添付資料 2-1

Minutes of Discussion of 5th and Final Joint Coordination Committee on 5th November 2009

MINUTES OF DISCUSSIONS OF
5th AND FINAL JOINT COORDINATION COMMITTEE
MEETING UNDER PHASE-II OF
THE PROJECT FOR STRENGTHENING OF FLOOD RISK
MANAGEMENT IN LAI NULLAH BASIN
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
AUTHORITIES CONCERNED OF
THE GOVERNMENT OF ISLAMIC REPUBLIC OF PAKISTAN

As envisaged under item XI (3) of the signed Minutes of Meeting between Japan International Cooperation Agency (JICA) and Authorities Concerned of the Government of Islamic Republic of Pakistan dated 30 August 2007, the JCC in its meeting held on 05 November 2009 under the chairmanship of Mr. Asjad Imtiaz Ali, Member Technical of Federal Flood Commission discussed and approved with consensus the Draft Final Report (DF/R) of the Project for its better sustainability in future.

The following are the main points discussed in the above 5th & Final JCC meeting.

1. DF/R:
   Expert Team explained contents of the DF/R in the 4th JCC meeting held on October 17 2009 and Pakistani side accepted the contents of the DF/R in principal subject to any comments by the stakeholders. The contents of DF/R include:
   - Activities and Progress of each Output;
   - Evaluation of each Output of Phase II; and
   - Lessons Learnt and Recommendations for future.

2. Correction and Additional Recommendation of DF/R
   Based on the comments on DF/R, the correction and recommendations will be reflected in the Final Report. The correction and recommendations include:
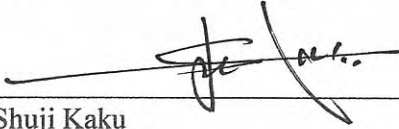   - Chapter 8.1.1. at the third sentence "UC" will be changed to "Nazim".
   - Additional recommendations are as follows:
     ① Regular maintenance and dredging of Lai Nullah is required (no later than end of April) before the monsoon season every year in coordination with concerned agencies, especially dredging works should be completed in advance to allow PMD to examine the Warning Code;
     ② In order to monitor the sustainability of the Project activities, a Steering Committee is recommended to take care of issues and support Flood Risk Management in Lai Nullah on regular basis in future.
     ③ Institutional strengthening for Counterpart Agencies is required

As a result of discussion all the related Pakistani authorities agreed to the matters refer to above.
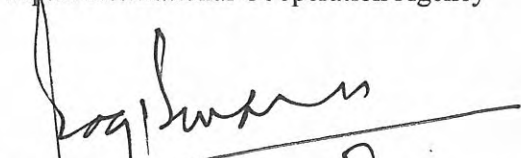
Islamabad, 5 November 2009

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Mr. Hidenori Kumagai
Director, Disaster Management Division 1,
Water Resources and Disaster Management
Group, Global Environment Department
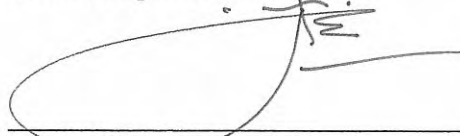Japan International Cooperation Agency

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Mr. Asjad Imtaiz Ali
Member Technical / Project Director
Federal Flood Commission
Ministry of Water and Power
Islamic Republic of Pakistan

_____

Mr. Shuji Kaku
Leader of Expert Team,
Japan International Cooperation Agency

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Mr. Zafar Hasan Reza
Joint Secretary, (ADB/ Japan)
Economic Affairs Division
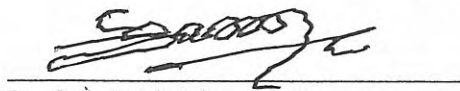Ministry of Economic Affair and Statistics
Islamic Republic of Pakistan

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Mr. Imdad Ullah Bosal
District Coordination Officer,
City District Government Rawalpindi
Islamic Republic of Pakistan

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Dr. Qamar-uz Zaman Chaudhary
Director General,
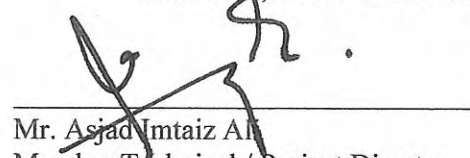Pakistan Meteorological Department
Islamic Republic of Pakistan

_____

Mr. Ashiq Ali Ghori
Director, Regional Planning,
Capital Development Authority, Islamabad
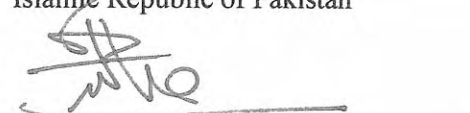Islamic Republic of Pakistan

_____

Mr. Ahmed Kamal
Chief Engineer (Floods)
Federal Flood Commission
Ministry of Water and Power
Islamic Republic of Pakistan

_____

Mr. Aadil Rafee Siddiqui
Cantonment Executive Officer,
Rawalpindi Cantonment Board
Islamic Republic of Pakistan

_____

Mr. Syed Nasir Ali Shah
Tehsil Municipal Officer,
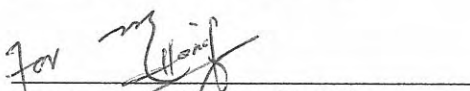Tehsil Municipal Administration Rawal
Town Rawalpindi
Islamic Republic of Pakistan

_____

Lt. Col. (Rtd) Islam-ul-Haq
Managing Director,
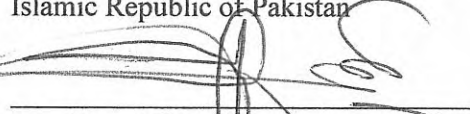Water and Sanitation Agency, Rawalpindi
Islamic Republic of Pakistan

_____

Dr. Abdur Rahman
District Emergency Officer
Punjab Emergency Service, Rescue1122
Islamic Republic of Pakistan

