4.38	+9.88	0.32	9.40	4.38	70.00	658.00	30.56	0.48	9.88	
TW3	300	20.11	+0.00	+9.90	+4.38	+10.33	0.29	9.90	4.38	70.00	693.00	29.02	0.43	10.33	
TW3	305	20.11	+0.00	+9.10	+4.38	+9.61	0.33	9.10	4.38	70.00	637.00	31.57	0.51	9.61	
TW3	310	20.11	+0.00	+9.65	+4.38	+10.10	0.31	9.65	4.38	70.00	675.50	29.77	0.45	10.10	
TW3	315	20.11	+0.00	+8.15	+4.38	+8.78	0.39	8.15	4.38	70.00	570.50	35.25	0.63	8.78	
TW3	320	20.11	+0.00	+8.30	+4.38	+8.91	0.38	8.30	4.38	70.00	581.00	34.61	0.61	8.91	
TW3	325	20.11	+0.00	+8.75	+4.38	+9.30	0.35	8.75	4.38	70.00	612.50	32.83	0.55	9.30	
TW3	330	20.11	+0.00	+9.80	+4.38	+10.24	0.30	9.80	4.38	70.00	686.00	29.31	0.44	10.24	
TW3	335	20.11	+0.00	+8.65	+4.38	+9.21	0.36	8.65	4.38	70.00	605.50	33.21	0.56	9.21	
TW3	340	20.11	+0.00	+9.00	+4.38	+9.52	0.34	9.00	4.38	70.00	630.00	31.92	0.52	9.52	
TW3	345	20.11	+0.00	+8.00	+4.38	+8.66	0.41	8.00	4.38	70.00	560.00	35.91	0.66	8.66	
TW3	350	20.11	+0.00	+8.85	+4.38	+7.75	0.51	8.85	4.38	70.00	479.50	41.94	0.90	7.75	
TW3	355	20.11	+0.00	+8.65	+4.38	+9.21	0.36	8.65	4.38	70.00	605.50	33.21	0.56	9.21	
TW3	360	20.11	+0.00	+7.95	+4.38	+8.62	0.41	7.95	4.38	70.00	556.50	36.14	0.67	8.62	
TW3	370	20.11	+0.00	+7.90	+4.38	+8.57	0.41	7.90	4.38	70.00	553.00	36.37	0.67	8.57	
TW3	380	20.11	+0.00	+8.15	+4.38	+8.78	0.39	8.15	4.38	70.00	570.50	35.25	0.63	8.78	
TW3	390	20.11	+0.00	+8.40	+4.38	+9.00	0.38	8.40	4.38	70.00	588.00	34.20	0.60	9.00	
TW4	290	20.11	+0.58	+8.63	+4.96	+9.28	0.40	8.05	4.38	70.00	563.50	35.69	0.65	8.70	
TW4	295	20.11	+0.00	+12.80	+4.38	+13.06	0.20	12.80	4.38	70.00	896.00	22.44	0.26	13.06	
TW4	300	20.11	+0.00	+12.35	+4.38	+12.63	0.21	12.35	4.38	70.00	864.50	23.26	0.28	12.63	
TW4	305	20.11	+0.00	+14.30	+4.38	+14.51	0.17	14.30	4.38	70.00	1001.00	20.09	0.21	14.51	
TW4	310	20.11	+0.00	+13.60	+4.38	+13.83	0.18	13.60	4.38	70.00	952.00	21.12	0.23	13.83	
TW4	315	20.11	+0.00	+12.80	+4.38	+13.06	0.20	12.80	4.38	70.00	896.00	22.44	0.26	13.06	
TW4	320	20.11	+0.00	+12.05	+4.38	+12.34	0.22	12.05	4.38	70.00	843.50	23.84	0.29	12.34	
TW4	325	20.11	+0.00	+11.75	+4.38	+12.05	0.23	11.75	4.38	70.00	822.50	24.45	0.30	12.05	
TW4	330	20.11	+0.00	+11.80	+4.38	+12.10	0.23	11.80	4.38	70.00	826.00	24.35	0.30	12.10	
TW4	335	20.11	+0.00	+11.70	+4.38	+12.01	0.23	11.70	4.38	70.00	819.00	24.55	0.31	12.01	
TW4	340	20.11	+0.00	+13.10	+4.38	+13.35	0.19	13.10	4.38	70.00	917.00	21.93	0.25	13.35	
TW4	345	20.11	+0.00	+12.60	+4.38	+12.86	0.21	12.60	4.38	70.00	882.00	22.80	0.26	12.86	
TW4	350	20.11	+0.00	+13.85	+4.38	+14.07	0.18	13.85	4.38	70.00	969.50	20.74	0.22	14.07	
TW4	355	20.11	+0.00	+14.20	+4.38	+14.41	0.17	14.20	4.38	70.00	994.00	20.23	0.21	14.41	
TW4	360	20.11	+0.00	+14.45	+4.38	+14.65	0.17	14.45	4.38	70.00	1011.50	19.88	0.20	14.65	
TW4	370	20.11	+0.00	+12.40	+4.38	+12.67	0.21	12.40	4.38	70.00	868.00	23.17	0.27	12.67	
TW4	380	20.11	+0.00	+12.40	+4.38	+12.67	0.21	12.40	4.38	70.00	868.00	23.17	0.27	12.67	
TW4	390	20.11	+0.00	+12.50	+4.38	+12.77	0.21	12.50	4.38	70.00	875.00	22.98	0.27	12.77	
TW5	290	20.11	+0.58	+11.48	+4.96	+11.83	0.25	10.90	4.38	70.00	763.00	26.36	0.35	11.25	
TW5	295	20.11	+0.00	+15.20	+4.38	+15.38	0.15	15.20	4.38	70.00	1064.00	18.90	0.18	15.38	
TW5	300	20.11	+0.00	+14.45	+4.38	+14.65	0.17	14.45	4.38	70.00	1011.50	19.88	0.20	14.65	
TW5	305	20.11	+0.00	+13.40	+4.38	+13.63	0.19	13.40	4.38	70.00	938.00	21.44	0.23	13.63	
TW5	310	20.11	+0.00	+13.40	+4.38	+13.63	0.19	13.40	4.38	70.00	938.00	21.44	0.23	13.63	
TW5	315	20.11	+0.00	+14.50	+4.38	+14.70	0.17	14.50	4.38	70.00	1015.00	19.81	0.20	14.70	
TW5	320	20.11	+0.00	+13.10	+4.38	+13.35	0.19	13.10	4.38	70.00	917.00	21.83	0.25	13.35	
TW5	325	20.11	+0.00	+13.00	+4.38	+13.25	0.20	13.00	4.38	70.00	910.00	22.10	0.25	13.25	
TW5	330	20.11	+0.00	+11.60	+4.38	+11.91	0.23	11.60	4.38	70.00	812.00	24.77	0.31	11.91	
TW5	335	20.11	+0.00	+12.30	+4.38	+12.58	0.21	12.30	4.38	70.00	861.00	23.36	0.28	12.58	
TW5	340	20.11	+0.00	+14.05	+4.38	+14.26	0.17	14.05	4.38	70.00	983.50	20.45	0.21	14.26	
TW5	345	20.11	+0.00	+14.25	+4.38	+14.46	0.17	14.25	4.38	70.00	997.50	20.16	0.21	14.46	
TW5	350	20.11	+0.00	+14.05	+4.38	+14.26	0.17	14.05	4.38	70.00	983.50	20.45	0.21	14.26	
TW5	355	20.11	+0.00	+12.90	+4.38	+13.15	0.20	12.90	4.38	70.00	903.00	22.27	0.25	13.15	
TW5	360	20.11	+0.00	+14.65	+4.38	+14.85	0.16	14.65	4.38	70.00	1025.50	19.61	0.20	14.85	
TW5	370	20.11	+0.00	+14.50	+4.38	+14.70	0.17	14.50	4.38	70.00	1015.00	19.81	0.20	14.70	
TW5	380	20.11	+0.00	+14.65	+4.38	+14.85	0.16	14.65	4.38	70.00	1025.50	19.61	0.20	14.85	
TW5	390	20.11	+0.00	+14.50	+4.38	+14.70	0.17	14.50	4.38	70.00	1015.00	19.81	0.20	14.70	

ตาราง ค-11 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=21.02 l/s

NO	STA	Q	El. B	EL_W	EL_Yc	El. E	Tr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm.	cm.		cm	cm.	cm.	sq.cm.	cm/s	cm	cm.	
TW2	290	21.02	+0.58	+3.78	+5.09	+8.27	1.67	3.20	4.51	70.00	224.00	93.84	4.49	7.69	
TW2	295	21.02	+0.00	+3.55	+4.51	+7.20	1.43	3.55	4.51	70.00	248.50	84.59	3.65	7.20	
TW2	300	21.02	+0.00	+3.00	+4.51	+8.11	1.85	3.00	4.51	70.00	210.00	100.10	5.11	8.11	
TW2	305	21.02	+0.00	+3.60	+4.51	+7.15	1.40	3.60	4.51	70.00	252.00	83.41	3.55	7.15	
TW2	310	21.02	+0.00	+4.15	+4.51	+6.82	1.13	4.15	4.51	70.00	290.50	72.36	2.67	6.82	
TW2	315	21.02	+0.00	+4.75	+4.51	+6.79	0.93	4.75	4.51	70.00	332.50	63.22	2.04	6.79	
TW2	320	21.02	+0.00	+4.90	+4.51	+6.81	0.88	4.90	4.51	70.00	343.00	61.28	1.91	6.81	
TW2	325	21.02	+0.00	+5.30	+4.51	+6.94	0.79	5.30	4.51	70.00	371.00	56.66	1.64	6.94	
TW2	330	21.02	+0.00	+6.20	+4.51	+7.40	0.62	6.20	4.51	70.00	434.00	48.43	1.20	7.40	
TW2	335	21.02	+0.00	+6.20	+4.51	+7.40	0.62	6.20	4.51	70.00	434.00	48.43	1.20	7.40	
TW2	340	21.02	+0.00	+6.80	+4.51	+7.79	0.54	6.80	4.51	70.00	476.00	44.16	0.99	7.79	
TW2	345	21.02	+0.00	+6.45	+4.51	+7.55	0.59	6.45	4.51	70.00	451.50	46.56	1.10	7.55	
TW2	350	21.02	+0.00	+10.15	+4.51	+10.60	0.30	10.15	4.51	70.00	710.50	29.58	0.45	10.60	
TW2	355	21.02	+0.00	+8.80	+4.51	+9.39	0.37	8.80	4.51	70.00	616.00	34.12	0.59	9.39	
TW2	360	21.02	+0.00	+9.10	+4.51	+9.65	0.35	9.10	4.51	70.00	637.00	33.00	0.55	9.65	
TW2	370	21.02	+0.00	+8.05	+4.51	+8.76	0.42	8.05	4.51	70.00	563.50	37.30	0.71	8.76	
TW2	380	21.02	+0.00	+6.95	+4.51	+7.90	0.52	6.95	4.51	70.00	486.50	43.21	0.95	7.90	
TW2	390	21.02	+0.00	+6.90	+4.51	+7.87	0.53	6.90	4.51	70.00	483.00	43.52	0.97	7.87	
TW3	290	21.02	+0.58	+6.93	+5.09	+8.07	0.60	6.35	4.51	70.00	444.50	47.29	1.14	7.49	
TW3	295	21.02	+0.00	+9.85	+4.51	+10.32	0.31	9.85	4.51	70.00	689.50	30.49	0.47	10.32	
TW3	300	21.02	+0.00	+9.20	+4.51	+9.74	0.34	9.20	4.51	70.00	644.00	32.64	0.54	9.74	
TW3	305	21.02	+0.00	+9.40	+4.51	+9.92	0.33	9.40	4.51	70.00	658.00	31.95	0.52	9.92	
TW3	310	21.02	+0.00	+9.35	+4.51	+9.88	0.34	9.35	4.51	70.00	654.50	32.12	0.53	9.88	
TW3	315	21.02	+0.00	+9.35	+4.51	+9.88	0.34	9.35	4.51	70.00	654.50	32.12	0.53	9.88	
TW3	320	21.02	+0.00	+9.30	+4.51	+9.83	0.34	9.30	4.51	70.00	651.00	32.29	0.53	9.83	
TW3	325	21.02	+0.00	+9.50	+4.51	+10.01	0.33	9.50	4.51	70.00	665.00	31.61	0.51	10.01	
TW3	330	21.02	+0.00	+9.00	+4.51	+9.57	0.36	9.00	4.51	70.00	630.00	33.37	0.57	9.57	
TW3	335	21.02	+0.00	+8.35	+4.51	+9.01	0.40	8.35	4.51	70.00	584.50	35.96	0.66	9.01	
TW3	340	21.02	+0.00	+7.20	+4.51	+8.09	0.50	7.20	4.51	70.00	504.00	41.71	0.89	8.09	
TW3	345	21.02	+0.00	+9.35	+4.51	+9.88	0.34	9.35	4.51	70.00	654.50	32.12	0.53	9.88	
TW3	350	21.02	+0.00	+8.90	+4.51	+9.48	0.36	8.90	4.51	70.00	623.00	33.74	0.58	9.48	
TW3	355	21.02	+0.00	+7.65	+4.51	+8.44	0.45	7.65	4.51	70.00	535.50	39.25	0.79	8.44	
TW3	360	21.02	+0.00	+9.65	+4.51	+10.14	0.32	9.65	4.51	70.00	675.50	31.12	0.49	10.14	
TW3	370	21.02	+0.00	+10.00	+4.51	+10.46	0.30	10.00	4.51	70.00	700.00	30.03	0.46	10.46	
TW3	380	21.02	+0.00	+10.50	+4.51	+10.92	0.28	10.50	4.51	70.00	735.00	28.60	0.42	10.92	
TW3	390	21.02	+0.00	+10.40	+4.51	+10.82	0.29	10.40	4.51	70.00	728.00	28.87	0.42	10.82	
TW4	290	21.02	+0.58	+10.83	+5.09	+11.27	0.29	10.25	4.51	70.00	717.50	29.30	0.44	10.69	
TW4	295	21.02	+0.00	+9.10	+4.51	+9.65	0.35	9.10	4.51	70.00	637.00	33.00	0.55	9.65	
TW4	300	21.02	+0.00	+9.70	+4.51	+10.19	0.32	9.70	4.51	70.00	679.00	30.98	0.49	10.19	
TW4	305	21.02	+0.00	+11.00	+4.51	+11.38	0.26	11.00	4.51	70.00	770.00	27.30	0.38	11.38	
TW4	310	21.02	+0.00	+11.30	+4.51	+11.66	0.25	11.30	4.51	70.00	791.00	26.57	0.36	11.66	
TW4	315	21.02	+0.00	+11.10	+4.51	+11.47	0.26	11.10	4.51	70.00	777.00	27.05	0.37	11.47	
TW4	320	21.02	+0.00	+10.35	+4.51	+10.78	0.29	10.35	4.51	70.00	724.50	29.01	0.43	10.78	
TW4	325	21.02	+0.00	+10.30	+4.51	+10.73	0.29	10.30	4.51	70.00	721.00	29.15	0.43	10.73	
TW4	330	21.02	+0.00	+9.90	+4.51	+10.37	0.31	9.90	4.51	70.00	693.00	30.33	0.47	10.37	
TW4	335	21.02	+0.00	+11.10	+4.51	+11.47	0.26	11.10	4.51	70.00	777.00	27.05	0.37	11.47	
TW4	340	21.02	+0.00	+9.75	+4.51	+10.23	0.31	9.75	4.51	70.00	682.50	30.80	0.48	10.23	
TW4	345	21.02	+0.00	+10.15	+4.51	+10.60	0.30	10.15	4.51	70.00	710.50	29.58	0.45	10.60	
TW4	350	21.02	+0.00	+8.75	+4.51	+9.35	0.37	8.75	4.51	70.00	612.50	34.32	0.60	9.35	
TW4	355	21.02	+0.00	+9.05	+4.51	+9.61	0.35	9.05	4.51	70.00	633.50	33.18	0.56	9.61	
TW4	360	21.02	+0.00	+10.90	+4.51	+11.29	0.27	10.90	4.51	70.00	763.00	27.55	0.39	11.29	
TW4	370	21.02	+0.00	+12.50	+4.51	+12.79	0.22	12.50	4.51	70.00	875.00	24.02	0.29	12.79	
TW4	380	21.02	+0.00	+12.90	+4.51	+13.18	0.21	12.90	4.51	70.00	903.00	23.28	0.28	13.18	
TW4	390	21.02	+0.00	+12.80	+4.51	+13.08	0.21	12.80	4.51	70.00	896.00	23.46	0.28	13.08	
TW5	290	21.02	+0.58	+11.13	+5.09	+11.54	0.28	10.55	4.51	70.00	738.50	28.46	0.41	10.96	
TW5	295	21.02	+0.00	+13.65	+4.51	+13.90	0.19	13.65	4.51	70.00	955.50	22.00	0.25	13.90	
TW5	300	21.02	+0.00	+14.70	+4.51	+14.91	0.17	14.70	4.51	70.00	1029.00	20.43	0.21	14.91	
TW5	305	21.02	+0.00	+13.05	+4.51	+13.32	0.20	13.05	4.51	70.00	913.50	23.01	0.27	13.32	
TW5	310	21.02	+0.00	+14.45	+4.51	+14.67	0.17	14.45	4.51	70.00	1011.50	20.78	0.22	14.67	
TW5	315	21.02	+0.00	+12.00	+4.51	+12.32	0.23	12.00	4.51	70.00	840.00	25.02	0.32	12.32	
TW5	320	21.02	+0.00	+12.40	+4.51	+12.70	0.22	12.40	4.51	70.00	868.00	24.22	0.30	12.70	
TW5	325	21.02	+0.00	+12.95	+4.51	+13.22	0.21	12.95	4.51	70.00	906.50	23.19	0.27	13.22	
TW5	330	21.02	+0.00	+13.60	+4.51	+13.85	0.19	13.60	4.51	70.00	952.00	22.08	0.25	13.85	
TW5	335	21.02	+0.00	+12.30	+4.51	+12.60	0.22	12.30	4.51	70.00	861.00	24.41	0.30	12.60	
TW5	340	21.02	+0.00	+11.95	+4.51	+12.27	0.23	11.95	4.51	70.00	836.50	25.13	0.32	12.27	
TW5	345	21.02	+0.00	+12.45	+4.51	+12.75	0.22	12.45	4.51	70.00	871.50	24.12	0.30	12.75	
TW5	350	21.02	+0.00	+14.75	+4.51	+14.96	0.17	14.75	4.51	70.00	1032.50	20.36	0.21	14.96	
TW5	355	21.02	+0.00	+12.85	+4.51	+13.13	0.21	12.85	4.51	70.00	899.50	23.37	0.28	13.13	
TW5	360	21.02	+0.00	+14.45	+4.51	+14.67	0.17	14.45	4.51	70.00	1011.50	20.78	0.22	14.67	
TW5	370	21.02	+0.00	+14.15	+4.51	+14.38	0.18	14.15	4.51	70.00	990.50	21.22	0.23	14.38	
TW5	380	21.02	+0.00	+14.35	+4.51	+14.57	0.18	14.35	4.51	70.00	1004.50	20.93	0.22	14.57	
TW5	390	21.02	+0.00	+14.25	+4.51	+14.48	0.18	14.25	4.51	70.00	997.50	21.07	0.23	14.48	