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添付資料 7-1

Evaluation Sheet of Output 1

Evaluation Sheet

Before Training

Self-evaluation

Name	Position	IV-1	IV-2	IV-3	IV-4	IV-5	IV-6	IV-7	IV-8	IV-9	IV-10	IV-11	IV-12	IV-13	IV-14	IV-15	IV-16	IV-17	IV-18
5_2 Mr. Shahzad Sultan	6	3	4	4	4	4	4	4	5	4	4	4	3	4	4	3	4	3	3
9_5 Mr. Shahid Mahamood	4	3	3	3	3	3	4	3	3	3	3	4	3	4	4	3	4	3	4
10_1 Mr. Zaheer A. Babar	6	4	5	6	6	6	1	1	1	1	3	1		1	1	6	1	1	1
10_2 Mr. Aleem ul Hassam	6	3	4	6	6	6	2	2	6	1	2	6	6	3	6	6	1	4	6
10_4 Mr. Aamir Shehzad Warsi	4	3	5	3	3	4	3	3	5							6	5	3	3
11_1 Mr. Imran Aslam	4	6	3	6	3	3	3	6	6	6	3	3	3	3	3	6	5	3	3
11_5 Mr. Farhan Khaliq	4	6	6	6	6	6	6												

Expert evaluation

Name	Position	IV-1	IV-2	IV-3	IV-4	IV-5	IV-6	IV-7	IV-8	IV-9	IV-10	IV-11	IV-12	IV-13	IV-14	IV-15	IV-16	IV-17	IV-18
5_2 Mr. Shahzad Sultan	6	3	3	1	3	3	4	2	3	4	3	4	3	4	4	2	4	3	3
9_5 Mr. Shahid Mahamood	4	3	3	2	3	3	3	2	3	3	3	4	3	4	4	2	4	3	4
10_1 Mr. Zaheer A. Babar	6	4	5		1	1	1	1	1	1		1		1	1	1	1	1	1
10_2 Mr. Aleem ul Hassam	6	3	4	3	1	1	2	2	1	1	2	1		3	1	1	1	2	1
10_4 Mr. Aamir Shehzad Warsi	4	3	5	3	3	4	3	3	5		3				3				
11_1 Mr. Imran Aslam	4		3	1	2	3	3				3	3		3			5	2	2
11_5 Mr. Farhan Khaliq	4	1	1			1		1	1	1	1	1		1		1	1	1	1

After Training

Self-evaluation

Name	Position	IV-1	IV-2	IV-3	IV-4	IV-5	IV-6	IV-7	IV-8	IV-9	IV-10	IV-11	IV-12	IV-13	IV-14	IV-15	IV-16	IV-17	IV-18
5_2 Mr. Shahzad Sultan	4	3	4	4	4	4	4	4	4	4	4	5	4	5	4	3	4	4	4
9_5 Mr. Shahid Mahamood	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4		4	3	4
10_1 Mr. Zaheer A. Babar	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	3	4
10_2 Mr. Aleem ul Hassan	5	4	4	4	3	4	5	5	4	4	3	4	3	4	4	3	4	3	4
10_4 Mr. Aamir Shehzad Warsi	5	4	4	4	4	4	4	4	4	4	3	4	3	5	5		5	5	4
11_1 Mr. Imran Aslam	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	4
11_5 Mr. Farhan Khaliq	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4

Expert evaluation

Name	Position	IV-1	IV-2	IV-3	IV-4	IV-5	IV-6	IV-7	IV-8	IV-9	IV-10	IV-11	IV-12	IV-13	IV-14	IV-15	IV-16	IV-17	IV-18
5_2 Mr. Shahzad Sultan	4	4	4	3	5	4	5	3	4	5	5	5	5	5	5	3	4	4	4
9_5 Mr. Shahid Mahamood	4	4	4	3	5	4	5	3	4	5	5	5	4	5	5	4	3	3	4
10_1 Mr. Zaheer A. Babar	4	4	4	3	4	4	5	3	4	5	5	5	4	5	5	3	3	3	4
10_2 Mr. Aleem ul Hassan	4	4	4	3	3	4	5	3	4	5	5	5	3	4	5	3	3	3	4
10_4 Mr. Aamir Shehzad Warsi	4	4	4	3	3	4	4	3	4	5	5	5	3	5	5	4	5	5	4
11_1 Mr. Imran Aslam	4	4	4	3	3	4	4	3	4	5	5	5	4	5	5	3	3	3	4
11_5 Mr. Farhan Khaliq	4	4	4	3	5	4	4	3	4	5	5	5	4	5	5	4	4	4	4

Position : 5: Management. 4: Technical. 3: Hydro/Hydraulic Engr. 2: Telecom/Computer Engr. 6: Others

Remark : Yes: mark to 5, No: mark to 1, x: mark to 6

添付資料 7-2

Examination on Hydrology

The Project for Strengthening Flood Risk Management in Lai Nullah Basin

Examination on Hydrology

Name _____

Lai Nullah Flood Forecasting and Warning System (FFWS)

Q1: FFWS has some rainfall station. Answer all the station's name.

A1:

Q2: Answer all the name of water level gauging station along Lai Nullah.

A2:

Rainfall Analysis

Q3: Explain differentiate between 60-minutes rainfall and 1-hour rainfall

A3:

Q4: How do you compute the probable rainfall of 100-year return period? Explain the procedure.

A4: 1.

2.

3.

4.

5.

Q5: Calculate 5, 10, 50, 100-year rainfall from Rainfall Data Sheet

A5:

Probable Rainfall (mm)			
5-year	10-year	50-year	100-year

Discharge Measurement

Q6:   Answer the objective of discharge measurement.

A6:

Q7:   How do you convert the water level into river discharge?

A7:   .

Q8:   How do you make a H-Q rating curve? Explain the procedure.

A8:   1.

      2.

      3.

      4.

      5.

      6.