ตาราง ค-12 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=22.44 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	22.44	+0.58	+2.33	+5.29	+19.43	4.42	1.75	4.71	70.00	122.50	183.18	17.10	18.85	
TW2	295	22.44	+0.00	+2.15	+4.71	+13.48	3.25	2.15	4.71	70.00	150.50	149.10	11.33	13.48	
TW2	300	22.44	+0.00	+2.75	+4.71	+9.68	2.24	2.75	4.71	70.00	192.50	116.57	6.93	9.68	
TW2	305	22.44	+0.00	+3.20	+4.71	+8.32	1.79	3.20	4.71	70.00	224.00	100.18	5.12	8.32	
TW2	310	22.44	+0.00	+3.20	+4.71	+8.32	1.79	3.20	4.71	70.00	224.00	100.18	5.12	8.32	
TW2	315	22.44	+0.00	+3.25	+4.71	+8.21	1.75	3.25	4.71	70.00	227.50	98.64	4.96	8.21	
TW2	320	22.44	+0.00	+2.80	+4.71	+9.48	2.18	2.80	4.71	70.00	196.00	114.49	6.68	9.48	
TW2	325	22.44	+0.00	+5.20	+4.71	+7.14	0.86	5.20	4.71	70.00	364.00	61.65	1.94	7.14	
TW2	330	22.44	+0.00	+4.75	+4.71	+7.07	0.99	4.75	4.71	70.00	332.50	67.49	2.32	7.07	
TW2	335	22.44	+0.00	+6.45	+4.71	+7.71	0.62	6.45	4.71	70.00	451.50	49.70	1.28	7.71	
TW2	340	22.44	+0.00	+7.40	+4.71	+8.36	0.51	7.40	4.71	70.00	518.00	43.32	0.96	8.36	
TW2	345	22.44	+0.00	+6.95	+4.71	+8.03	0.56	6.95	4.71	70.00	486.50	46.13	1.08	8.03	
TW2	350	22.44	+0.00	+8.05	+4.71	+8.86	0.45	8.05	4.71	70.00	563.50	39.82	0.81	8.86	
TW2	355	22.44	+0.00	+7.45	+4.71	+8.39	0.50	7.45	4.71	70.00	521.50	43.03	0.94	8.39	
TW2	360	22.44	+0.00	+8.85	+4.71	+9.52	0.39	8.85	4.71	70.00	619.50	36.22	0.67	9.52	
TW2	370	22.44	+0.00	+7.65	+4.71	+8.55	0.48	7.65	4.71	70.00	535.50	41.90	0.90	8.55	
TW2	380	22.44	+0.00	+7.50	+4.71	+8.43	0.50	7.50	4.71	70.00	525.00	42.74	0.93	8.43	
TW2	390	22.44	+0.00	+8.25	+4.71	+9.02	0.43	8.25	4.71	70.00	577.50	38.86	0.77	9.02	
TW3	290	22.44	+0.58	+2.33	+5.29	+19.43	4.42	1.75	4.71	70.00	122.50	183.18	17.10	18.85	
TW3	295	22.44	+0.00	+3.45	+4.71	+7.85	1.60	3.45	4.71	70.00	241.50	92.92	4.40	7.85	
TW3	300	22.44	+0.00	+6.50	+4.71	+7.74	0.62	6.50	4.71	70.00	455.00	49.32	1.24	7.74	
TW3	305	22.44	+0.00	+8.85	+4.71	+9.52	0.39	8.85	4.71	70.00	619.50	36.22	0.67	9.52	
TW3	310	22.44	+0.00	+7.85	+4.71	+8.70	0.47	7.85	4.71	70.00	549.50	40.84	0.85	8.70	
TW3	315	22.44	+0.00	+10.15	+4.71	+10.66	0.32	10.15	4.71	70.00	710.50	31.58	0.51	10.66	
TW3	320	22.44	+0.00	+9.90	+4.71	+10.43	0.33	9.90	4.71	70.00	693.00	32.38	0.53	10.43	
TW3	325	22.44	+0.00	+8.60	+4.71	+9.31	0.41	8.60	4.71	70.00	602.00	37.28	0.71	9.31	
TW3	330	22.44	+0.00	+10.00	+4.71	+10.52	0.32	10.00	4.71	70.00	700.00	32.06	0.52	10.52	
TW3	335	22.44	+0.00	+8.90	+4.71	+9.56	0.39	8.90	4.71	70.00	623.00	38.02	0.68	9.56	
TW3	340	22.44	+0.00	+8.75	+4.71	+9.43	0.40	8.75	4.71	70.00	612.50	36.64	0.68	9.43	
TW3	345	22.44	+0.00	+8.75	+4.71	+9.43	0.40	8.75	4.71	70.00	612.50	36.64	0.68	9.43	
TW3	350	22.44	+0.00	+8.70	+4.71	+9.39	0.40	8.70	4.71	70.00	609.00	36.85	0.69	9.39	
TW3	355	22.44	+0.00	+8.00	+4.71	+8.82	0.45	8.00	4.71	70.00	560.00	40.07	0.82	8.82	
TW3	360	22.44	+0.00	+7.90	+4.71	+8.74	0.46	7.90	4.71	70.00	553.00	40.58	0.84	8.74	
TW3	370	22.44	+0.00	+7.10	+4.71	+8.14	0.54	7.10	4.71	70.00	497.00	45.15	1.04	8.14	
TW3	380	22.44	+0.00	+9.25	+4.71	+9.86	0.36	9.25	4.71	70.00	647.50	34.66	0.61	9.86	
TW3	390	22.44	+0.00	+11.75	+4.71	+12.13	0.25	11.75	4.71	70.00	822.50	27.28	0.38	12.13	
TW4	290	22.44	+0.58	+14.33	+5.29	+14.61	0.20	13.75	4.71	70.00	962.50	23.31	0.28	14.03	
TW4	295	22.44	+0.00	+12.10	+4.71	+12.46	0.24	12.10	4.71	70.00	847.00	26.49	0.36	12.46	
TW4	300	22.44	+0.00	+10.40	+4.71	+10.88	0.31	10.40	4.71	70.00	728.00	30.82	0.48	10.88	
TW4	305	22.44	+0.00	+13.15	+4.71	+13.45	0.21	13.15	4.71	70.00	920.50	24.38	0.30	13.45	
TW4	310	22.44	+0.00	+13.75	+4.71	+14.03	0.20	13.75	4.71	70.00	962.50	23.31	0.28	14.03	
TW4	315	22.44	+0.00	+11.95	+4.71	+12.32	0.25	11.95	4.71	70.00	836.50	26.83	0.37	12.32	
TW4	320	22.44	+0.00	+11.70	+4.71	+12.08	0.26	11.70	4.71	70.00	819.00	27.40	0.38	12.08	
TW4	325	22.44	+0.00	+12.40	+4.71	+12.74	0.23	12.40	4.71	70.00	868.00	25.85	0.34	12.74	
TW4	330	22.44	+0.00	+12.00	+4.71	+12.36	0.25	12.00	4.71	70.00	840.00	26.71	0.36	12.36	
TW4	335	22.44	+0.00	+11.30	+4.71	+11.71	0.27	11.30	4.71	70.00	791.00	28.37	0.41	11.71	
TW4	340	22.44	+0.00	+11.25	+4.71	+11.66	0.27	11.25	4.71	70.00	787.50	28.50	0.41	11.66	
TW4	345	22.44	+0.00	+10.45	+4.71	+10.93	0.30	10.45	4.71	70.00	731.50	30.68	0.48	10.93	
TW4	350	22.44	+0.00	+11.70	+4.71	+12.08	0.26	11.70	4.71	70.00	819.00	27.40	0.38	12.08	
TW4	355	22.44	+0.00	+12.30	+4.71	+12.65	0.24	12.30	4.71	70.00	861.00	26.06	0.35	12.65	
TW4	360	22.44	+0.00	+11.35	+4.71	+11.76	0.27	11.35	4.71	70.00	794.50	28.24	0.41	11.76	
TW4	370	22.44	+0.00	+11.40	+4.71	+11.80	0.27	11.40	4.71	70.00	798.00	28.12	0.40	11.80	
TW4	380	22.44	+0.00	+12.10	+4.71	+12.46	0.24	12.10	4.71	70.00	847.00	26.49	0.36	12.46	
TW4	390	22.44	+0.00	+11.95	+4.71	+12.32	0.25	11.95	4.71	70.00	836.50	26.83	0.37	12.32	
TW5	290	22.44	+0.58	+12.63	+5.29	+12.99	0.24	12.05	4.71	70.00	843.50	26.60	0.36	12.41	
TW5	295	22.44	+0.00	+14.45	+4.71	+14.70	0.19	14.45	4.71	70.00	1011.50	22.18	0.25	14.70	
TW5	300	22.44	+0.00	+14.15	+4.71	+14.41	0.19	14.15	4.71	70.00	990.50	22.66	0.26	14.41	
TW5	305	22.44	+0.00	+14.45	+4.71	+14.70	0.19	14.45	4.71	70.00	1011.50	22.18	0.25	14.70	
TW5	310	22.44	+0.00	+15.25	+4.71	+15.48	0.17	15.25	4.71	70.00	1067.50	21.02	0.23	15.48	
TW5	315	22.44	+0.00	+12.90	+4.71	+13.21	0.22	12.90	4.71	70.00	903.00	24.85	0.31	13.21	
TW5	320	22.44	+0.00	+13.80	+4.71	+14.08	0.20	13.80	4.71	70.00	966.00	23.23	0.28	14.08	
TW5	325	22.44	+0.00	+13.85	+4.71	+14.12	0.20	13.85	4.71	70.00	969.50	23.15	0.27	14.12	
TW5	330	22.44	+0.00	+14.45	+4.71	+14.70	0.19	14.45	4.71	70.00	1011.50	22.18	0.25	14.70	
TW5	335	22.44	+0.00	+14.20	+4.71	+14.46	0.19	14.20	4.71	70.00	994.00	22.58	0.26	14.46	
TW5	340	22.44	+0.00	+14.80	+4.71	+15.04	0.18	14.80	4.71	70.00	1036.00	21.66	0.24	15.04	
TW5	345	22.44	+0.00	+12.95	+4.71	+13.26	0.22	12.95	4.71	70.00	906.50	24.75	0.31	13.26	
TW5	350	22.44	+0.00	+14.35	+4.71	+14.60	0.19	14.35	4.71	70.00	1004.50	22.34	0.25	14.60	
TW5	355	22.44	+0.00	+13.55	+4.71	+13.84	0.21	13.55	4.71	70.00	948.50	23.66	0.29	13.84	
TW5	360	22.44	+0.00	+13.85	+4.71	+14.12	0.20	13.85	4.71	70.00	969.50	23.15	0.27	14.12	
TW5	370	22.44	+0.00	+15.60	+4.71	+15.82	0.17	15.60	4.71	70.00	1092.00	20.55	0.22	15.82	
TW5	380	22.44	+0.00	+15.80	+4.71	+16.01	0.16	15.80	4.71	70.00	1106.00	20.29	0.21	16.01	
TW5	390	22.44	+0.00	+15.55	+4.71	+15.77	0.17	15.55	4.71	70.00	1088.50	20.62	0.22	15.77	