Q9:   Fill in the Field Notebook and Compute measured discharge, flow area and average velocity in accordance with following condition:

<Condition>

.   ✓   Discharge measurement at Gawal mandi water level gauging station on January 29, 2009

    ✓   It was fine and calm day

    ✓   Water level was 491.50 EL.m at 11:51 when discharge measurement starts

    ✓   (3) measurement lines were taken (L1, L2 and L3)

    ✓   Surface floats were used for discharge measurement

    ✓   First float was dropped at L1 at 11:55 and floating time is 32.6 second

    ✓   Second one was dropped at L2 at 12:03 and floating time is 20.4 second

    ✓   The last one was dropped at L3 at 12:10 and floating time is 40.2 second

    ✓   And the water level at the end of discharge measurement was 491.90m at 12:13

    ✓   Use the following sheets for calculation:

        "DISCHARGE MEASUREMENT NOTES FOR FLOATING METHOD"

        "CROSS-SECTIONAL AREA CALCULATION"

        Gawal mandi Cross-section

A9:

Discharge	Total Area	Mean Velocity

Runoff Model

Q10: How does the "Runoff" change when "Curve Number" increases?
A10: :Start of flood

:Peak

:Duration

:Runoff Volume

Q11: How does the "Runoff" change when "Initial AMC" shifts 2 to 3?
A11: Start of flood

:Peak

:Duration

:Runoff Volume

Q12: How does the "Runoff" change when "Hydraulic Length" becomes long? (the catchment area is same)
A12: Start of flood

:Peak

:Duration

:Runoff Volume

Rainfall Data Sheet

1.
Extract Maximum Daily Rainfall each year

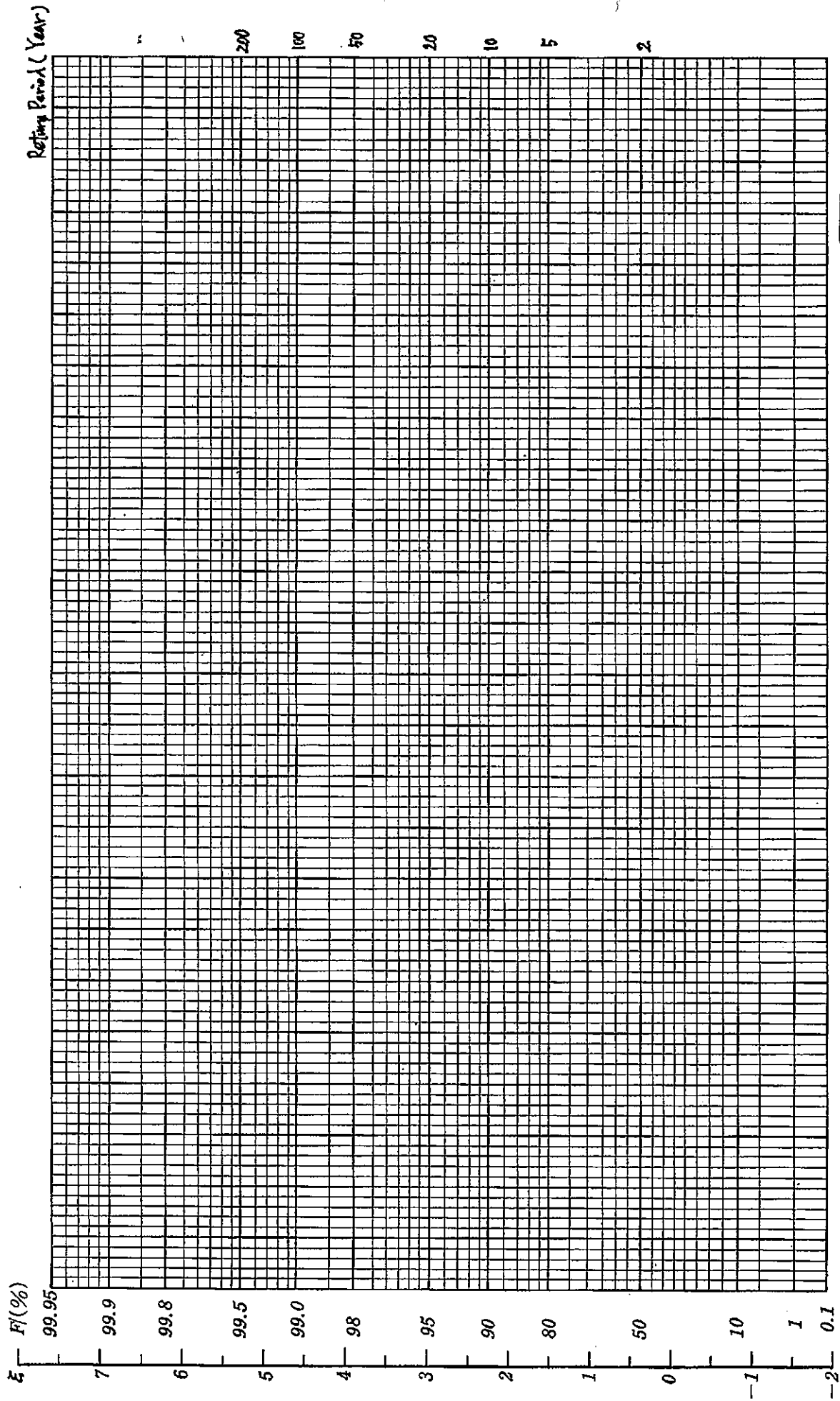| No.	Year	Maximum Daily Rainfall
1	1986	122
2	1987	93
3	1988	105
4	1989	127
5	1990	23
6	1991	97
7	1992	34
8	1993	140
9	1994	64
10	1995	110
11	1996	123
12	1997	47
13	1998	101
14	1999	118
15	2000	48
16	2001	110
17	2002	41
18	2003	163
19	2004	54
20	2005	66
21	2006	75
22	2007	99
23	2008	70

⇨

2.
Arrange the series of data

No.	Maximum Daily Rainfall
1	23
2	34
3	41
4	47
5	48
6	54
7	64
8	66
9	70
10	75
11	93
12	97
13	99
14	101
15	105
16	110
17	110
18	118
19	122
20	123
21	127
22	140
23	163

⇨

3.
Compute plotting position by Cunnan Formula

Plotting Position	Maximum Daily Rainfall
2.6	23
6.9	34
11.2	41
15.5	47
19.8	48
24.1	54
28.4	64
32.8	66
37.1	70
41.4	75
45.7	93
50.0	97
54.3	99
58.6	101
62.9	105
67.2	110
71.6	110
75.9	118
80.2	122
84.5	123
88.8	127
93.1	140
97.4	163

4. Plot Rainfall data and Plotting Position on the Graph paper

Returning Period (Year)

2
5
10
20
40
100
200

F(%)
99.95
99.9
99.8
99.5
99.0
98
95
90
80
50
10
1
0.1

ξ
7
6
5
4
3
2
1
0
-1
-2

DISCHARGE MEASUREMENT NOTES FOR FLOATING METHOD

River Name					Station Name			
Measurement No.					Recorder			

Date	year		Time	Start		Weather	:	Wind Direction	Wind Force
	month			End			:		
	day			Ave.			:		

Water Level (standard)	Discharge (m³/s)	No. of Line		Surface Slope 1/	Mean Velocity (m/s)	Flow Distance (m)

W.L.	Reference Staff Gauge (m)	1st Staff Gauge (m)	2nd Staff Gauge (m)		Difference (m)	Distance (m)	Surface Slope
Start							
End							
Ave.							

| Line No. | Floating | | Dropping Time | Flow Time (sec) | Velocity of Float (m/s) | Coef. | Corrected Velocity (m/s) | Partial Cross-sectional Area | | | Sectional Discharge (m³/s) |
	Type	Free Board						1st (m²)	2nd (m²)	Average (m²)	
			:								
			:								
			:								
			:								
			:								
			:								
			:								
					Total						

Note:
Elevation of Staff gauge zero
Kattarian Bridge   :   493.50 EL.m
Gawal mandi Bridge :   487.50 EL.m

CROSS-SECTIONAL AREA CALCULATION

River Name |
Measurement No. |

Station Name |
Date |

Date of Cross-sectional Survey

1st Cross-section

Water Level (m)			Water Depth (m)	Partial Width (m)	Partial Area (m²)	Total Area (m²)
	start					
	end					
	Average					
No.						

2nd Cross-section

Water Level (m)			Water Depth (m)	Partial Width (m)	Partial Area (m²)	Total Area (m²)
	start					
	end					
	Average					
No.						

Gawal Mandi

May 2008

Gauge Zero = 487.50 EL.m

Staff Gauge (m)

Elevation (EL.m)
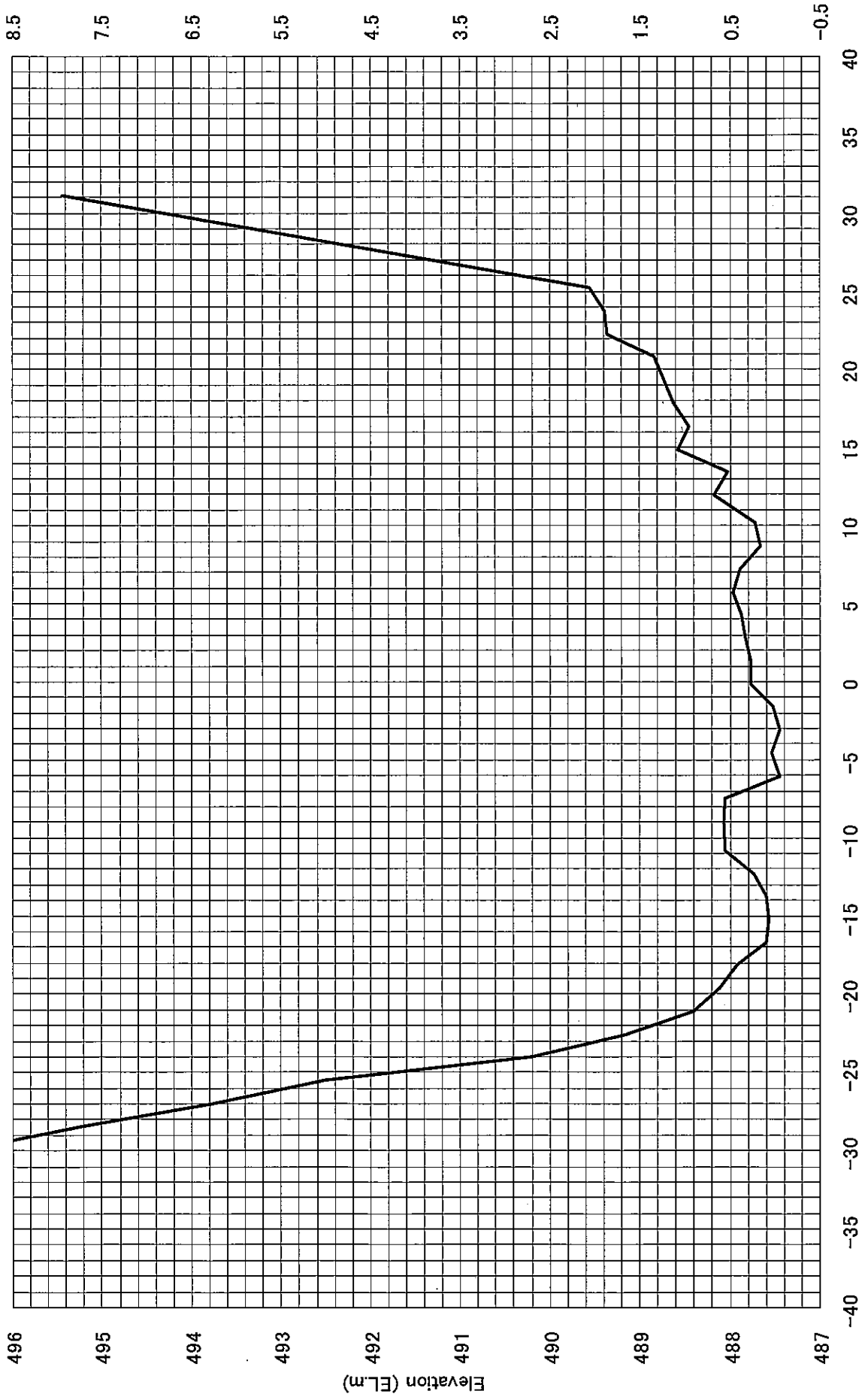
Examination Score of Each Trainee