ตาราง ค-13 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=23.66 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	23.66	+0.58	+2.98	+5.46	+13.09	2.90	2.40	4.88	70.00	168.00	140.83	10.11	12.51	
TW2	295	23.66	+0.00	+2.45	+4.88	+12.15	2.81	2.45	4.88	70.00	171.50	137.96	9.70	12.15	
TW2	300	23.66	+0.00	+3.20	+4.88	+8.89	1.89	3.20	4.88	70.00	224.00	105.63	5.69	8.89	
TW2	305	23.66	+0.00	+4.75	+4.88	+7.33	1.04	4.75	4.88	70.00	332.50	71.16	2.58	7.33	
TW2	310	23.66	+0.00	+4.50	+4.88	+7.38	1.13	4.50	4.88	70.00	315.00	75.11	2.88	7.38	
TW2	315	23.66	+0.00	+4.20	+4.88	+7.50	1.25	4.20	4.88	70.00	294.00	80.48	3.30	7.50	
TW2	320	23.66	+0.00	+3.55	+4.88	+8.17	1.61	3.55	4.88	70.00	248.50	95.21	4.62	8.17	
TW2	325	23.66	+0.00	+4.10	+4.88	+7.56	1.30	4.10	4.88	70.00	287.00	82.44	3.46	7.56	
TW2	330	23.66	+0.00	+3.95	+4.88	+7.68	1.37	3.95	4.88	70.00	276.50	85.57	3.73	7.68	
TW2	335	23.66	+0.00	+5.50	+4.88	+7.47	0.84	5.50	4.88	70.00	385.00	61.45	1.92	7.42	
TW2	340	23.66	+0.00	+5.90	+4.88	+7.57	0.75	5.90	4.88	70.00	413.00	57.29	1.67	7.57	
TW2	345	23.66	+0.00	+8.10	+4.88	+8.99	0.47	8.10	4.88	70.00	567.00	41.73	0.89	8.99	
TW2	350	23.66	+0.00	+8.05	+4.88	+8.95	0.47	8.05	4.88	70.00	563.50	41.99	0.90	8.95	
TW2	355	23.66	+0.00	+5.95	+4.88	+7.59	0.74	5.95	4.88	70.00	416.50	56.81	1.64	7.59	
TW2	360	23.66	+0.00	+8.60	+4.88	+9.39	0.43	8.60	4.88	70.00	602.00	39.30	0.79	9.39	
TW2	370	23.66	+0.00	+6.70	+4.88	+8.00	0.62	6.70	4.88	70.00	469.00	50.45	1.30	8.00	
TW2	380	23.66	+0.00	+10.10	+4.88	+10.67	0.34	10.10	4.88	70.00	707.00	33.47	0.57	10.67	
TW2	390	23.66	+0.00	+12.40	+4.88	+12.78	0.25	12.40	4.88	70.00	868.00	27.26	0.38	12.78	
TW3	290	23.66	+0.58	+6.98	+5.46	+8.40	0.67	6.40	4.88	70.00	448.00	52.81	1.42	7.82	
TW3	295	23.66	+0.00	+8.55	+4.88	+9.35	0.43	8.55	4.88	70.00	598.50	39.53	0.80	9.35	
TW3	300	23.66	+0.00	+8.80	+4.88	+9.55	0.41	8.80	4.88	70.00	616.00	38.41	0.75	9.55	
TW3	305	23.66	+0.00	+10.35	+4.88	+10.89	0.32	10.35	4.88	70.00	724.50	32.66	0.54	10.89	
TW3	310	23.66	+0.00	+8.80	+4.88	+9.55	0.41	8.80	4.88	70.00	616.00	38.41	0.75	9.55	
TW3	315	23.66	+0.00	+10.35	+4.88	+10.89	0.32	10.35	4.88	70.00	724.50	32.66	0.54	10.89	
TW3	320	23.66	+0.00	+10.00	+4.88	+10.58	0.34	10.00	4.88	70.00	700.00	33.80	0.58	10.58	
TW3	325	23.66	+0.00	+8.50	+4.88	+9.31	0.44	8.50	4.88	70.00	595.00	39.76	0.81	9.31	
TW3	330	23.66	+0.00	+9.00	+4.88	+9.72	0.40	9.00	4.88	70.00	630.00	37.56	0.72	9.72	
TW3	335	23.66	+0.00	+9.50	+4.88	+10.15	0.37	9.50	4.88	70.00	665.00	35.58	0.65	10.15	
TW3	340	23.66	+0.00	+9.00	+4.88	+9.72	0.40	9.00	4.88	70.00	630.00	37.56	0.72	9.72	
TW3	345	23.66	+0.00	+8.50	+4.88	+9.31	0.44	8.50	4.88	70.00	595.00	39.76	0.81	9.31	
TW3	350	23.66	+0.00	+9.50	+4.88	+10.15	0.37	9.50	4.88	70.00	665.00	35.58	0.65	10.15	
TW3	355	23.66	+0.00	+9.50	+4.88	+10.15	0.37	9.50	4.88	70.00	665.00	35.58	0.65	10.15	
TW3	360	23.66	+0.00	+10.00	+4.88	+10.58	0.34	10.00	4.88	70.00	700.00	33.80	0.58	10.58	
TW3	370	23.66	+0.00	+12.00	+4.88	+12.40	0.26	12.00	4.88	70.00	840.00	28.17	0.40	12.40	
TW3	380	23.66	+0.00	+15.50	+4.88	+15.74	0.18	15.50	4.88	70.00	1085.00	21.81	0.24	15.74	
TW3	390	23.66	+0.00	+15.00	+4.88	+15.26	0.19	15.00	4.88	70.00	1050.00	22.53	0.26	15.26	
TW4	290	23.66	+0.58	+8.38	+5.46	+9.34	0.50	7.80	4.88	70.00	546.00	43.33	0.96	8.76	
TW4	295	23.66	+0.00	+11.20	+4.88	+11.66	0.29	11.20	4.88	70.00	784.00	30.18	0.46	11.66	
TW4	300	23.66	+0.00	+10.85	+4.88	+11.34	0.30	10.85	4.88	70.00	759.50	31.15	0.49	11.34	
TW4	305	23.66	+0.00	+12.05	+4.88	+12.45	0.26	12.05	4.88	70.00	843.50	28.05	0.40	12.45	
TW4	310	23.66	+0.00	+11.85	+4.88	+12.26	0.26	11.85	4.88	70.00	829.50	28.52	0.41	12.26	
TW4	315	23.66	+0.00	+12.05	+4.88	+12.45	0.26	12.05	4.88	70.00	843.50	28.05	0.40	12.45	
TW4	320	23.66	+0.00	+11.90	+4.88	+12.31	0.26	11.90	4.88	70.00	833.00	28.40	0.41	12.31	
TW4	325	23.66	+0.00	+11.20	+4.88	+11.66	0.29	11.20	4.88	70.00	784.00	30.18	0.46	11.66	
TW4	330	23.66	+0.00	+12.15	+4.88	+12.54	0.25	12.15	4.88	70.00	850.50	27.82	0.39	12.54	
TW4	335	23.66	+0.00	+12.80	+4.88	+13.16	0.24	12.80	4.88	70.00	896.00	26.41	0.36	13.16	
TW4	340	23.66	+0.00	+11.45	+4.88	+11.89	0.28	11.45	4.88	70.00	801.50	29.52	0.44	11.89	
TW4	345	23.66	+0.00	+10.75	+4.88	+11.25	0.31	10.75	4.88	70.00	752.50	31.44	0.50	11.25	
TW4	350	23.66	+0.00	+10.65	+4.88	+11.16	0.31	10.65	4.88	70.00	745.50	31.74	0.51	11.16	
TW4	355	23.66	+0.00	+12.20	+4.88	+12.59	0.25	12.20	4.88	70.00	854.00	27.70	0.39	12.59	
TW4	360	23.66	+0.00	+11.85	+4.88	+12.26	0.26	11.85	4.88	70.00	829.50	28.52	0.41	12.26	
TW4	370	23.66	+0.00	+17.00	+4.88	+17.20	0.15	17.00	4.88	70.00	1190.00	19.88	0.20	17.20	
TW4	380	23.66	+0.00	+16.25	+4.88	+16.47	0.16	16.25	4.88	70.00	1137.50	20.80	0.22	16.47	
TW4	390	23.66	+0.00	+16.00	+4.88	+16.23	0.17	16.00	4.88	70.00	1120.00	21.13	0.23	16.23	
TW5	290	23.66	+0.58	+10.83	+5.46	+11.38	0.33	10.25	4.88	70.00	717.50	37.98	0.55	10.80	
TW5	295	23.66	+0.00	+12.80	+4.88	+13.16	0.24	12.80	4.88	70.00	896.00	26.41	0.36	13.16	
TW5	300	23.66	+0.00	+11.65	+4.88	+12.08	0.27	11.65	4.88	70.00	815.50	29.01	0.43	12.08	
TW5	305	23.66	+0.00	+12.85	+4.88	+13.20	0.23	12.85	4.88	70.00	899.50	26.30	0.35	13.20	
TW5	310	23.66	+0.00	+13.40	+4.88	+13.72	0.22	13.40	4.88	70.00	938.00	25.22	0.32	13.72	
TW5	315	23.66	+0.00	+13.15	+4.88	+13.49	0.23	13.15	4.88	70.00	920.50	25.70	0.34	13.49	
TW5	320	23.66	+0.00	+12.15	+4.88	+12.54	0.25	12.15	4.88	70.00	850.50	27.82	0.39	12.54	
TW5	325	23.66	+0.00	+12.35	+4.88	+12.73	0.25	12.35	4.88	70.00	864.50	27.37	0.38	12.73	
TW5	330	23.66	+0.00	+12.00	+4.88	+12.40	0.26	12.00	4.88	70.00	840.00	28.17	0.40	12.40	
TW5	335	23.66	+0.00	+11.90	+4.88	+12.31	0.26	11.90	4.88	70.00	833.00	28.40	0.41	12.31	
TW5	340	23.66	+0.00	+12.60	+4.88	+12.97	0.24	12.60	4.88	70.00	882.00	26.83	0.37	12.97	
TW5	345	23.66	+0.00	+13.05	+4.88	+13.39	0.23	13.05	4.88	70.00	913.50	25.90	0.34	13.39	
TW5	350	23.66	+0.00	+12.95	+4.88	+13.30	0.23	12.95	4.88	70.00	906.50	26.10	0.35	13.30	
TW5	355	23.66	+0.00	+13.60	+4.88	+13.91	0.22	13.60	4.88	70.00	952.00	24.85	0.31	13.91	
TW5	360	23.66	+0.00	+14.15	+4.88	+14.44	0.20	14.15	4.88	70.00	990.50	23.89	0.29	14.44	
TW5	370	23.66	+0.00	+12.65	+4.88	+13.01	0.24	12.65	4.88	70.00	885.50	26.72	0.36	13.01	
TW5	380	23.66	+0.00	+13.25	+4.88	+13.58	0.22	13.25	4.88	70.00	927.50	25.51	0.33	13.58	
TW5	390	23.66	+0.00	+14.00	+4.88	+14.30	0.21	14.00	4.88	70.00	980.00	24.14	0.30	14.30	

ตาราง ค-14 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=26.48 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_F	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	26.48	+0.58	+2.33	+5.84	+26.15	5.22	1.75	5.26	70.00	122.50	216.16	23.82	25.57	
TW2	295	26.48	+0.00	+2.30	+5.26	+16.09	3.46	2.30	5.26	70.00	161.00	164.47	13.79	18.09	
TW2	300	26.48	+0.00	+2.80	+5.26	+12.10	2.58	2.80	5.26	70.00	196.00	135.10	9.30	12.10	
TW2	305	26.48	+0.00	+3.70	+5.26	+9.03	1.70	3.70	5.26	70.00	259.00	102.24	5.33	9.03	
TW2	310	26.48	+0.00	+3.15	+5.26	+10.50	2.16	3.15	5.26	70.00	220.50	120.09	7.35	10.50	
TW2	315	26.48	+0.00	+3.05	+5.26	+10.89	2.27	3.05	5.26	70.00	213.50	124.03	7.84	10.89	
TW2	320	26.48	+0.00	+2.65	+5.26	+13.04	2.80	2.65	5.26	70.00	185.50	142.75	10.39	13.04	
TW2	325	26.48	+0.00	+2.80	+5.26	+12.10	2.58	2.80	5.26	70.00	196.00	135.10	9.30	12.10	
TW2	330	26.48	+0.00	+2.40	+5.26	+15.06	3.25	2.40	5.26	70.00	168.00	157.62	12.66	15.06	
TW2	335	26.48	+0.00	+2.35	+5.26	+15.56	3.35	2.35	5.26	70.00	164.50	160.97	13.21	15.56	
TW2	340	26.48	+0.00	+2.45	+5.26	+14.60	3.15	2.45	5.26	70.00	171.50	154.40	12.15	14.60	
TW2	345	26.48	+0.00	+2.40	+5.26	+15.06	3.25	2.40	5.26	70.00	168.00	157.62	12.66	15.06	
TW2	350	26.48	+0.00	+2.60	+5.26	+13.39	2.88	2.60	5.26	70.00	182.00	145.49	10.79	13.39	
TW2	355	26.48	+0.00	+2.50	+5.26	+14.17	3.06	2.50	5.26	70.00	175.00	151.31	11.67	14.17	
TW2	360	26.48	+0.00	+2.30	+5.26	+16.09	3.46	2.30	5.26	70.00	161.00	164.47	13.79	16.09	
TW2	370	26.48	+0.00	+5.81	+5.26	+7.97	0.86	5.81	5.26	70.00	406.70	65.11	2.16	7.97	
TW2	380	26.48	+0.00	+8.15	+5.26	+9.25	0.52	8.15	5.26	70.00	570.50	46.42	1.10	9.25	
TW2	390	26.48	+0.00	+10.20	+5.26	+10.90	0.37	10.20	5.26	70.00	714.00	37.09	0.70	10.90	
TW3	290	26.48	+0.58	+4.33	+5.84	+9.52	1.66	3.75	5.26	70.00	262.50	100.88	5.19	8.94	
TW3	295	26.48	+0.00	+4.10	+5.26	+8.44	1.45	4.10	5.26	70.00	287.00	92.26	4.34	8.44	
TW3	300	26.48	+0.00	+6.20	+5.26	+8.10	0.78	6.20	5.26	70.00	434.00	61.01	1.90	8.10	
TW3	305	26.48	+0.00	+8.45	+5.26	+9.47	0.49	8.45	5.26	70.00	591.50	44.77	1.02	9.47	
TW3	310	26.48	+0.00	+8.60	+5.26	+9.59	0.48	8.60	5.26	70.00	602.00	43.99	0.99	9.59	
TW3	315	26.48	+0.00	+9.50	+5.26	+10.31	0.41	9.50	5.26	70.00	665.00	39.82	0.81	10.31	
TW3	320	26.48	+0.00	+9.25	+5.26	+10.10	0.43	9.25	5.26	70.00	647.50	40.90	0.85	10.10	
TW3	325	26.48	+0.00	+9.95	+5.26	+10.69	0.38	9.95	5.26	70.00	696.50	38.02	0.74	10.69	
TW3	330	26.48	+0.00	+9.10	+5.26	+9.98	0.44	9.10	5.26	70.00	637.00	41.57	0.88	9.98	
TW3	335	26.48	+0.00	+10.05	+5.26	+10.77	0.38	10.05	5.26	70.00	703.50	37.64	0.72	10.77	
TW3	340	26.48	+0.00	+10.00	+5.26	+10.73	0.38	10.00	5.26	70.00	700.00	37.83	0.73	10.73	
TW3	345	26.48	+0.00	+9.80	+5.26	+10.56	0.39	9.80	5.26	70.00	686.00	38.60	0.76	10.56	
TW3	350	26.48	+0.00	+9.75	+5.26	+10.52	0.40	9.75	5.26	70.00	682.50	38.80	0.77	10.52	
TW3	355	26.48	+0.00	+9.90	+5.26	+10.64	0.39	9.90	5.26	70.00	693.00	38.21	0.74	10.64	
TW3	360	26.48	+0.00	+8.85	+5.26	+9.78	0.46	8.85	5.26	70.00	619.50	42.74	0.93	9.78	
TW3	370	26.48	+0.00	+8.70	+5.26	+9.66	0.47	8.70	5.26	70.00	609.00	43.48	0.96	9.66	
TW3	380	26.48	+0.00	+8.95	+5.26	+9.86	0.45	8.95	5.26	70.00	626.50	42.27	0.91	9.86	
TW3	390	26.48	+0.00	+10.10	+5.26	+10.81	0.38	10.10	5.26	70.00	707.00	37.45	0.71	10.81	
TW4	290	26.48	+0.58	+10.83	+5.84	+11.52	0.37	10.25	5.26	70.00	717.50	36.91	0.69	10.94	
TW4	295	26.48	+0.00	+11.25	+5.26	+11.83	0.32	11.25	5.26	70.00	787.50	33.63	0.58	11.83	
TW4	300	26.48	+0.00	+12.95	+5.26	+13.38	0.26	12.95	5.26	70.00	908.50	29.21	0.43	13.38	
TW4	305	26.48	+0.00	+13.25	+5.26	+13.67	0.25	13.25	5.26	70.00	927.50	28.55	0.42	13.67	
TW4	310	26.48	+0.00	+12.75	+5.26	+13.20	0.27	12.75	5.26	70.00	892.50	29.67	0.45	13.20	
TW4	315	26.48	+0.00	+13.15	+5.26	+13.57	0.25	13.15	5.26	70.00	920.50	28.77	0.42	13.57	
TW4	320	26.48	+0.00	+12.10	+5.26	+12.60	0.29	12.10	5.26	70.00	847.00	31.26	0.50	12.60	
TW4	325	26.48	+0.00	+12.95	+5.26	+13.38	0.26	12.95	5.26	70.00	906.50	29.21	0.43	13.38	
TW4	330	26.48	+0.00	+12.95	+5.26	+13.38	0.26	12.95	5.26	70.00	906.50	29.21	0.43	13.38	
TW4	335	26.48	+0.00	+12.75	+5.26	+13.20	0.27	12.75	5.26	70.00	892.50	29.67	0.45	13.20	
TW4	340	26.48	+0.00	+12.55	+5.26	+13.01	0.27	12.55	5.26	70.00	878.50	30.14	0.46	13.01	
TW4	345	26.48	+0.00	+14.05	+5.26	+14.42	0.23	14.05	5.26	70.00	983.50	26.92	0.37	14.42	
TW4	350	26.48	+0.00	+14.70	+5.26	+15.04	0.21	14.70	5.26	70.00	1029.00	25.73	0.34	15.04	
TW4	355	26.48	+0.00	+12.95	+5.26	+13.38	0.26	12.95	5.26	70.00	906.50	29.21	0.43	13.38	
TW4	360	26.48	+0.00	+12.55	+5.26	+13.01	0.27	12.55	5.26	70.00	878.50	30.14	0.46	13.01	
TW4	370	26.48	+0.00	+12.95	+5.26	+13.38	0.26	12.95	5.26	70.00	906.50	29.21	0.43	13.38	
TW4	380	26.48	+0.00	+13.50	+5.26	+13.90	0.24	13.50	5.26	70.00	945.00	28.02	0.40	13.90	
TW4	390	26.48	+0.00	+13.50	+5.26	+13.90	0.24	13.50	5.26	70.00	945.00	28.02	0.40	13.90	
TW5	290	26.48	+0.58	+12.13	+5.84	+12.68	0.31	11.55	5.26	70.00	808.50	32.75	0.55	12.10	
TW5	295	26.48	+0.00	+14.30	+5.26	+14.66	0.22	14.30	5.26	70.00	1001.00	26.45	0.36	14.66	
TW5	300	26.48	+0.00	+14.10	+5.26	+14.47	0.23	14.10	5.26	70.00	987.00	26.83	0.37	14.47	
TW5	305	26.48	+0.00	+14.05	+5.26	+14.42	0.23	14.05	5.26	70.00	983.50	26.92	0.37	14.42	
TW5	310	26.48	+0.00	+13.65	+5.26	+14.04	0.24	13.65	5.26	70.00	955.50	27.71	0.39	14.04	
TW5	315	26.48	+0.00	+13.85	+5.26	+14.23	0.23	13.85	5.26	70.00	969.50	27.31	0.38	14.23	
TW5	320	26.48	+0.00	+14.85	+5.26	+15.18	0.21	14.85	5.26	70.00	1039.50	25.47	0.33	15.18	
TW5	325	26.48	+0.00	+12.95	+5.26	+13.38	0.26	12.95	5.26	70.00	906.50	29.21	0.43	13.38	
TW5	330	26.48	+0.00	+14.10	+5.26	+14.47	0.23	14.10	5.26	70.00	987.00	26.83	0.37	14.47	
TW5	335	26.48	+0.00	+14.60	+5.26	+14.94	0.22	14.60	5.26	70.00	1022.00	25.91	0.34	14.94	
TW5	340	26.48	+0.00	+13.90	+5.26	+14.28	0.23	13.90	5.26	70.00	973.00	27.21	0.38	14.28	
TW5	345	26.48	+0.00	+13.00	+5.26	+13.43	0.26	13.00	5.26	70.00	910.00	29.10	0.43	13.43	
TW5	350	26.48	+0.00	+13.50	+5.26	+13.90	0.24	13.50	5.26	70.00	945.00	28.02	0.40	13.90	
TW5	355	26.48	+0.00	+15.15	+5.26	+15.47	0.20	15.15	5.26	70.00	1060.50	24.97	0.32	15.47	
TW5	360	26.48	+0.00	+15.30	+5.26	+15.61	0.20	15.30	5.26	70.00	1071.00	24.72	0.31	15.61	
TW5	370	26.48	+0.00	+15.70	+5.26	+16.00	0.19	15.70	5.26	70.00	1099.00	24.09	0.30	16.00	
TW5	380	26.48	+0.00	+15.50	+5.26	+15.80	0.20	15.50	5.26	70.00	1085.00	24.41	0.30	15.80	
TW5	390	26.48	+0.00	+15.75	+5.26	+16.04	0.19	15.75	5.26	70.00	1102.50	24.02	0.29	16.04	

ตาราง ค-15 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=28.36 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_F	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	28.36	+0.58	+2.88	+6.09	+18.69	3.71	2.30	5.51	70.00	161.00	176.15	15.81	18.11	
TW2	295	28.36	+0.00	+2.25	+5.51	+18.78	3.81	2.25	5.51	70.00	157.50	180.06	16.53	18.78	
TW2	300	28.36	+0.00	+2.40	+5.51	+16.92	3.48	2.40	5.51	70.00	168.00	168.81	14.52	16.92	
TW2	305	28.36	+0.00	+3.70	+5.51	+9.81	1.82	3.70	5.51	70.00	259.00	109.50	6.11	9.81	
TW2	310	28.36	+0.00	+3.75	+5.51	+9.70	1.78	3.75	5.51	70.00	262.50	108.04	5.95	9.70	
TW2	315	28.36	+0.00	+3.05	+5.51	+12.04	2.43	3.05	5.51	70.00	213.50	132.83	8.99	12.04	
TW2	320	28.36	+0.00	+3.15	+5.51	+11.58	2.31	3.15	5.51	70.00	220.50	128.62	8.43	11.58	
TW2	325	28.36	+0.00	+3.30	+5.51	+10.98	2.16	3.30	5.51	70.00	231.00	122.77	7.68	10.98	
TW2	330	28.36	+0.00	+5.10	+5.51	+8.32	1.12	5.10	5.51	70.00	357.00	79.44	3.22	8.32	
TW2	335	28.36	+0.00	+2.95	+5.51	+12.56	2.55	2.95	5.51	70.00	206.50	137.34	9.61	12.56	
TW2	340	28.36	+0.00	+6.05	+5.51	+8.34	0.87	6.05	5.51	70.00	423.50	66.97	2.29	8.34	
TW2	345	28.36	+0.00	+5.25	+5.51	+8.29	1.08	5.25	5.51	70.00	367.50	77.17	3.04	8.29	
TW2	350	28.36	+0.00	+6.75	+5.51	+8.59	0.74	6.75	5.51	70.00	472.50	60.02	1.84	8.59	
TW2	355	28.36	+0.00	+7.75	+5.51	+9.14	0.60	7.75	5.51	70.00	542.50	52.28	1.39	9.14	
TW2	360	28.36	+0.00	+7.50	+5.51	+8.99	0.63	7.50	5.51	70.00	525.00	54.02	1.49	8.99	
TW2	370	28.36	+0.00	+8.25	+5.51	+9.48	0.55	8.25	5.51	70.00	577.50	49.11	1.23	9.48	
TW2	380	28.36	+0.00	+8.70	+5.51	+9.81	0.50	8.70	5.51	70.00	609.00	46.57	1.11	9.81	
TW2	390	28.36	+0.00	+9.25	+5.51	+10.23	0.46	9.25	5.51	70.00	647.50	43.80	0.98	10.23	
TW3	290	28.36	+0.58	+3.98	+6.09	+11.22	2.06	3.40	5.51	70.00	238.00	119.16	7.24	10.64	
TW3	295	28.36	+0.00	+3.60	+5.51	+10.06	1.89	3.60	5.51	70.00	252.00	112.54	6.46	10.06	
TW3	300	28.36	+0.00	+4.10	+5.51	+9.08	1.56	4.10	5.51	70.00	287.00	98.82	4.98	9.08	
TW3	305	28.36	+0.00	+6.10	+5.51	+8.35	0.86	6.10	5.51	70.00	427.00	66.42	2.25	8.35	
TW3	310	28.36	+0.00	+8.30	+5.51	+9.51	0.54	8.30	5.51	70.00	581.00	48.81	1.21	9.51	
TW3	315	28.36	+0.00	+9.20	+5.51	+10.19	0.46	9.20	5.51	70.00	644.00	44.04	0.99	10.19	
TW3	320	28.36	+0.00	+9.40	+5.51	+10.35	0.45	9.40	5.51	70.00	658.00	43.10	0.95	10.35	
TW3	325	28.36	+0.00	+12.00	+5.51	+12.58	0.31	12.00	5.51	70.00	840.00	33.76	0.58	12.58	
TW3	330	28.36	+0.00	+10.35	+5.51	+11.13	0.39	10.35	5.51	70.00	724.50	39.14	0.78	11.13	
TW3	335	28.36	+0.00	+10.50	+5.51	+11.26	0.38	10.50	5.51	70.00	735.00	38.59	0.76	11.26	
TW3	340	28.36	+0.00	+10.95	+5.51	+11.65	0.36	10.95	5.51	70.00	766.50	37.00	0.70	11.65	
TW3	345	28.36	+0.00	+10.20	+5.51	+11.00	0.40	10.20	5.51	70.00	714.00	39.72	0.80	11.00	
TW3	350	28.36	+0.00	+8.95	+5.51	+9.99	0.48	8.95	5.51	70.00	626.50	45.27	1.04	9.99	
TW3	355	28.36	+0.00	+8.60	+5.51	+9.73	0.51	8.60	5.51	70.00	602.00	47.11	1.13	9.73	
TW3	360	28.36	+0.00	+9.75	+5.51	+10.63	0.42	9.75	5.51	70.00	682.50	41.55	0.88	10.63	
TW3	370	28.36	+0.00	+8.55	+5.51	+9.69	0.52	8.55	5.51	70.00	598.50	47.39	1.14	9.69	
TW3	380	28.36	+0.00	+10.10	+5.51	+10.92	0.40	10.10	5.51	70.00	707.00	40.11	0.82	10.92	
TW3	390	28.36	+0.00	+13.05	+5.51	+13.54	0.27	13.05	5.51	70.00	913.50	31.05	0.49	13.54	
TW4	290	28.36	+0.58	+12.53	+6.09	+13.12	0.31	11.95	5.51	70.00	836.50	33.90	0.59	12.54	
TW4	295	28.36	+0.00	+13.05	+5.51	+13.54	0.27	13.05	5.51	70.00	913.50	31.05	0.49	13.54	
TW4	300	28.36	+0.00	+12.00	+5.51	+12.58	0.31	12.00	5.51	70.00	840.00	33.76	0.58	12.58	
TW4	305	28.36	+0.00	+13.30	+5.51	+13.77	0.27	13.30	5.51	70.00	931.00	30.46	0.47	13.77	
TW4	310	28.36	+0.00	+14.90	+5.51	+15.28	0.22	14.90	5.51	70.00	1043.00	27.19	0.38	15.28	
TW4	315	28.36	+0.00	+13.65	+5.51	+14.10	0.26	13.65	5.51	70.00	955.50	29.68	0.45	14.10	
TW4	320	28.36	+0.00	+12.95	+5.51	+13.45	0.28	12.95	5.51	70.00	906.50	31.29	0.50	13.45	
TW4	325	28.36	+0.00	+12.95	+5.51	+13.45	0.28	12.95	5.51	70.00	906.50	31.29	0.50	13.45	
TW4	330	28.36	+0.00	+12.40	+5.51	+12.94	0.30	12.40	5.51	70.00	868.00	32.67	0.54	12.94	
TW4	335	28.36	+0.00	+12.20	+5.51	+12.76	0.30	12.20	5.51	70.00	854.00	33.21	0.56	12.76	
TW4	340	28.36	+0.00	+12.55	+5.51	+13.08	0.29	12.55	5.51	70.00	878.50	32.28	0.53	13.08	
TW4	345	28.36	+0.00	+12.55	+5.51	+13.08	0.29	12.55	5.51	70.00	878.50	32.28	0.53	13.08	
TW4	350	28.36	+0.00	+13.75	+5.51	+14.19	0.25	13.75	5.51	70.00	962.50	29.46	0.44	14.19	
TW4	355	28.36	+0.00	+13.55	+5.51	+14.01	0.26	13.55	5.51	70.00	948.50	29.90	0.46	14.01	
TW4	360	28.36	+0.00	+14.75	+5.51	+15.13	0.23	14.75	5.51	70.00	1032.50	27.47	0.38	15.13	
TW4	370	28.36	+0.00	+15.10	+5.51	+15.47	0.22	15.10	5.51	70.00	1057.00	26.83	0.37	15.47	
TW4	380	28.36	+0.00	+14.95	+5.51	+15.32	0.22	14.95	5.51	70.00	1046.50	27.10	0.37	15.32	
TW4	390	28.36	+0.00	+15.15	+5.51	+15.51	0.22	15.15	5.51	70.00	1080.50	26.74	0.36	15.51	
TW5	290	28.36	+0.58	+15.53	+6.09	+15.90	0.22	14.95	5.51	70.00	1046.50	27.10	0.37	15.32	
TW5	295	28.36	+0.00	+15.15	+5.51	+15.51	0.22	15.15	5.51	70.00	1060.50	26.74	0.36	15.51	
TW5	300	28.36	+0.00	+15.10	+5.51	+15.47	0.22	15.10	5.51	70.00	1057.00	26.83	0.37	15.47	
TW5	305	28.36	+0.00	+16.25	+5.51	+16.57	0.20	16.25	5.51	70.00	1137.50	24.93	0.32	16.57	
TW5	310	28.36	+0.00	+15.00	+5.51	+15.37	0.22	15.00	5.51	70.00	1050.00	27.01	0.37	15.37	
TW5	315	28.36	+0.00	+15.80	+5.51	+16.14	0.21	15.80	5.51	70.00	1106.00	25.64	0.34	16.14	
TW5	320	28.36	+0.00	+16.55	+5.51	+16.86	0.19	16.55	5.51	70.00	1158.50	24.48	0.31	16.86	
TW5	325	28.36	+0.00	+15.40	+5.51	+15.75	0.21	15.40	5.51	70.00	1078.00	26.31	0.35	15.75	
TW5	330	28.36	+0.00	+16.50	+5.51	+16.81	0.19	16.50	5.51	70.00	1155.00	24.55	0.31	16.81	
TW5	335	28.36	+0.00	+16.20	+5.51	+16.52	0.20	16.20	5.51	70.00	1134.00	25.01	0.32	16.52	
TW5	340	28.36	+0.00	+15.60	+5.51	+15.94	0.21	15.60	5.51	70.00	1092.00	25.97	0.34	15.94	
TW5	345	28.36	+0.00	+16.10	+5.51	+16.42	0.20	16.10	5.51	70.00	1127.00	25.16	0.32	16.42	
TW5	350	28.36	+0.00	+15.40	+5.51	+15.75	0.21	15.40	5.51	70.00	1078.00	26.31	0.35	15.75	
TW5	355	28.36	+0.00	+17.10	+5.51	+17.39	0.18	17.10	5.51	70.00	1197.00	23.69	0.29	17.39	
TW5	360	28.36	+0.00	+15.90	+5.51	+16.23	0.20	15.90	5.51	70.00	1113.00	25.48	0.33	16.23	
TW5	370	28.36	+0.00	+17.50	+5.51	+17.77	0.18	17.50	5.51	70.00	1225.00	23.15	0.27	17.77	
TW5	380	28.36	+0.00	+17.00	+5.51	+17.29	0.18	17.00	5.51	70.00	1190.00	23.83	0.29	17.29	
TW5	390	28.36	+0.00	+17.50	+5.51	+17.77	0.18	17.50	5.51	70.00	1225.00	23.15	0.27	17.77	