Question	Point Allocation		1		2		3		4		5		6		7	
	Process	Answer	Process	Answer	Process	Answer	Process	Answer	Process	Answer	Process	Answer	Process	Answer	Process	Answer
Q1	10	4		3		4		4		4		4		4		4
Q2		4		4		4		4		4		4		4		4
Q3		4		4		4		4		4		4		4		4
Q4		9		9		9		9		2		9		9		9
Q5	10	8	10	8	10	8	10	4	10	2	10	8		6	10	8
Q6		5		3		5		5		0		5		5		2
Q7		3		3		3		3		3		3		3		3
Q8		10		10		10		10		0		10		10		10
Q9	10	9	4	6	10	3	8	0	10	9	10	9	4	9	10	9
Q10		8		6		2		6		8		6		8		8
Q11		8		6		2		8		8		8		8		8
Q12		8		4		2		6		8		6		8		8
		100	B	80	C	76	B	81	C	72	B	96	B	92	B	97

添付資料 7-3

Evaluation of Flood Forecasting Works with MIKE 11 Simulations

Evaluation of Flood Forecasting Works with MIKE11 Simulation

Name of Trainee : 1

Items	Evaluation	Remarks
(1) Understanding of Outline of Flood Forecasting		
- Understanding of required data for Flood Forecasting	A	
- Understanding of the meaning of the works	C→A	
(2) Flood Forecasting Works by MIKE11		
- Setting of Rainfall data (Simulation start time)	C→B	
- Setting of Rainfall data (Simulation end time)	A	
- Setting of Simulation Time	A	
- Running the Simulation	A	
- Comparison of Simulated water level and Observed water level	E→B	
- Adjustment of Parameter for Flood Forecasting	D→B	
- Obtaining correct forecasted result	A	
- Explanation of the Result	A	
- Restoration of Parameter setting	A	
(3) Understanding of Flood Warning Code		
- Pre-Alert	A	
- Alert	A	
- Evacuation	C	
- Issuance of "Evacuation" at the right time	B	
Total Time	D→C	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of Flood Forecasting Works with MIKE11 Simulation

Name of Trainee : 2

Items	Evaluation	Remarks
(1) Understanding of Outline of Flood Forecasting		
- Understanding of required data for Flood Forecasting	A	
- Understanding of the meaning of the works	A	
(2) Flood Forecasting Works by MIKE11		
- Setting of Rainfall data (Simulation start time)	C→B	
- Setting of Rainfall data (Simulation end time)	C→B	
- Setting of Simulation Time	A	
- Running the Simulation	A	
- Comparison of Simulated water level and Observed water level	B	
- Adjustment of Parameter for Flood Forecasting	B	
- Obtaining correct forecasted result	A	
- Explanation of the Result	A	
- Restoration of Parameter setting	A	
(3) Understanding of Flood Warning Code		
- Pre-Alert	A	
- Alert	B	
- Evacuation	B	
- Issuance of "Evacuation" at the right time	A	
Total Time	C→B	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of Flood Forecasting Works with MIKE11 Simulation

Name of Trainee : 3

Items	Evaluation	Remarks
(1) Understanding of Outline of Flood Forecasting		
- Understanding of required data for Flood Forecasting	A	
- Understanding of the meaning of the works	A	
(2) Flood Forecasting Works by MIKE11		
- Setting of Rainfall data (Simulation start time)	A	
- Setting of Rainfall data (Simulation end time)	A	
- Setting of Simulation Time	A	
- Running the Simulation	A	
- Comparison of Simulated water level and Observed water level	A	
- Adjustment of Parameter for Flood Forecasting	C→A	
- Obtaining correct forecasted result	A	
- Explanation of the Result	A	
- Restoration of Parameter setting	B	
(3) Understanding of Flood Warning Code		
- Pre-Alert	A	
- Alert	A	
- Evacuation	A	
- Issuance of "Evacuation" at the right time	A	
Total Time	B→A	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of Flood Forecasting Works with MIKE11 Simulation

Name of Trainee : 4

Items	Evaluation	Remarks
(1) Understanding of Outline of Flood Forecasting		
- Understanding of required data for Flood Forecasting	A	
- Understanding of the meaning of the works	A	
(2) Flood Forecasting Works by MIKE11		
- Setting of Rainfall data (Simulation start time)	B	
- Setting of Rainfall data (Simulation end time)	A	
- Setting of Simulation Time	A	
- Running the Simulation	A	
- Comparison of Simulated water level and Observed water level	C→B	
- Adjustment of Parameter for Flood Forecasting	C→B	
- Obtaining correct forecasted result	A	
- Explanation of the Result	A	
- Restoration of Parameter setting	C	
(3) Understanding of Flood Warning Code		
- Pre-Alert	A	
- Alert	A	
- Evacuation	A	
- Issuance of "Evacuation" at the right time	A	
Total Time	C→B	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of Flood Forecasting Works with MIKE11 Simulation

Name of Trainee : 5

Items	Evaluation	Remarks
(1) Understanding of Outline of Flood Forecasting		
- Understanding of required data for Flood Forecasting	A	
- Understanding of the meaning of the works	A	
(2) Flood Forecasting Works by MIKE11		
- Setting of Rainfall data (Simulation start time)	C→A	
- Setting of Rainfall data (Simulation end time)	C→A	
- Setting of Simulation Time	A	
- Running the Simulation	A	
- Comparison of Simulated water level and Observed water level	C→A	
- Adjustment of Parameter for Flood Forecasting	A	
- Obtaining correct forecasted result	A	
- Explanation of the Result	A	
- Restoration of Parameter setting	A	
(3) Understanding of Flood Warning Code		
- Pre-Alert	A	
- Alert	A	
- Evacuation	A	
- Issuance of "Evacuation" at the right time	B	
Total Time	B→A	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of Flood Forecasting Works with MIKE11 Simulation