ตาราง ค-16 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=29.33 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq.cm.	cm/s	cm	cm	
TW2	290	29.33	+0.58	+3.08	+6.22	+17.40	3.38	2.50	5.64	70.00	175.00	187.60	14.32	16.82	
TW2	295	29.33	+0.00	+2.35	+5.64	+18.55	3.71	2.35	5.64	70.00	164.50	178.30	16.20	18.55	
TW2	300	29.33	+0.00	+3.75	+5.64	+10.11	1.84	3.75	5.64	70.00	262.50	111.73	6.36	10.11	
TW2	305	29.33	+0.00	+3.75	+5.64	+10.11	1.84	3.75	5.64	70.00	262.50	111.73	6.36	10.11	
TW2	310	29.33	+0.00	+4.75	+5.64	+8.72	1.29	4.75	5.64	70.00	332.50	88.21	3.97	8.72	
TW2	315	29.33	+0.00	+4.25	+5.64	+9.20	1.53	4.25	5.64	70.00	297.50	98.59	4.95	9.20	
TW2	320	29.33	+0.00	+3.60	+5.64	+10.50	1.96	3.60	5.64	70.00	252.00	116.39	6.90	10.50	
TW2	325	29.33	+0.00	+3.65	+5.64	+10.37	1.92	3.65	5.64	70.00	255.50	114.79	6.72	10.37	
TW2	330	29.33	+0.00	+3.50	+5.64	+10.80	2.04	3.50	5.64	70.00	245.00	119.71	7.30	10.80	
TW2	335	29.33	+0.00	+3.25	+5.64	+11.72	2.28	3.25	5.64	70.00	227.50	128.92	8.47	11.72	
TW2	340	29.33	+0.00	+4.00	+5.64	+9.59	1.67	4.00	5.64	70.00	280.00	104.75	5.59	9.59	
TW2	345	29.33	+0.00	+3.50	+5.64	+10.80	2.04	3.50	5.64	70.00	245.00	119.71	7.30	10.80	
TW2	350	29.33	+0.00	+3.50	+5.64	+10.80	2.04	3.50	5.64	70.00	245.00	119.71	7.30	10.80	
TW2	355	29.33	+0.00	+3.15	+5.64	+12.17	2.39	3.15	5.64	70.00	220.50	133.02	9.02	12.17	
TW2	360	29.33	+0.00	+3.20	+5.64	+11.94	2.34	3.20	5.64	70.00	224.00	130.94	8.74	11.94	
TW2	370	29.33	+0.00	+5.45	+5.64	+8.46	1.05	5.45	5.64	70.00	381.50	78.88	3.01	8.46	
TW2	380	29.33	+0.00	+14.00	+5.64	+14.46	0.26	14.00	5.64	70.00	980.00	29.93	0.46	14.46	
TW2	390	29.33	+0.00	+14.85	+5.64	+15.26	0.23	14.85	5.64	70.00	1039.50	28.22	0.41	15.26	
TW3	290	29.33	+0.58	+7.83	+6.22	+9.53	0.69	7.25	5.64	70.00	507.50	57.79	1.70	8.95	
TW3	295	29.33	+0.00	+7.65	+5.64	+9.18	0.63	7.65	5.64	70.00	535.50	54.77	1.53	9.18	
TW3	300	29.33	+0.00	+8.35	+5.64	+9.63	0.55	8.35	5.64	70.00	584.50	50.18	1.28	9.63	
TW3	305	29.33	+0.00	+9.20	+5.64	+10.26	0.48	9.20	5.64	70.00	644.00	45.54	1.06	10.26	
TW3	310	29.33	+0.00	+9.75	+5.64	+10.69	0.44	9.75	5.64	70.00	682.50	42.97	0.94	10.69	
TW3	315	29.33	+0.00	+10.90	+5.64	+11.65	0.37	10.90	5.64	70.00	763.00	38.44	0.75	11.65	
TW3	320	29.33	+0.00	+11.40	+5.64	+12.09	0.35	11.40	5.64	70.00	798.00	36.75	0.69	12.09	
TW3	325	29.33	+0.00	+10.35	+5.64	+11.19	0.40	10.35	5.64	70.00	724.50	40.48	0.84	11.19	
TW3	330	29.33	+0.00	+10.90	+5.64	+11.65	0.37	10.90	5.64	70.00	763.00	38.44	0.75	11.65	
TW3	335	29.33	+0.00	+10.50	+5.64	+11.31	0.39	10.50	5.64	70.00	735.00	39.90	0.81	11.31	
TW3	340	29.33	+0.00	+10.45	+5.64	+11.27	0.40	10.45	5.64	70.00	731.50	40.10	0.82	11.27	
TW3	345	29.33	+0.00	+10.55	+5.64	+11.35	0.39	10.55	5.64	70.00	738.50	39.72	0.80	11.35	
TW3	350	29.33	+0.00	+11.65	+5.64	+12.31	0.34	11.65	5.64	70.00	815.50	35.97	0.66	12.31	
TW3	355	29.33	+0.00	+10.35	+5.64	+11.19	0.40	10.35	5.64	70.00	724.50	40.48	0.84	11.19	
TW3	360	29.33	+0.00	+9.75	+5.64	+10.69	0.44	9.75	5.64	70.00	682.50	42.97	0.94	10.69	
TW3	370	29.33	+0.00	+11.65	+5.64	+12.31	0.34	11.65	5.64	70.00	815.50	35.97	0.66	12.31	
TW3	380	29.33	+0.00	+12.45	+5.64	+13.03	0.30	12.45	5.64	70.00	871.50	33.65	0.58	13.03	
TW3	390	29.33	+0.00	+14.10	+5.64	+14.55	0.25	14.10	5.64	70.00	987.00	29.72	0.45	14.55	
TW4	290	29.33	+0.58	+13.33	+6.22	+13.88	0.29	12.75	5.64	70.00	892.50	32.86	0.55	13.30	
TW4	295	29.33	+0.00	+12.80	+5.64	+13.35	0.29	12.80	5.64	70.00	896.00	32.73	0.55	13.35	
TW4	300	29.33	+0.00	+13.60	+5.64	+14.08	0.27	13.60	5.64	70.00	952.00	30.81	0.48	14.08	
TW4	305	29.33	+0.00	+13.55	+5.64	+14.04	0.27	13.55	5.64	70.00	948.50	30.92	0.49	14.04	
TW4	310	29.33	+0.00	+13.25	+5.64	+13.76	0.28	13.25	5.64	70.00	927.50	31.62	0.51	13.76	
TW4	315	29.33	+0.00	+13.80	+5.64	+14.27	0.26	13.80	5.64	70.00	966.00	30.36	0.47	14.27	
TW4	320	29.33	+0.00	+14.05	+5.64	+14.50	0.25	14.05	5.64	70.00	983.50	29.82	0.45	14.50	
TW4	325	29.33	+0.00	+15.20	+5.64	+15.59	0.23	15.20	5.64	70.00	1064.00	27.57	0.39	15.59	
TW4	330	29.33	+0.00	+14.00	+5.64	+14.46	0.26	14.00	5.64	70.00	980.00	29.93	0.46	14.46	
TW4	335	29.33	+0.00	+13.60	+5.64	+14.08	0.27	13.60	5.64	70.00	952.00	30.81	0.48	14.08	
TW4	340	29.33	+0.00	+14.75	+5.64	+15.16	0.24	14.75	5.64	70.00	1032.50	28.41	0.41	15.16	
TW4	345	29.33	+0.00	+13.95	+5.64	+14.41	0.26	13.95	5.64	70.00	976.50	30.04	0.46	14.41	
TW4	350	29.33	+0.00	+14.60	+5.64	+15.02	0.24	14.60	5.64	70.00	1022.00	28.70	0.42	15.02	
TW4	355	29.33	+0.00	+13.50	+5.64	+13.99	0.27	13.50	5.64	70.00	945.00	31.04	0.49	13.99	
TW4	360	29.33	+0.00	+15.65	+5.64	+16.02	0.22	15.65	5.64	70.00	1095.50	26.77	0.37	16.02	
TW4	370	29.33	+0.00	+15.10	+5.64	+15.49	0.23	15.10	5.64	70.00	1057.00	27.75	0.39	15.49	
TW4	380	29.33	+0.00	+15.85	+5.64	+16.21	0.21	15.85	5.64	70.00	1109.50	26.44	0.36	16.21	
TW4	390	29.33	+0.00	+15.25	+5.64	+15.63	0.22	15.25	5.64	70.00	1067.50	27.48	0.38	15.63	
TW5	290	29.33	+0.58	+13.83	+6.22	+14.34	0.28	13.25	5.64	70.00	927.50	31.62	0.51	13.76	
TW5	295	29.33	+0.00	+15.85	+5.64	+16.02	0.22	15.65	5.64	70.00	1095.50	26.77	0.37	16.02	
TW5	300	29.33	+0.00	+15.75	+5.64	+16.11	0.21	15.75	5.64	70.00	1102.50	26.60	0.36	16.11	
TW5	305	29.33	+0.00	+15.00	+5.64	+15.40	0.23	15.00	5.64	70.00	1050.00	27.93	0.40	15.40	
TW5	310	29.33	+0.00	+14.80	+5.64	+15.21	0.23	14.80	5.64	70.00	1036.00	28.31	0.41	15.21	
TW5	315	29.33	+0.00	+15.50	+5.64	+15.87	0.22	15.50	5.64	70.00	1085.00	27.03	0.37	15.87	
TW5	320	29.33	+0.00	+16.80	+5.64	+17.12	0.19	16.80	5.64	70.00	1176.00	24.94	0.32	17.12	
TW5	325	29.33	+0.00	+16.55	+5.64	+16.88	0.20	16.55	5.64	70.00	1158.50	25.32	0.33	16.88	
TW5	330	29.33	+0.00	+15.90	+5.64	+16.25	0.21	15.90	5.64	70.00	1113.00	26.35	0.35	16.25	
TW5	335	29.33	+0.00	+16.50	+5.64	+16.83	0.20	16.50	5.64	70.00	1155.00	25.39	0.33	16.83	
TW5	340	29.33	+0.00	+14.80	+5.64	+15.21	0.23	14.80	5.64	70.00	1036.00	28.31	0.41	15.21	
TW5	345	29.33	+0.00	+15.80	+5.64	+16.16	0.21	15.80	5.64	70.00	1106.00	26.52	0.36	16.16	
TW5	350	29.33	+0.00	+16.85	+5.64	+17.17	0.19	16.85	5.64	70.00	1179.50	24.87	0.32	17.17	
TW5	355	29.33	+0.00	+15.90	+5.64	+16.25	0.21	15.90	5.64	70.00	1113.00	26.35	0.35	16.25	
TW5	360	29.33	+0.00	+15.35	+5.64	+15.73	0.22	15.35	5.64	70.00	1074.50	27.30	0.38	15.73	
TW5	370	29.33	+0.00	+16.90	+5.64	+17.21	0.19	16.90	5.64	70.00	1183.00	24.79	0.31	17.21	
TW5	380	29.33	+0.00	+15.95	+5.64	+16.30	0.21	15.95	5.64	70.00	1116.50	26.27	0.35	16.30	
TW5	390	29.33	+0.00	+16.25	+5.64	+16.59	0.20	16.25	5.64	70.00	1137.50	25.78	0.34	16.59	

ตาราง ค-17 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=30.45 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(17)
TW2	290	30.45	+0.58	+3.68	+6.36	+13.72	2.54	3.10	5.78	70.00	217.00	140.32	10.04	13.14	
TW2	295	30.45	+0.00	+2.95	+5.78	+14.03	2.74	2.95	5.78	70.00	206.50	147.46	11.08	14.03	
TW2	300	30.45	+0.00	+2.15	+5.78	+23.01	4.41	2.15	5.78	70.00	150.50	202.33	20.86	23.01	
TW2	305	30.45	+0.00	+3.40	+5.78	+11.74	2.22	3.40	5.78	70.00	238.00	127.94	8.34	11.74	
TW2	310	30.45	+0.00	+4.10	+5.78	+9.84	1.67	4.10	5.78	70.00	287.00	106.10	5.74	9.84	
TW2	315	30.45	+0.00	+3.85	+5.78	+10.36	1.84	3.85	5.78	70.00	269.50	112.99	8.51	10.36	
TW2	320	30.45	+0.00	+3.85	+5.78	+10.36	1.84	3.85	5.78	70.00	269.50	112.99	8.51	10.36	
TW2	325	30.45	+0.00	+2.70	+5.78	+15.93	3.13	2.70	5.78	70.00	189.00	161.11	13.23	15.93	
TW2	330	30.45	+0.00	+2.40	+5.78	+19.14	3.74	2.40	5.78	70.00	168.00	181.25	16.74	19.14	
TW2	335	30.45	+0.00	+3.90	+5.78	+10.24	1.80	3.90	5.78	70.00	273.00	111.54	6.34	10.24	
TW2	340	30.45	+0.00	+8.95	+5.78	+10.15	0.52	8.95	5.78	70.00	626.50	48.60	1.20	10.15	
TW2	345	30.45	+0.00	+8.75	+5.78	+10.01	0.54	8.75	5.78	70.00	612.50	49.71	1.26	10.01	
TW2	350	30.45	+0.00	+8.80	+5.78	+10.05	0.53	8.80	5.78	70.00	616.00	49.43	1.25	10.05	
TW2	355	30.45	+0.00	+8.90	+5.78	+10.12	0.52	8.90	5.78	70.00	623.00	48.88	1.22	10.12	
TW2	360	30.45	+0.00	+9.70	+5.78	+10.73	0.46	9.70	5.78	70.00	679.00	44.85	1.03	10.73	
TW2	370	30.45	+0.00	+11.40	+5.78	+12.14	0.36	11.40	5.78	70.00	798.00	38.18	0.74	12.14	
TW2	380	30.45	+0.00	+11.50	+5.78	+12.23	0.36	11.50	5.78	70.00	805.00	37.83	0.73	12.23	
TW2	390	30.45	+0.00	+11.50	+5.78	+12.23	0.36	11.50	5.78	70.00	805.00	37.83	0.73	12.23	
TW3	290	30.45	+0.58	+3.83	+6.36	+12.96	2.37	3.25	5.78	70.00	227.50	133.85	9.13	12.38	
TW3	295	30.45	+0.00	+5.60	+5.78	+8.68	1.05	5.60	5.78	70.00	392.00	77.68	3.08	8.68	
TW3	300	30.45	+0.00	+6.65	+5.78	+8.83	0.81	6.65	5.78	70.00	465.50	65.41	2.18	8.83	
TW3	305	30.45	+0.00	+10.50	+5.78	+11.37	0.41	10.50	5.78	70.00	735.00	41.43	0.87	11.37	
TW3	310	30.45	+0.00	+10.15	+5.78	+11.09	0.43	10.15	5.78	70.00	710.50	42.86	0.94	11.09	
TW3	315	30.45	+0.00	+10.55	+5.78	+11.42	0.41	10.55	5.78	70.00	738.50	41.23	0.87	11.42	
TW3	320	30.45	+0.00	+10.55	+5.78	+11.42	0.41	10.55	5.78	70.00	738.50	41.23	0.87	11.42	
TW3	325	30.45	+0.00	+11.35	+5.78	+12.10	0.36	11.35	5.78	70.00	794.50	38.33	0.75	12.10	
TW3	330	30.45	+0.00	+10.75	+5.78	+11.58	0.39	10.75	5.78	70.00	752.50	40.47	0.83	11.58	
TW3	335	30.45	+0.00	+10.65	+5.78	+11.50	0.40	10.65	5.78	70.00	745.50	40.85	0.85	11.50	
TW3	340	30.45	+0.00	+10.30	+5.78	+11.21	0.42	10.30	5.78	70.00	721.00	42.23	0.91	11.21	
TW3	345	30.45	+0.00	+10.25	+5.78	+11.17	0.42	10.25	5.78	70.00	717.50	42.44	0.92	11.17	
TW3	350	30.45	+0.00	+9.55	+5.78	+10.61	0.47	9.55	5.78	70.00	668.50	45.55	1.06	10.61	
TW3	355	30.45	+0.00	+9.50	+5.78	+10.57	0.47	9.50	5.78	70.00	665.00	45.79	1.07	10.57	
TW3	360	30.45	+0.00	+10.40	+5.78	+11.29	0.41	10.40	5.78	70.00	728.00	41.83	0.89	11.29	
TW3	370	30.45	+0.00	+10.50	+5.78	+11.37	0.41	10.50	5.78	70.00	735.00	41.43	0.87	11.37	
TW3	380	30.45	+0.00	+11.35	+5.78	+12.10	0.36	11.35	5.78	70.00	794.50	38.33	0.75	12.10	
TW3	390	30.45	+0.00	+12.85	+5.78	+13.43	0.30	12.85	5.78	70.00	899.50	33.85	0.58	13.43	
TW4	290	30.45	+0.58	+10.63	+6.36	+11.58	0.44	10.05	5.78	70.00	703.50	43.28	0.95	11.00	
TW4	295	30.45	+0.00	+11.30	+5.78	+12.06	0.37	11.30	5.78	70.00	791.00	38.50	0.76	12.06	
TW4	300	30.45	+0.00	+12.00	+5.78	+12.67	0.33	12.00	5.78	70.00	840.00	36.25	0.67	12.67	
TW4	305	30.45	+0.00	+13.90	+5.78	+14.40	0.27	13.90	5.78	70.00	973.00	31.29	0.50	14.40	
TW4	310	30.45	+0.00	+12.75	+5.78	+13.34	0.31	12.75	5.78	70.00	892.50	34.12	0.59	13.34	
TW4	315	30.45	+0.00	+12.70	+5.78	+13.30	0.31	12.70	5.78	70.00	889.00	34.25	0.60	13.30	
TW4	320	30.45	+0.00	+13.30	+5.78	+13.85	0.29	13.30	5.78	70.00	931.00	32.71	0.55	13.85	
TW4	325	30.45	+0.00	+14.20	+5.78	+14.68	0.26	14.20	5.78	70.00	994.00	30.63	0.48	14.68	
TW4	330	30.45	+0.00	+12.10	+5.78	+12.76	0.33	12.10	5.78	70.00	847.00	35.95	0.66	12.76	
TW4	335	30.45	+0.00	+12.60	+5.78	+13.21	0.31	12.60	5.78	70.00	882.00	34.52	0.61	13.21	
TW4	340	30.45	+0.00	+13.20	+5.78	+13.75	0.29	13.20	5.78	70.00	924.00	32.95	0.55	13.75	
TW4	345	30.45	+0.00	+13.90	+5.78	+14.40	0.27	13.90	5.78	70.00	973.00	31.29	0.50	14.40	
TW4	350	30.45	+0.00	+13.50	+5.78	+14.03	0.28	13.50	5.78	70.00	945.00	32.22	0.53	14.03	
TW4	355	30.45	+0.00	+14.35	+5.78	+14.82	0.26	14.35	5.78	70.00	1004.50	30.31	0.47	14.82	
TW4	360	30.45	+0.00	+13.45	+5.78	+13.98	0.28	13.45	5.78	70.00	941.50	32.34	0.53	13.98	
TW4	370	30.45	+0.00	+15.00	+5.78	+15.43	0.24	15.00	5.78	70.00	1050.00	29.00	0.43	15.43	
TW4	380	30.45	+0.00	+14.90	+5.78	+15.33	0.24	14.90	5.78	70.00	1043.00	29.19	0.43	15.33	
TW4	390	30.45	+0.00	+15.00	+5.78	+15.43	0.24	15.00	5.78	70.00	1050.00	29.00	0.43	15.43	
TW5	290	30.45	+0.58	+13.93	+6.36	+14.47	0.28	13.35	5.78	70.00	934.50	32.58	0.54	13.89	
TW5	295	30.45	+0.00	+16.50	+5.78	+16.85	0.21	16.50	5.78	70.00	1155.00	26.36	0.35	16.85	
TW5	300	30.45	+0.00	+14.25	+5.78	+14.72	0.26	14.25	5.78	70.00	997.50	30.53	0.47	14.72	
TW5	305	30.45	+0.00	+16.05	+5.78	+16.42	0.22	16.05	5.78	70.00	1123.50	27.10	0.37	16.42	
TW5	310	30.45	+0.00	+17.10	+5.78	+17.43	0.20	17.10	5.78	70.00	1197.00	25.44	0.33	17.43	
TW5	315	30.45	+0.00	+15.40	+5.78	+15.81	0.23	15.40	5.78	70.00	1078.00	28.25	0.41	15.81	
TW5	320	30.45	+0.00	+17.05	+5.78	+17.38	0.20	17.05	5.78	70.00	1193.50	25.51	0.33	17.38	
TW5	325	30.45	+0.00	+16.00	+5.78	+16.38	0.22	16.00	5.78	70.00	1120.00	27.19	0.38	16.38	
TW5	330	30.45	+0.00	+14.80	+5.78	+15.24	0.24	14.80	5.78	70.00	1036.00	29.39	0.44	15.24	
TW5	335	30.45	+0.00	+17.15	+5.78	+17.48	0.20	17.15	5.78	70.00	1200.50	25.36	0.33	17.48	
TW5	340	30.45	+0.00	+15.45	+5.78	+15.85	0.23	15.45	5.78	70.00	1081.50	28.16	0.40	15.85	
TW5	345	30.45	+0.00	+16.40	+5.78	+16.76	0.21	16.40	5.78	70.00	1148.00	26.52	0.36	16.76	
TW5	350	30.45	+0.00	+16.70	+5.78	+17.05	0.20	16.70	5.78	70.00	1169.00	26.05	0.35	17.05	
TW5	355	30.45	+0.00	+16.85	+5.78	+17.19	0.20	16.85	5.78	70.00	1179.50	25.82	0.34	17.19	
TW5	360	30.45	+0.00	+16.40	+5.78	+16.76	0.21	16.40	5.78	70.00	1148.00	26.52	0.36	16.76	
TW5	370	30.45	+0.00	+16.20	+5.78	+16.57	0.21	16.20	5.78	70.00	1134.00	26.85	0.37	16.57	
TW5	380	30.45	+0.00	+17.00	+5.78	+17.33	0.20	17.00	5.78	70.00	1190.00	25.59	0.33	17.33	
TW5	390	30.45	+0.00	+16.95	+5.73	+17.29	0.20	16.95	5.78	70.00	1186.50	25.66	0.34	17.29	