Name of Trainee : 6

Items	Evaluation	Remarks
(1) Understanding of Outline of Flood Forecasting		
- Understanding of required data for Flood Forecasting	A	
- Understanding of the meaning of the works	A	
(2) Flood Forecasting Works by MIKE11		
- Setting of Rainfall data (Simulation start time)	C→B	
- Setting of Rainfall data (Simulation end time)	A	
- Setting of Simulation Time	A	
- Running the Simulation	A	
- Comparison of Simulated water level and Observed water level	C→B	
- Adjustment of Parameter for Flood Forecasting	C→B	
- Obtaining correct forecasted result	A	
- Explanation of the Result	A	
- Restoration of Parameter setting	A	
(3) Understanding of Flood Warning Code		
- Pre-Alert	A	
- Alert	A	
- Evacuation	B	
- Issuance of "Evacuation" at the right time	A	
Total Time	C	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of Flood Forecasting Works with MIKE11 Simulation

Name of Trainee : 7

Items	Evaluation	Remarks
(1) Understanding of Outline of Flood Forecasting		
- Understanding of required data for Flood Forecasting	A	
- Understanding of the meaning of the works	A	
(2) Flood Forecasting Works by MIKE11		
- Setting of Rainfall data (Simulation start time)	C→B	
- Setting of Rainfall data (Simulation end time)	A	
- Setting of Simulation Time	A	
- Running the Simulation	A	
- Comparison of Simulated water level and Observed water level	C→B	
- Adjustment of Parameter for Flood Forecasting	C→B	
- Obtaining correct forecasted result	C→A	
- Explanation of the Result	A	
- Restoration of Parameter setting	A	
(3) Understanding of Flood Warning Code		
- Pre-Alert	A	
- Alert	A	
- Evacuation	B	
- Issuance of "Evacuation" at the right time	A	
Total Time	D→C	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

添付資料 7-4

Evaluation of MIKE 11 Skills

Evaluation of MIKE11 Skills

Name of Trainee : 1

Items	Evaluatio	Remarks
(1) Understanding of Outline of Flood Simulation Software		
- Understanding of Structure of MIKE11	A	
- Understanding of required file type of MIKE11	A	
(2) Usage of Simulation Editor		
- "Models", Choise of proper models	A	
- "Input", Connection of each required files	A	
- "Simulation", Set of proper time step	A	
- "Simulation", Set of proper period	A	
- "Simulation", Set of proper condition	A	
- "Results", Set of proper unit of results	A	
- "Start", He/She can find defective file when he can't start simulation	A	
(3) Usage of Network Editor		
- Open and set of Network Editor	A	
- Plot of each point	A	
- Connection each point as a river branch	B	
- Connection between each branch	A	
- Showing of Tabular View	A	
- "Tabular View", usage of points' data (XY-cor, Chainage, Data Type)	A	
- "Tabular View", usage of branches' data (Topo ID, Connection)	A	
- Operation of Plane Figure	A	
(4) Usage of Cross-section Editor		
- Input Cross-section data	A	
- Put Mark	A	
- Understanding of Resitance Numbers	C	
- Understanding of Processed Data	B	
- Operation of Plane Figure	A	
- Connection with Network Editor	B	
- Understanding of the relationship between Network and Cross-section	A	
(5) Usage of Boundary data Editor		
- Understanding of required boundary data	B	
- Setting of boundary data	C	
- Understanding of data format (Time Seriese and Constant)	C	
- Connection with Network Editor	B	
- Making Time-series Data	D	
(6) Usage of Runoff Model (RR Parameters)		
- "Catchments", Insert Catchment and Choice of proper model type	C	
- "UHM", set of proper model parameters	A	
- "UHM", Finding and Modification of MIKE11 bug (Lag Time and Initial	C	
- "Timeseries", Setting of Rainfall data	B	
- "Timeseries", Understanding of Weighted timeseries setting	A	
- Connection with Network Editor	B	
(7) Usage of HD Parameter Editor		
- Understanding of Global Values and Local Values	C	
- Setting of Initial condition	A	
- Setting of Bed Resistance	B	
(8) Usage of MIKE VIEW		
- Showing of Longitudal profile of each river	A	
- Showing of Cross-section and water level simulation result	D	
- Showing of Hydrograph	B	
- Taking required data from MIKE VIEW	A	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of MIKE11 Skills

Name of Trainee : 2

Items	Evaluatio	Remarks
(1) Understanding of Outline of Flood Simulation Software		
- Understanding of Structure of MIKE11	A	
- Understanding of required file type of MIKE11	B	
(2) Usage of Simulation Editor		
- "Models", Choise of proper models	A	
- "Input", Connection of each required files	A	
- "Simulation", Set of proper time step	C	
- "Simulation", Set of proper period	A	
- "Simulation", Set of proper condition	C	
- "Results", Set of proper unit of results	C	
- "Start", He/She can find defective file when he can't start simulation	B	
(3) Usage of Network Editor		
- Open and set of Network Editor	A	
- Plot of each point	A	
- Connection each point as a river branch	B	
- Connection between each branch	A	
- Showing of Tabular View	A	
- "Tabular View", usage of points' data (XY-cor, Chainage, Data Type)	B	
- "Tabular View", usage of branches' data (Topo ID, Connection)	A	
- Operation of Plane Figure	B	
(4) Usage of Cross-section Editor		
- Input Cross-section data	A	
- Put Mark	B	
- Understanding of Resitance Numbers	C	
- Understanding of Processed Data	B	
- Operation of Plane Figure	A	
- Connection with Network Editor	B	
- Understanding of the relationship between Network and Cross-section	A	
(5) Usage of Boundary data Editor		
- Understanding of required boundary data	B	
- Setting of boundary data	A	
- Understanding of data format (Time Seriese and Constant)	B	
- Connection with Network Editor	B	
- Making Time-series Data	A	
(6) Usage of Runoff Model (RR Parameters)		
- "Catchments", Insert Catchment and Choice of proper model type	A	
- "UHM", set of proper model parameters	B	
- "UHM", Finding and Modification of MIKE11 bug (Lag Time and Initial	A	
- "Timeseries", Setting of Rainfall data	A	
- "Timeseries", Understanding of Weighted timeseries setting	A	
- Connection with Network Editor	B	
(7) Usage of HD Parameter Editor		
- Understanding of Global Values and Local Values	B	
- Setting of Initial condition	A	
- Setting of Bed Resistance	A	
(8) Usage of MIKE VIEW		
- Showing of Longitudal profile of each river	B	
- Showing of Cross-section and water level simulation result	B	
- Showing of Hydrograph	C	
- Taking required data from MIKE VIEW	B	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of MIKE11 Skills