ตาราง ค-18 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=31.75 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(17)
TW2	290	31.75	+0.58	+3.73	+6.52	+14.30	2.59	3.15	5.94	70.00	220.50	143.99	10.57	13.72	
TW2	295	31.75	+0.00	+2.75	+5.94	+16.62	3.18	2.75	5.94	70.00	192.50	164.94	13.87	16.62	
TW2	300	31.75	+0.00	+3.30	+5.94	+12.93	2.42	3.30	5.94	70.00	231.00	137.45	9.63	12.93	
TW2	305	31.75	+0.00	+4.05	+5.94	+10.44	1.78	4.05	5.94	70.00	283.50	111.99	6.39	10.44	
TW2	310	31.75	+0.00	+4.70	+5.94	+9.45	1.42	4.70	5.94	70.00	329.00	98.50	4.75	9.45	
TW2	315	31.75	+0.00	+4.15	+5.94	+10.24	1.71	4.15	5.94	70.00	290.50	109.29	6.09	10.24	
TW2	320	31.75	+0.00	+3.55	+5.94	+11.87	2.17	3.55	5.94	70.00	248.50	127.77	8.32	11.87	
TW2	325	31.75	+0.00	+3.30	+5.94	+12.93	2.42	3.30	5.94	70.00	231.00	137.45	9.63	12.93	
TW2	330	31.75	+0.00	+3.15	+5.94	+13.72	2.59	3.15	5.94	70.00	220.50	143.99	10.57	13.72	
TW2	335	31.75	+0.00	+3.70	+5.94	+11.36	2.03	3.70	5.94	70.00	258.00	122.59	7.66	11.36	
TW2	340	31.75	+0.00	+3.05	+5.94	+14.32	2.72	3.05	5.94	70.00	213.50	148.71	11.27	14.32	
TW2	345	31.75	+0.00	+3.15	+5.94	+13.72	2.59	3.15	5.94	70.00	220.50	143.99	10.57	13.72	
TW2	350	31.75	+0.00	+3.20	+5.94	+13.44	2.53	3.20	5.94	70.00	224.00	141.74	10.24	13.44	
TW2	355	31.75	+0.00	+3.35	+5.94	+12.69	2.36	3.35	5.94	70.00	234.50	135.39	9.34	12.69	
TW2	360	31.75	+0.00	+2.90	+5.94	+15.37	2.93	2.90	5.94	70.00	203.00	158.40	12.47	15.37	
TW2	370	31.75	+0.00	+5.25	+5.94	+9.05	1.20	5.25	5.94	70.00	367.50	86.39	3.80	9.05	
TW2	380	31.75	+0.00	+13.85	+5.94	+14.40	0.28	13.85	5.94	70.00	969.50	32.75	0.55	14.40	
TW2	390	31.75	+0.00	+15.00	+5.94	+15.47	0.25	15.00	5.94	70.00	1050.00	30.24	0.47	15.47	
TW3	290	31.75	+0.58	+4.43	+6.52	+11.50	1.92	3.85	5.94	70.00	269.50	117.81	7.07	10.92	
TW3	295	31.75	+0.00	+3.90	+5.94	+10.79	1.88	3.90	5.94	70.00	273.00	116.30	6.89	10.79	
TW3	300	31.75	+0.00	+6.85	+5.94	+9.08	0.81	6.85	5.94	70.00	479.50	66.21	2.23	9.08	
TW3	305	31.75	+0.00	+8.70	+5.94	+10.09	0.56	8.70	5.94	70.00	609.00	52.13	1.39	10.09	
TW3	310	31.75	+0.00	+9.95	+5.94	+11.01	0.46	9.95	5.94	70.00	696.50	45.59	1.08	11.01	
TW3	315	31.75	+0.00	+10.40	+5.94	+11.37	0.43	10.40	5.94	70.00	728.00	43.61	0.97	11.37	
TW3	320	31.75	+0.00	+11.35	+5.94	+12.16	0.38	11.35	5.94	70.00	794.50	39.96	0.81	12.16	
TW3	325	31.75	+0.00	+14.65	+5.94	+15.14	0.26	14.65	5.94	70.00	1025.50	30.96	0.49	15.14	
TW3	330	31.75	+0.00	+12.10	+5.94	+12.82	0.34	12.10	5.94	70.00	847.00	37.49	0.72	12.82	
TW3	335	31.75	+0.00	+11.80	+5.94	+12.55	0.36	11.80	5.94	70.00	826.00	38.44	0.75	12.55	
TW3	340	31.75	+0.00	+11.80	+5.94	+12.55	0.36	11.80	5.94	70.00	826.00	38.44	0.75	12.55	
TW3	345	31.75	+0.00	+10.15	+5.94	+11.17	0.45	10.15	5.94	70.00	710.50	44.69	1.02	11.17	
TW3	350	31.75	+0.00	+11.30	+5.94	+12.12	0.38	11.30	5.94	70.00	791.00	40.14	0.82	12.12	
TW3	355	31.75	+0.00	+10.70	+5.94	+11.62	0.41	10.70	5.94	70.00	749.00	42.39	0.92	11.62	
TW3	360	31.75	+0.00	+11.05	+5.94	+11.91	0.39	11.05	5.94	70.00	773.50	41.05	0.86	11.91	
TW3	370	31.75	+0.00	+10.75	+5.94	+11.66	0.41	10.75	5.94	70.00	752.50	42.19	0.91	11.66	
TW3	380	31.75	+0.00	+11.45	+5.94	+12.25	0.37	11.45	5.94	70.00	801.50	39.61	0.80	12.25	
TW3	390	31.75	+0.00	+12.40	+5.94	+13.08	0.33	12.40	5.94	70.00	868.00	36.58	0.68	13.08	
TW4	290	31.75	+0.58	+12.53	+6.52	+13.26	0.35	11.95	5.94	70.00	836.50	37.96	0.73	12.68	
TW4	295	31.75	+0.00	+12.60	+5.94	+13.26	0.32	12.60	5.94	70.00	882.00	36.00	0.66	13.26	
TW4	300	31.75	+0.00	+12.60	+5.94	+13.26	0.32	12.60	5.94	70.00	882.00	36.00	0.66	13.26	
TW4	305	31.75	+0.00	+14.35	+5.94	+14.86	0.27	14.35	5.94	70.00	1004.50	31.61	0.51	14.86	
TW4	310	31.75	+0.00	+14.95	+5.94	+15.42	0.25	14.95	5.94	70.00	1046.50	30.34	0.47	15.42	
TW4	315	31.75	+0.00	+12.95	+5.94	+13.58	0.31	12.95	5.94	70.00	908.50	35.02	0.63	13.58	
TW4	320	31.75	+0.00	+14.55	+5.94	+15.05	0.26	14.55	5.94	70.00	1018.50	31.17	0.50	15.05	
TW4	325	31.75	+0.00	+13.85	+5.94	+14.40	0.28	13.85	5.94	70.00	969.50	32.75	0.55	14.40	
TW4	330	31.75	+0.00	+15.00	+5.94	+15.47	0.25	15.00	5.94	70.00	1050.00	30.24	0.47	15.47	
TW4	335	31.75	+0.00	+13.80	+5.94	+14.35	0.28	13.80	5.94	70.00	966.00	32.87	0.55	14.35	
TW4	340	31.75	+0.00	+11.90	+5.94	+12.64	0.35	11.90	5.94	70.00	833.00	38.12	0.74	12.64	
TW4	345	31.75	+0.00	+14.15	+5.94	+14.67	0.27	14.15	5.94	70.00	990.50	32.05	0.52	14.67	
TW4	350	31.75	+0.00	+14.05	+5.94	+14.58	0.27	14.05	5.94	70.00	983.50	32.28	0.53	14.58	
TW4	355	31.75	+0.00	+14.40	+5.94	+14.91	0.27	14.40	5.94	70.00	1008.00	31.50	0.51	14.91	
TW4	360	31.75	+0.00	+15.25	+5.94	+15.70	0.24	15.25	5.94	70.00	1067.50	29.74	0.45	15.70	
TW4	370	31.75	+0.00	+14.25	+5.94	+14.77	0.27	14.25	5.94	70.00	997.50	31.83	0.52	14.77	
TW4	380	31.75	+0.00	+15.45	+5.94	+15.89	0.24	15.45	5.94	70.00	1081.50	29.36	0.44	15.89	
TW4	390	31.75	+0.00	+14.95	+5.94	+15.42	0.25	14.95	5.94	70.00	1046.50	30.34	0.47	15.42	
TW5	290	31.75	+0.58	+18.08	+6.52	+18.42	0.20	17.50	5.94	70.00	1225.00	25.92	0.34	17.84	
TW5	295	31.75	+0.00	+15.60	+5.94	+16.03	0.24	15.60	5.94	70.00	1092.00	29.08	0.43	16.03	
TW5	300	31.75	+0.00	+16.20	+5.94	+16.60	0.22	16.20	5.94	70.00	1134.00	28.00	0.40	16.60	
TW5	305	31.75	+0.00	+15.00	+5.94	+15.47	0.25	15.00	5.94	70.00	1050.00	30.24	0.47	15.47	
TW5	310	31.75	+0.00	+16.40	+5.94	+16.79	0.22	16.40	5.94	70.00	1148.00	27.66	0.39	16.79	
TW5	315	31.75	+0.00	+15.30	+5.94	+15.75	0.24	15.30	5.94	70.00	1071.00	29.65	0.45	15.75	
TW5	320	31.75	+0.00	+16.05	+5.94	+16.46	0.23	16.05	5.94	70.00	1123.50	28.26	0.41	16.46	
TW5	325	31.75	+0.00	+15.40	+5.94	+15.84	0.24	15.40	5.94	70.00	1078.00	29.45	0.44	15.84	
TW5	330	31.75	+0.00	+16.05	+5.94	+16.46	0.23	16.05	5.94	70.00	1123.50	28.26	0.41	16.46	
TW5	335	31.75	+0.00	+15.65	+5.94	+16.08	0.23	15.65	5.94	70.00	1095.50	28.98	0.43	16.08	
TW5	340	31.75	+0.00	+16.45	+5.94	+16.84	0.22	16.45	5.94	70.00	1151.50	27.57	0.39	16.84	
TW5	345	31.75	+0.00	+16.25	+5.94	+16.65	0.22	16.25	5.94	70.00	1137.50	27.91	0.40	16.65	
TW5	350	31.75	+0.00	+16.45	+5.94	+16.84	0.22	16.45	5.94	70.00	1151.50	27.57	0.39	16.84	
TW5	355	31.75	+0.00	+17.25	+5.94	+17.60	0.20	17.25	5.94	70.00	1207.50	26.29	0.35	17.60	
TW5	360	31.75	+0.00	+15.45	+5.94	+15.89	0.24	15.45	5.94	70.00	1081.50	29.36	0.44	15.89	
TW5	370	31.75	+0.00	+16.55	+5.94	+16.93	0.22	16.55	5.94	70.00	1158.50	27.41	0.38	16.93	
TW5	380	31.75	+0.00	+16.50	+5.94	+16.89	0.22	16.50	5.94	70.00	1155.00	27.49	0.39	16.89	
TW5	390	31.75	+0.00	+17.00	+5.94	+17.36	0.21	17.00	5.94	70.00	1190.00	26.68	0.36	17.36	

ตาราง ค-19 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=36.45 l/s

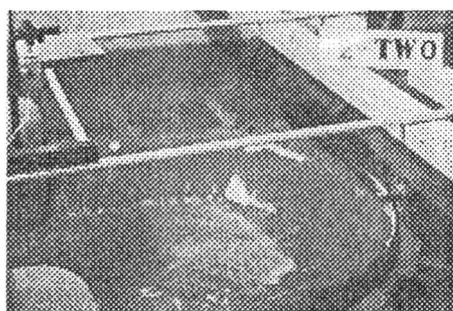
NO	STA	Q	EL_B	EL_W	EL_Yc	FL_F	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	36.45	+0.58	+3.88	+7.09	+16.57	2.77	3.30	6.51	70.00	231.00	157.79	12.69	15.89	
TW2	295	36.45	+0.00	+3.15	+6.51	+17.08	2.97	3.15	6.51	70.00	220.50	165.31	13.93	17.08	
TW2	300	36.45	+0.00	+2.95	+6.51	+18.83	3.28	2.95	6.51	70.00	206.50	176.51	15.88	18.83	
TW2	305	36.45	+0.00	+3.90	+6.51	+12.99	2.16	3.90	6.51	70.00	273.00	133.52	9.09	12.99	
TW2	310	36.45	+0.00	+4.10	+6.51	+12.32	2.00	4.10	6.51	70.00	287.00	127.00	8.22	12.32	
TW2	315	36.45	+0.00	+4.50	+6.51	+11.32	1.74	4.50	6.51	70.00	315.00	115.71	6.82	11.32	
TW2	320	36.45	+0.00	+3.15	+6.51	+17.08	2.97	3.15	6.51	70.00	220.50	165.31	13.93	17.08	
TW2	325	36.45	+0.00	+2.95	+6.51	+18.83	3.28	2.95	6.51	70.00	206.50	176.51	15.88	18.83	
TW2	330	36.45	+0.00	+2.95	+6.51	+18.83	3.28	2.95	6.51	70.00	206.50	176.51	15.88	18.83	
TW2	335	36.45	+0.00	+2.95	+6.51	+18.83	3.28	2.95	6.51	70.00	206.50	176.51	15.88	18.83	
TW2	340	36.45	+0.00	+3.10	+6.51	+17.48	3.05	3.10	6.51	70.00	217.00	167.97	14.38	17.48	
TW2	345	36.45	+0.00	+3.45	+6.51	+15.06	2.59	3.45	6.51	70.00	241.50	150.93	11.61	15.06	
TW2	350	36.45	+0.00	+2.90	+6.51	+19.33	3.37	2.90	6.51	70.00	203.00	179.56	16.43	19.33	
TW2	355	36.45	+0.00	+2.90	+6.51	+19.33	3.37	2.90	6.51	70.00	203.00	179.56	16.43	19.33	
TW2	360	36.45	+0.00	+3.00	+6.51	+18.36	3.20	3.00	6.51	70.00	210.00	173.57	15.36	18.36	
TW2	370	36.45	+0.00	+5.65	+6.51	+9.98	1.24	5.65	6.51	70.00	395.50	92.16	4.33	9.98	
TW2	380	36.45	+0.00	+10.25	+6.51	+11.57	0.51	10.25	6.51	70.00	717.50	50.80	1.32	11.57	
TW2	390	36.45	+0.00	+15.25	+6.51	+15.84	0.28	15.25	6.51	70.00	1067.50	34.15	0.59	15.84	
TW3	290	36.45	+0.58	+3.33	+7.09	+21.60	3.65	2.75	6.51	70.00	192.50	189.35	18.27	21.02	
TW3	295	36.45	+0.00	+3.05	+6.51	+17.91	3.12	3.05	6.51	70.00	213.50	170.73	14.86	17.91	
TW3	300	36.45	+0.00	+3.25	+6.51	+16.33	2.84	3.25	6.51	70.00	227.50	160.22	13.08	16.33	
TW3	305	36.45	+0.00	+7.05	+6.51	+9.83	0.89	7.05	6.51	70.00	493.50	73.86	2.78	9.83	
TW3	310	36.45	+0.00	+8.40	+6.51	+10.36	0.68	8.40	6.51	70.00	588.00	61.99	1.96	10.36	
TW3	315	36.45	+0.00	+9.70	+6.51	+11.17	0.55	9.70	6.51	70.00	679.00	53.68	1.47	11.17	
TW3	320	36.45	+0.00	+10.45	+6.51	+11.72	0.49	10.45	6.51	70.00	731.50	49.83	1.27	11.72	
TW3	325	36.45	+0.00	+11.65	+6.51	+12.67	0.42	11.65	6.51	70.00	815.50	44.70	1.02	12.67	
TW3	330	36.45	+0.00	+11.70	+6.51	+12.71	0.42	11.70	6.51	70.00	819.00	44.51	1.01	12.71	
TW3	335	36.45	+0.00	+11.80	+6.51	+12.79	0.41	11.80	6.51	70.00	826.00	44.13	0.99	12.79	
TW3	340	36.45	+0.00	+11.65	+6.51	+12.67	0.42	11.65	6.51	70.00	815.50	44.70	1.02	12.67	
TW3	345	36.45	+0.00	+12.05	+6.51	+13.00	0.40	12.05	6.51	70.00	843.50	43.21	0.95	13.00	
TW3	350	36.45	+0.00	+11.95	+6.51	+12.92	0.40	11.95	6.51	70.00	836.50	43.57	0.97	12.92	
TW3	355	36.45	+0.00	+10.75	+6.51	+11.95	0.47	10.75	6.51	70.00	752.50	48.44	1.20	11.95	
TW3	360	36.45	+0.00	+11.35	+6.51	+12.42	0.43	11.35	6.51	70.00	784.50	45.88	1.07	12.42	
TW3	370	36.45	+0.00	+11.25	+6.51	+12.34	0.44	11.25	6.51	70.00	787.50	46.29	1.09	12.34	
TW3	380	36.45	+0.00	+11.50	+6.51	+12.54	0.43	11.50	6.51	70.00	805.00	45.28	1.04	12.54	
TW3	390	36.45	+0.00	+10.85	+6.51	+12.02	0.47	10.85	6.51	70.00	759.50	47.99	1.17	12.02	
TW4	290	36.45	+0.58	+11.68	+7.09	+12.80	0.45	11.10	6.51	70.00	777.00	46.91	1.12	12.22	
TW4	295	36.45	+0.00	+13.10	+6.51	+13.91	0.35	13.10	6.51	70.00	917.00	39.75	0.81	13.91	
TW4	300	36.45	+0.00	+11.65	+6.51	+12.67	0.42	11.65	6.51	70.00	815.50	44.70	1.02	12.67	
TW4	305	36.45	+0.00	+13.25	+6.51	+14.04	0.34	13.25	6.51	70.00	927.50	39.30	0.79	14.04	
TW4	310	36.45	+0.00	+15.65	+6.51	+16.21	0.27	15.65	6.51	70.00	1095.50	33.27	0.56	16.21	
TW4	315	36.45	+0.00	+12.80	+6.51	+13.64	0.36	12.80	6.51	70.00	896.00	40.68	0.84	13.64	
TW4	320	36.45	+0.00	+13.40	+6.51	+14.17	0.34	13.40	6.51	70.00	938.00	38.86	0.77	14.17	
TW4	325	36.45	+0.00	+12.95	+6.51	+13.77	0.36	12.95	6.51	70.00	906.50	40.21	0.82	13.77	
TW4	330	36.45	+0.00	+14.25	+6.51	+14.93	0.31	14.25	6.51	70.00	997.50	36.54	0.68	14.93	
TW4	335	36.45	+0.00	+13.55	+6.51	+14.30	0.33	13.55	6.51	70.00	948.50	38.43	0.75	14.30	
TW4	340	36.45	+0.00	+13.15	+6.51	+13.95	0.35	13.15	6.51	70.00	920.50	39.60	0.80	13.95	
TW4	345	36.45	+0.00	+13.75	+6.51	+14.48	0.33	13.75	6.51	70.00	962.50	37.87	0.73	14.48	
TW4	350	36.45	+0.00	+15.15	+6.51	+15.75	0.28	15.15	6.51	70.00	1060.50	34.37	0.60	15.75	
TW4	355	36.45	+0.00	+14.55	+6.51	+15.20	0.30	14.55	6.51	70.00	1018.50	35.79	0.65	15.20	
TW4	360	36.45	+0.00	+14.45	+6.51	+15.11	0.30	14.45	6.51	70.00	1011.50	36.04	0.66	15.11	
TW4	370	36.45	+0.00	+16.50	+6.51	+17.01	0.25	16.50	6.51	70.00	1155.00	31.56	0.51	17.01	
TW4	380	36.45	+0.00	+15.95	+6.51	+16.49	0.26	15.95	6.51	70.00	1116.50	32.65	0.54	16.49	
TW4	390	36.45	+0.00	+16.50	+6.51	+17.01	0.25	16.50	6.51	70.00	1155.00	31.56	0.51	17.01	
TW5	290	36.45	+0.58	+14.48	+7.09	+15.20	0.32	13.90	6.51	70.00	973.00	37.46	0.72	14.62	
TW5	295	36.45	+0.00	+13.45	+6.51	+14.21	0.34	13.45	6.51	70.00	941.50	38.71	0.76	14.21	
TW5	300	36.45	+0.00	+13.70	+6.51	+14.44	0.33	13.70	6.51	70.00	959.00	38.01	0.74	14.44	
TW5	305	36.45	+0.00	+16.15	+6.51	+16.68	0.26	16.15	6.51	70.00	1130.50	32.24	0.53	16.68	
TW5	310	36.45	+0.00	+16.60	+6.51	+17.10	0.25	16.60	6.51	70.00	1162.00	31.37	0.50	17.10	
TW5	315	36.45	+0.00	+15.70	+6.51	+16.26	0.27	15.70	6.51	70.00	1099.00	33.17	0.56	16.26	
TW5	320	36.45	+0.00	+15.95	+6.51	+16.49	0.26	15.95	6.51	70.00	1116.50	32.65	0.54	16.49	
TW5	325	36.45	+0.00	+16.85	+6.51	+17.34	0.24	16.85	6.51	70.00	1179.50	30.90	0.49	17.34	
TW5	330	36.45	+0.00	+15.30	+6.51	+15.89	0.28	15.30	6.51	70.00	1071.00	34.03	0.59	15.89	
TW5	335	36.45	+0.00	+15.65	+6.51	+16.21	0.27	15.65	6.51	70.00	1095.50	33.27	0.56	16.21	
TW5	340	36.45	+0.00	+15.10	+6.51	+15.71	0.28	15.10	6.51	70.00	1057.00	34.48	0.61	15.71	
TW5	345	36.45	+0.00	+15.25	+6.51	+15.84	0.28	15.25	6.51	70.00	1067.50	34.15	0.59	15.84	
TW5	350	36.45	+0.00	+15.45	+6.51	+16.03	0.27	15.45	6.51	70.00	1081.50	33.70	0.58	16.03	
TW5	355	36.45	+0.00	+16.55	+6.51	+17.05	0.25	16.55	6.51	70.00	1158.50	31.46	0.50	17.05	
TW5	360	36.45	+0.00	+17.95	+6.51	+18.38	0.22	17.95	6.51	70.00	1256.50	29.01	0.43	18.38	
TW5	370	36.45	+0.00	+17.85	+6.51	+18.28	0.22	17.85	6.51	70.00	1249.50	29.17	0.43	18.28	
TW5	380	36.45	+0.00	+17.25	+6.51	+17.71	0.23	17.25	6.51	70.00	1207.50	30.19	0.46	17.71	
TW5	390	36.45	+0.00	+17.50	+6.51	+17.95	0.23	17.50	6.51	70.00	1225.00	29.76	0.45	17.95	

ตาราง ค-20 ผลการทดลองการปรับปรุงด้านท้ายน้ำ Q=40.66 l/s

NO	STA	Q	EL_B	EL_W	EL_Yc	EL_E	Fr	Y	Yc	B	A	V	VH	E	Remark
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(16)	(17)
	cm	l/s	cm	cm	cm	cm		cm	cm	cm	sq cm	cm/s	cm	cm	
TW2	290	40.66	+0.58	+3.28	+7.59	+26.87	4.18	2.70	7.01	70.00	189.00	215.13	23.59	26.29	
TW2	295	40.66	+0.00	+2.80	+7.01	+24.73	3.96	2.80	7.01	70.00	196.00	207.45	21.93	24.73	
TW2	300	40.66	+0.00	+3.00	+7.01	+22.11	3.57	3.00	7.01	70.00	210.00	193.62	19.11	22.11	
TW2	305	40.66	+0.00	+5.10	+7.01	+11.71	1.61	5.10	7.01	70.00	357.00	113.89	6.61	11.71	
TW2	310	40.66	+0.00	+4.45	+7.01	+13.13	1.98	4.45	7.01	70.00	311.50	130.53	8.68	13.13	
TW2	315	40.66	+0.00	+4.15	+7.01	+14.13	2.19	4.15	7.01	70.00	290.50	139.97	9.98	14.13	
TW2	320	40.66	+0.00	+3.80	+7.01	+15.71	2.50	3.80	7.01	70.00	266.00	152.86	11.91	15.71	
TW2	325	40.66	+0.00	+3.60	+7.01	+16.87	2.72	3.60	7.01	70.00	252.00	161.35	13.27	16.87	
TW2	330	40.66	+0.00	+3.10	+7.01	+20.99	3.40	3.10	7.01	70.00	217.00	187.37	17.89	20.99	
TW2	335	40.66	+0.00	+3.55	+7.01	+17.20	2.77	3.55	7.01	70.00	248.50	163.62	13.65	17.20	
TW2	340	40.66	+0.00	+3.10	+7.01	+20.99	3.40	3.10	7.01	70.00	217.00	187.37	17.89	20.99	
TW2	345	40.66	+0.00	+3.25	+7.01	+19.53	3.17	3.25	7.01	70.00	227.50	178.73	16.28	19.53	
TW2	350	40.66	+0.00	+3.35	+7.01	+18.67	3.02	3.35	7.01	70.00	234.50	173.39	15.32	18.67	
TW2	355	40.66	+0.00	+3.15	+7.01	+20.48	3.32	3.15	7.01	70.00	220.50	184.40	17.33	20.48	
TW2	360	40.66	+0.00	+3.30	+7.01	+19.09	3.09	3.30	7.01	70.00	231.00	178.02	15.79	19.09	
TW2	370	40.66	+0.00	+3.25	+7.01	+19.53	3.17	3.25	7.01	70.00	227.50	178.73	16.28	19.53	
TW2	380	40.66	+0.00	+15.10	+7.01	+15.85	0.32	15.10	7.01	70.00	1057.00	38.47	0.75	15.85	
TW2	390	40.66	+0.00	+16.00	+7.01	+16.67	0.29	16.00	7.01	70.00	1120.00	36.30	0.87	16.67	
TW3	290	40.66	+0.58	+6.68	+7.59	+11.30	1.23	6.10	7.01	70.00	427.00	95.22	4.62	10.72	
TW3	295	40.66	+0.00	+6.05	+7.01	+10.75	1.25	6.05	7.01	70.00	423.50	96.01	4.70	10.75	
TW3	300	40.66	+0.00	+5.70	+7.01	+10.99	1.36	5.70	7.01	70.00	399.00	101.90	5.29	10.99	
TW3	305	40.66	+0.00	+8.45	+7.01	+10.86	0.76	8.45	7.01	70.00	591.50	68.74	2.41	10.86	
TW3	310	40.66	+0.00	+9.00	+7.01	+11.12	0.69	9.00	7.01	70.00	630.00	64.54	2.12	11.12	
TW3	315	40.66	+0.00	+9.55	+7.01	+11.44	0.63	9.55	7.01	70.00	668.50	60.82	1.89	11.44	
TW3	320	40.66	+0.00	+10.95	+7.01	+12.38	0.51	10.95	7.01	70.00	766.50	53.05	1.43	12.38	
TW3	325	40.66	+0.00	+11.70	+7.01	+12.96	0.46	11.70	7.01	70.00	819.00	49.65	1.26	12.96	
TW3	330	40.66	+0.00	+11.75	+7.01	+13.00	0.46	11.75	7.01	70.00	822.50	49.43	1.25	13.00	
TW3	335	40.66	+0.00	+11.50	+7.01	+12.80	0.48	11.50	7.01	70.00	805.00	50.51	1.30	12.80	
TW3	340	40.66	+0.00	+10.55	+7.01	+12.10	0.54	10.55	7.01	70.00	738.50	55.06	1.55	12.10	
TW3	345	40.66	+0.00	+11.00	+7.01	+12.42	0.51	11.00	7.01	70.00	770.00	52.81	1.42	12.42	
TW3	350	40.66	+0.00	+10.35	+7.01	+11.96	0.56	10.35	7.01	70.00	724.50	56.12	1.61	11.96	
TW3	355	40.66	+0.00	+10.50	+7.01	+12.06	0.55	10.50	7.01	70.00	735.00	55.32	1.56	12.06	
TW3	360	40.66	+0.00	+10.40	+7.01	+11.99	0.55	10.40	7.01	70.00	728.00	55.85	1.59	11.99	
TW3	370	40.66	+0.00	+11.85	+7.01	+13.07	0.45	11.85	7.01	70.00	829.50	49.02	1.22	13.07	
TW3	380	40.66	+0.00	+12.10	+7.01	+13.27	0.44	12.10	7.01	70.00	847.00	48.00	1.17	13.27	
TW3	390	40.66	+0.00	+12.90	+7.01	+13.93	0.40	12.90	7.01	70.00	903.00	45.03	1.03	13.93	
TW4	290	40.66	+0.58	+12.68	+7.59	+13.85	0.44	12.10	7.01	70.00	847.00	48.00	1.17	13.27	
TW4	295	40.66	+0.00	+12.60	+7.01	+13.68	0.41	12.60	7.01	70.00	882.00	46.10	1.08	13.68	
TW4	300	40.66	+0.00	+14.40	+7.01	+15.23	0.34	14.40	7.01	70.00	1008.00	40.34	0.83	15.23	
TW4	305	40.66	+0.00	+14.50	+7.01	+15.32	0.34	14.50	7.01	70.00	1015.00	40.06	0.82	15.32	
TW4	310	40.66	+0.00	+13.95	+7.01	+14.83	0.36	13.95	7.01	70.00	976.50	41.64	0.88	14.83	
TW4	315	40.66	+0.00	+13.70	+7.01	+14.62	0.37	13.70	7.01	70.00	959.00	42.40	0.92	14.62	
TW4	320	40.66	+0.00	+14.50	+7.01	+15.32	0.34	14.50	7.01	70.00	1015.00	40.06	0.82	15.32	
TW4	325	40.66	+0.00	+14.45	+7.01	+15.27	0.34	14.45	7.01	70.00	1011.50	40.20	0.82	15.27	
TW4	330	40.66	+0.00	+13.70	+7.01	+14.62	0.37	13.70	7.01	70.00	959.00	42.40	0.92	14.62	
TW4	335	40.66	+0.00	+13.55	+7.01	+14.49	0.37	13.55	7.01	70.00	948.50	42.87	0.94	14.49	
TW4	340	40.66	+0.00	+13.35	+7.01	+14.31	0.38	13.35	7.01	70.00	934.50	43.51	0.96	14.31	
TW4	345	40.66	+0.00	+14.40	+7.01	+15.23	0.34	14.40	7.01	70.00	1008.00	40.34	0.83	15.23	
TW4	350	40.66	+0.00	+15.15	+7.01	+15.90	0.31	15.15	7.01	70.00	1060.50	38.34	0.75	15.90	
TW4	355	40.66	+0.00	+14.65	+7.01	+15.45	0.33	14.65	7.01	70.00	1025.50	39.65	0.80	15.45	
TW4	360	40.66	+0.00	+16.60	+7.01	+17.22	0.27	16.60	7.01	70.00	1162.00	34.99	0.62	17.22	
TW4	370	40.66	+0.00	+16.50	+7.01	+17.13	0.28	16.50	7.01	70.00	1155.00	35.20	0.63	17.13	
TW4	380	40.66	+0.00	+16.65	+7.01	+17.27	0.27	16.65	7.01	70.00	1165.50	34.89	0.62	17.27	
TW4	390	40.66	+0.00	+16.45	+7.01	+17.09	0.28	16.45	7.01	70.00	1151.50	35.31	0.64	17.09	
TW5	290	40.66	+0.58	+12.23	+7.59	+13.50	0.47	11.65	7.01	70.00	815.50	49.86	1.27	12.92	
TW5	295	40.66	+0.00	+12.30	+7.01	+13.44	0.43	12.30	7.01	70.00	861.00	47.22	1.14	13.44	
TW5	300	40.66	+0.00	+14.10	+7.01	+14.96	0.35	14.10	7.01	70.00	987.00	41.20	0.86	14.96	
TW5	305	40.66	+0.00	+14.45	+7.01	+15.27	0.34	14.45	7.01	70.00	1011.50	40.20	0.82	15.27	
TW5	310	40.66	+0.00	+15.70	+7.01	+16.40	0.30	15.70	7.01	70.00	1099.00	37.00	0.70	16.40	
TW5	315	40.66	+0.00	+14.90	+7.01	+15.67	0.32	14.90	7.01	70.00	1043.00	38.98	0.77	15.67	
TW5	320	40.66	+0.00	+16.15	+7.01	+16.81	0.29	16.15	7.01	70.00	1130.50	35.97	0.66	16.81	
TW5	325	40.66	+0.00	+16.05	+7.01	+16.72	0.29	16.05	7.01	70.00	1123.50	36.19	0.67	16.72	
TW5	330	40.66	+0.00	+16.25	+7.01	+16.90	0.28	16.25	7.01	70.00	1137.50	35.75	0.65	16.90	
TW5	335	40.66	+0.00	+16.50	+7.01	+17.13	0.28	16.50	7.01	70.00	1155.00	35.20	0.63	17.13	
TW5	340	40.66	+0.00	+15.60	+7.01	+16.31	0.30	15.60	7.01	70.00	1092.00	37.23	0.71	16.31	
TW5	345	40.66	+0.00	+16.45	+7.01	+17.09	0.28	16.45	7.01	70.00	1151.50	35.31	0.64	17.09	
TW5	350	40.66	+0.00	+16.00	+7.01	+16.67	0.29	16.00	7.01	70.00	1120.00	36.30	0.67	16.67	
TW5	355	40.66	+0.00	+17.00	+7.01	+17.60	0.26	17.00	7.01	70.00	1190.00	34.17	0.60	17.60	
TW5	360	40.66	+0.00	+15.85	+7.01	+16.53	0.29	15.85	7.01	70.00	1109.50	36.65	0.68	16.53	
TW5	370	40.66	+0.00	+17.10	+7.01	+17.69	0.26	17.10	7.01	70.00	1197.00	33.97	0.59	17.69	
TW5	380	40.66	+0.00	+16.10	+7.01	+16.76	0.29	16.10	7.01	70.00	1127.00	36.08	0.66	16.76	
TW5	390	40.66	+0.00	+16.95	+7.01	+17.55	0.27	16.95	7.01	70.00	1186.50	34.27	0.60	17.55	