Name of Trainee : 3

Items	Evaluatio	Remarks
(1) Understanding of Outline of Flood Simulation Software		
- Understanding of Structure of MIKE11	A	
- Understanding of required file type of MIKE11	A	
(2) Usage of Simulation Editor		
- "Models", Choise of proper models	A	
- "Input", Connection of each required files	A	
- "Simulation", Set of proper time step	A	
- "Simulation", Set of proper period	A	
- "Simulation", Set of proper condition	A	
- "Results", Set of proper unit of results	C	
- "Start", He/She can find defective file when he can't start simulation	B	
(3) Usage of Network Editor		
- Open and set of Network Editor	A	
- Plot of each point	A	
- Connection each point as a river branch	C	
- Connection between each branch	B	
- Showing of Tabular View	A	
- "Tabular View", usage of points' data (XY-cor, Chainage, Data Type)	A	
- "Tabular View", usage of branches' data (Topo ID, Connection)	A	
- Operation of Plane Figure	A	
(4) Usage of Cross-section Editor		
- Input Cross-section data	A	
- Put Mark	A	
- Understanding of Resitance Numbers	B	
- Understanding of Processed Data	B	
- Operation of Plane Figure	A	
- Connection with Network Editor	A	
- Understanding of the relationship between Network and Cross-section	C	
(5) Usage of Boundary data Editor		
- Understanding of required boundary data	A	
- Setting of boundary data	A	
- Understanding of data format (Time Seriese and Constant)	A	
- Connection with Network Editor	A	
- Making Time-series Data	A	
(6) Usage of Runoff Model (RR Parameters)		
- "Catchments", Insert Catchment and Choice of proper model type	A	
- "UHM", set of proper model parameters	A	
- "UHM", Finding and Modification of MIKE11 bug (Lag Time and Initial	A	
- "Timeseries", Setting of Rainfall data	A	
- "Timeseries", Understanding of Weighted timeseries setting	B	
- Connection with Network Editor	A	
(7) Usage of HD Parameter Editor		
- Understanding of Global Values and Local Values	A	
- Setting of Initial condition	B	
- Setting of Bed Resistance	A	
(8) Usage of MIKE VIEW		
- Showing of Longitudal profile of each river	A	
- Showing of Cross-section and water level simulation result	B	
- Showing of Hydrograph	B	
- Taking required data from MIKE VIEW	A	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of MIKE11 Skills

Name of Trainee : 4

Items	Evaluatio	Remarks
(1) Understanding of Outline of Flood Simulation Software		
- Understanding of Structure of MIKE11	B	
- Understanding of required file type of MIKE11	A	
(2) Usage of Simulation Editor		
- "Models", Choise of proper models	C	
- "Input", Connection of each required files	A	
- "Simulation", Set of proper time step	B	
- "Simulation", Set of proper period	A	
- "Simulation", Set of proper condition	A	
- "Results", Set of proper unit of results	C	
- "Start", He/She can find defective file when he can't start simulation	B	
(3) Usage of Network Editor		
- Open and set of Network Editor	A	
- Plot of each point	A	
- Connection each point as a river branch	B	
- Connection between each branch	C	
- Showing of Tabular View	A	
- "Tabular View", usage of points' data (XY-cor, Chainage, Data Type)	A	
- "Tabular View", usage of branches' data (Topo ID, Connection)	B	
- Operation of Plane Figure	A	
(4) Usage of Cross-section Editor		
- Input Cross-section data	B	
- Put Mark	A	
- Understanding of Resitance Numbers	B	
- Understanding of Processed Data	B	
- Operation of Plane Figure	B	
- Connection with Network Editor	B	
- Understanding of the relationship between Network and Cross-section	C	
(5) Usage of Boundary data Editor		
- Understanding of required boundary data	C	
- Setting of boundary data	B	
- Understanding of data format (Time Seriese and Constant)	C	
- Connection with Network Editor	B	
- Making Time-series Data	A	
(6) Usage of Runoff Model (RR Parameters)		
- "Catchments", Insert Catchment and Choice of proper model type	A	
- "UHM", set of proper model parameters	A	
- "UHM", Finding and Modification of MIKE11 bug (Lag Time and Initial	C	
- "Timeseries", Setting of Rainfall data	A	
- "Timeseries", Understanding of Weighted timeseries setting	A	
- Connection with Network Editor	C	
(7) Usage of HD Parameter Editor		
- Understanding of Global Values and Local Values	A	
- Setting of Initial condition	C	
- Setting of Bed Resistance	B	
(8) Usage of MIKE VIEW		
- Showing of Longitudal profile of each river	B	
- Showing of Cross-section and water level simulation result	C	
- Showing of Hydrograph	C	
- Taking required data from MIKE VIEW	B	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of MIKE11 Skills

Name of Trainee : 5

Items	Evaluatio	Remarks
(1) Understanding of Outline of Flood Simulation Software		
- Understanding of Structure of MIKE11	A	
- Understanding of required file type of MIKE11	A	
(2) Usage of Simulation Editor		
- "Models", Choise of proper models	A	
- "Input", Connection of each required files	A	
- "Simulation", Set of proper time step	B	
- "Simulation", Set of proper period	A	
- "Simulation", Set of proper condition	A	
- "Results", Set of proper unit of results	C	
- "Start", He/She can find defective file when he can't start simulation	A	
(3) Usage of Network Editor		
- Open and set of Network Editor	A	
- Plot of each point	A	
- Connection each point as a river branch	A	
- Connection between each branch	A	
- Showing of Tabular View	A	
- "Tabular View", usage of points' data (XY-cor, Chainage, Data Type)	A	
- "Tabular View", usage of branches' data (Topo ID, Connection)	A	
- Operation of Plane Figure	A	
(4) Usage of Cross-section Editor		
- Input Cross-section data	A	
- Put Mark	A	
- Understanding of Resitance Numbers	B	
- Understanding of Processed Data	B	
- Operation of Plane Figure	A	
- Connection with Network Editor	A	
- Understanding of the relationship between Network and Cross-section	A	
(5) Usage of Boundary data Editor		
- Understanding of required boundary data	A	
- Setting of boundary data	A	
- Understanding of data format (Time Seriese and Constant)	A	
- Connection with Network Editor	A	
- Making Time-series Data	A	
(6) Usage of Runoff Model (RR Parameters)		
- "Catchments", Insert Catchment and Choice of proper model type	A	
- "UHM", set of proper model parameters	A	
- "UHM", Finding and Modification of MIKE11 bug (Lag Time and Initial	B	
- "Timeseries", Setting of Rainfall data	A	
- "Timeseries", Understanding of Weighted timeseries setting	A	
- Connection with Network Editor	A	
(7) Usage of HD Parameter Editor		
- Understanding of Global Values and Local Values	A	
- Setting of Initial condition	A	
- Setting of Bed Resistance	A	
(8) Usage of MIKE VIEW		
- Showing of Longitudal profile of each river	A	
- Showing of Cross-section and water level simulation result	A	
- Showing of Hydrograph	B	
- Taking required data from MIKE VIEW	A	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of MIKE11 Skills

Name of Trainee : 6

Items	Evaluatio	Remarks
(1) Understanding of Outline of Flood Simulation Software		
- Understanding of Structure of MIKE11	A	
- Understanding of required file type of MIKE11	A	
(2) Usage of Simulation Editor		
- "Models", Choise of proper models	A	
- "Input", Connection of each required files	A	
- "Simulation", Set of proper time step	B	
- "Simulation", Set of proper period	A	
- "Simulation", Set of proper condition	B	
- "Results", Set of proper unit of results	C	
- "Start", He/She can find defective file when he can't start simulation	A	
(3) Usage of Network Editor		
- Open and set of Network Editor	A	
- Plot of each point	A	
- Connection each point as a river branch	B	
- Connection between each branch	A	
- Showing of Tabular View	A	
- "Tabular View", usage of points' data (XY-cor, Chainage, Data Type)	A	
- "Tabular View", usage of branches' data (Topo ID, Connection)	A	
- Operation of Plane Figure	A	
(4) Usage of Cross-section Editor		
- Input Cross-section data	A	
- Put Mark	A	
- Understanding of Resitance Numbers	B	
- Understanding of Processed Data	B	
- Operation of Plane Figure	A	
- Connection with Network Editor	A	
- Understanding of the relationship between Network and Cross-section	A	
(5) Usage of Boundary data Editor		
- Understanding of required boundary data	A	
- Setting of boundary data	A	
- Understanding of data format (Time Seriese and Constant)	B	
- Connection with Network Editor	A	
- Making Time-series Data	A	
(6) Usage of Runoff Model (RR Parameters)		
- "Catchments", Insert Catchment and Choice of proper model type	A	
- "UHM", set of proper model parameters	A	
- "UHM", Finding and Modification of MIKE11 bug (Lag Time and Initial	B	
- "Timeseries", Setting of Rainfall data	A	
- "Timeseries", Understanding of Weighted timeseries setting	A	
- Connection with Network Editor	A	
(7) Usage of HD Parameter Editor		
- Understanding of Global Values and Local Values	B	
- Setting of Initial condition	A	
- Setting of Bed Resistance	B	
(8) Usage of MIKE VIEW		
- Showing of Longitudal profile of each river	A	
- Showing of Cross-section and water level simulation result	B	
- Showing of Hydrograph	A	
- Taking required data from MIKE VIEW	A	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence

Evaluation of MIKE11 Skills

Name of Trainee : 7

Items	Evaluatio	Remarks
(1) Understanding of Outline of Flood Simulation Software		
- Understanding of Structure of MIKE11	A	
- Understanding of required file type of MIKE11	A	
(2) Usage of Simulation Editor		
- "Models", Choise of proper models	A	
- "Input", Connection of each required files	B	
- "Simulation", Set of proper time step	C	
- "Simulation", Set of proper period	A	
- "Simulation", Set of proper condition	A	
- "Results", Set of proper unit of results	C	
- "Start", He/She can find defective file when he can't start simulation	C	
(3) Usage of Network Editor		
- Open and set of Network Editor	A	
- Plot of each point	A	
- Connection each point as a river branch	A	
- Connection between each branch	A	
- Showing of Tabular View	A	
- "Tabular View", usage of points' data (XY-cor, Chainage, Data Type)	A	
- "Tabular View", usage of branches' data (Topo ID, Connection)	A	
- Operation of Plane Figure	A	
(4) Usage of Cross-section Editor		
- Input Cross-section data	A	
- Put Mark	B	
- Understanding of Resitance Numbers	A	
- Understanding of Processed Data	A	
- Operation of Plane Figure	A	
- Connection with Network Editor	A	
- Understanding of the relationship between Network and Cross-section	A	
(5) Usage of Boundary data Editor		
- Understanding of required boundary data	A	
- Setting of boundary data	A	
- Understanding of data format (Time Seriese and Constant)	A	
- Connection with Network Editor	A	
- Making Time-series Data	B	
(6) Usage of Runoff Model (RR Parameters)		
- "Catchments", Insert Catchment and Choice of proper model type	A	
- "UHM", set of proper model parameters	A	
- "UHM", Finding and Modification of MIKE11 bug (Lag Time and Initial	B	
- "Timeseries", Setting of Rainfall data	A	
- "Timeseries", Understanding of Weighted timeseries setting	A	
- Connection with Network Editor	B	
(7) Usage of HD Parameter Editor		
- Understanding of Global Values and Local Values	A	
- Setting of Initial condition	B	
- Setting of Bed Resistance	A	
(8) Usage of MIKE VIEW		
- Showing of Longitudal profile of each river	A	
- Showing of Cross-section and water level simulation result	A	
- Showing of Hydrograph	A	
- Taking required data from MIKE VIEW	A	

A: Excellent, B: Good, C: Fair, D: Poor, E: Absence