ภาคผนวก ง

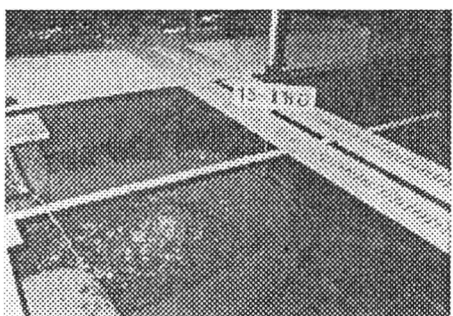
ภาพสภาพการไหลขณะทำการทดลอง



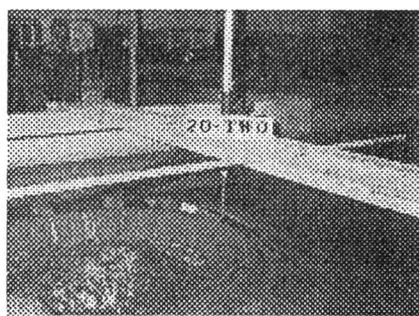
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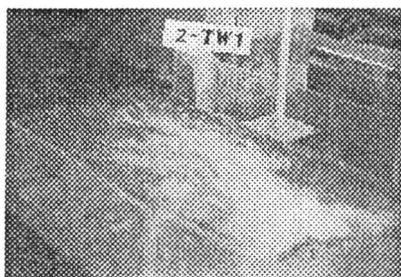


Q=28.36 l/s (0.71Qmax)



Q=40.66 l/s (1.01Qmax)

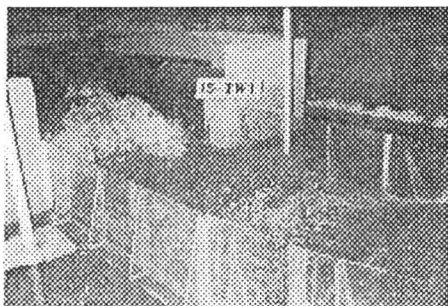
รูป ง-1 สภาพการไหลอ่างรับน้ำด้านบน



Q=7.27 l/s (0.18Qmax)



Q=21.02 l/s (0.52Qmax)

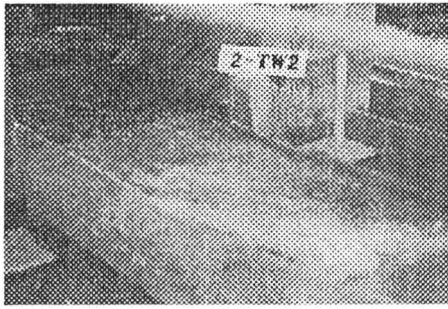


Q=28.36 l/s (0.71Qmax)

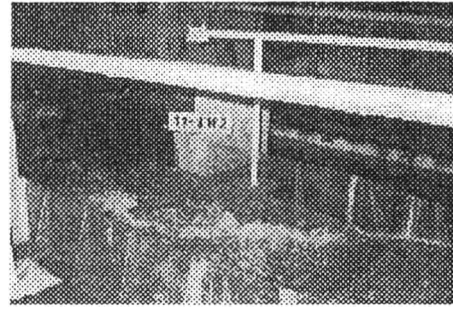


Q=40.66 l/s (1.01Qmax)

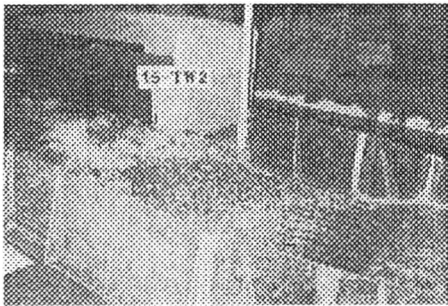
รูป ง-2 สภาพการไหลยกระดับท้ายน้ำกรณี TW1



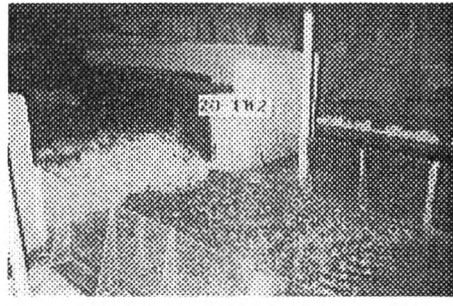
Q=7.27 l/s (0.18Qmax)



Q=21.02 l/s (0.52Qmax)

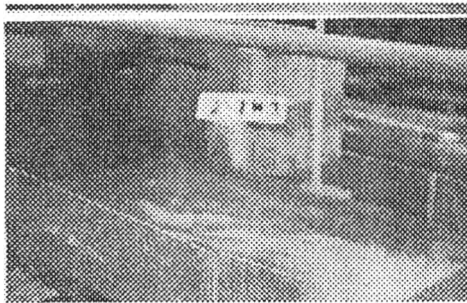


Q=28.36 l/s (0.71Qmax)

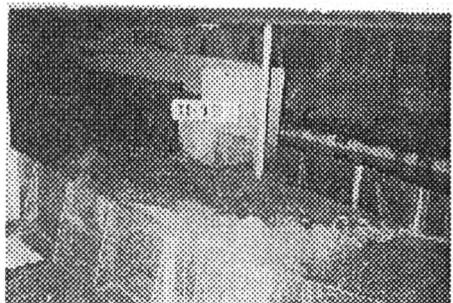


Q=40.66 l/s (1.01Qmax)

รูป ง-3 สภาพการไหลยกระดับท้ายน้ำกรณี TW2



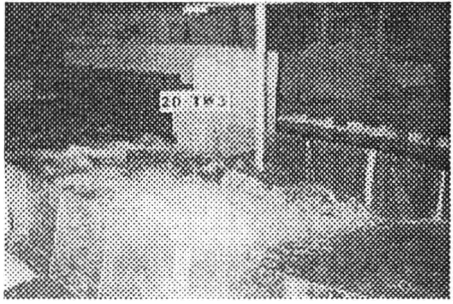
Q=7.27 l/s (0.18Qmax)



Q=21.02 l/s (0.52Qmax)

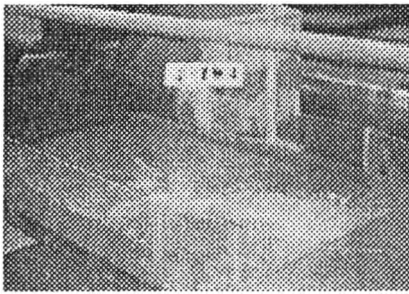


Q=28.36 l/s (0.71Qmax)

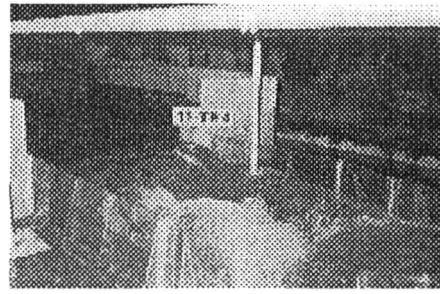


Q=40.66 l/s (1.01Qmax)

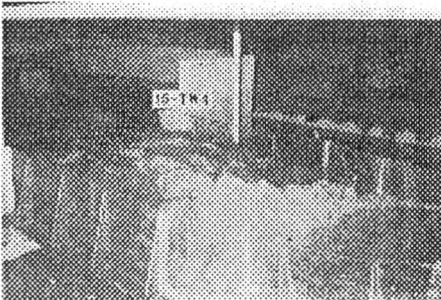
รูป ง-4 สภาพการไหลยกระดับท้ายน้ำกรณี TW3



Q=7.27 l/s (0.18Qmax)



Q=21.02 l/s (0.52Qmax)

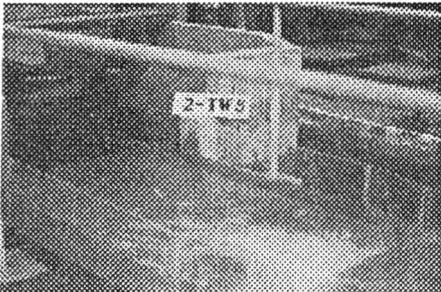


Q=28.36 l/s (0.71Qmax)

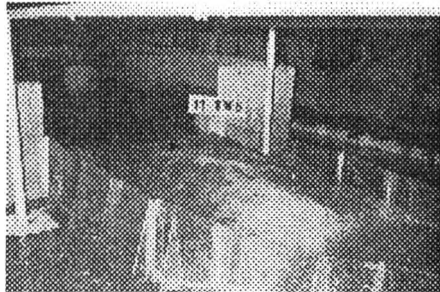


Q=40.66 l/s (1.01Qmax)

รูป ง-5 สภาพการไหลยกระดับทำนน้ำกรณี TW4



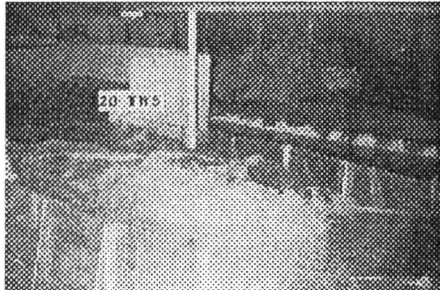
Q=7.27 l/s (0.18Qmax)



Q=21.02 l/s (0.52Qmax)



Q=28.36 l/s (0.71Qmax)



Q=40.66 l/s (1.01Qmax)

รูป ง-6 สภาพการไหลยกระดับทำนน้ำกรณี TW5

ประวัติผู้ทำการศึกษา

ชื่อ นายพิเชษฐ รัตนปราสาทกุล
เกิด วันที่ 20 มีนาคม 2512 จังหวัดเชียงราย
การศึกษา

พ.ศ. 2533 จบการศึกษานุปริญญา สาขาวิศวกรรมชลประทาน
จากโรงเรียนการชลประทาน ปากเกร็ด นนทบุรี
พ.ศ. 2536 จบการศึกษานุปริญญาวิศวกรรมศาสตรบัณฑิต (ว.ศ.บ.)
สาขาวิศวกรรมโยธา จากสถาบันเทคโนโลยีราชมงคล
พ.ศ. 2538 เข้าศึกษาหลักสูตรวิศวกรรมศาสตรมหาบัณฑิต
ภาควิชาวิศวกรรมแหล่งน้ำ คณะวิศวกรรมศาสตร์
จุฬาลงกรณ์มหาวิทยาลัย



การทำงาน

พ.ศ. 2533 รับราชการตำแหน่งนายช่างโยธา สำนักงานชลประทานที่ 9
อ.บางพระ จ.ชลบุรี
พ.ศ. 2534 รับราชการตำแหน่งนายช่างโยธา ฝ่ายออกแบบเขียน
กองออกแบบ กรมชลประทาน สามเสน ดุสิต ก.ท.ม.
พ.ศ. 2537 รับราชการตำแหน่งวิศวกรโยธา ฝ่ายออกแบบเขียน
สำนักออกแบบวิศวกรรมและสถาปัตยกรรม กรมชลประทาน
สามเสน ดุสิต ก.ท.ม.
ปัจจุบัน รับราชการตำแหน่งวิศวกรโยธา ฝ่ายออกแบบเขียน
สำนักออกแบบวิศวกรรมและสถาปัตยกรรม กรมชลประทาน
สามเสน ดุสิต ก.ท.ม.