

DEPARTMENT OF IRRIGATION
AND DRAINAGE MALAYSIA



Minutes of Meeting

The 33rd Meeting of Malaysia – Thailand Joint Evaluation Team on Golok River Mouth Improvement Project

**3 – 4 July 2018
Penang, Malaysia**

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on The Golok River Mouth Improvement Project
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AGENDA 1: OPENING ADDRESS

Mrs. Siti Aishah binti Hashim, the leader of Malaysian delegates, welcomed the Thai delegates to the 33rd Meeting of Malaysia - Thailand Joint Evaluation Team (JET) on Golok River Mouth Improvement Project on the 3rd to 4th July 2018.

The leader of Malaysian delegates congratulated former Director, Capt. (R) Ir. Haji Anuar bin Haji Yahya for his promotion as the Deputy Director General (Specialist Sector), Department of Irrigation and Drainage Malaysia and also expressed gratitude for his contribution towards the Golok River Mouth Improvement Project.

Mr. Prinya Kamolsin, the leader of the Thai delegates, expressed his appreciation for the warm welcome and arrangements for the Meeting.

Both sides introduced their delegates and the list of delegates is as shown in APPENDIX A.

AGENDA 2: ADOPTION OF AGENDA

The Malaysian side presented the proposed agenda for the Meeting. The Meeting agreed to proceed according to the proposed agenda as shown in APPENDIX B.

AGENDA 3: MATTERS FOR CONSIDERATION

3.1 Report on Monitoring and Evaluation of Golok River Mouth

The 2018 post-monsoon survey was carried out by the Thai side in April 2018, as shown in APPENDIX C. It was observed that no sedimentation area in the navigation channel same as the pre-monsoon survey whilst erosion area on the Thai side has decreased compared to the pre-monsoon survey (October 2017).

The sedimentation volume (where bed level is shallower than -3.0m MSL within the navigation channel) have decreased when compared to the condition during the pre-monsoon (October 2017) and still no sedimentation was observed inside the navigation channel.

The maximum bed level at the river mouth was observed to be -3.1m MSL, located at the navigation channel; the observed bed level remain the same with previous survey (October 2017).

The deepest bed level around tip of Thai breakwater is observed to be -5.2 m MSL which may lead to instability of Thai breakwater. This level is shallower compared to previous survey in October 2017.

The meeting agreed to form a task force team instead of a committee to discuss regarding method of measurement for river discharge near Golok River Mouth. The taskforce team will study and decide on the hydrological stations at Golok River and its tributaries to be developed and shared by both countries. The member for the task force team for both sides shall be confirmed by JET34.

3.2 Maintenance Dredging of Golok River Mouth

As agreed in the JET 25, JTWG 32 and JSC 14, the need of maintenance dredging is based on the following criteria:

- (1) When the cross section area of the river mouth between Thailand and Malaysia breakwater tip is blocked up to 30% (for drainage purpose); or
- (2) When the bed level of the river mouth is at -2.0 m MSL or shallower (for navigation purpose);

The sediment patterns are to be monitored for at least 2 consecutive monsoon seasons in order to identify the need of maintenance dredging.

Section across Thai breakwater and Malaysian breakwater

The post-monsoon survey (April 2018) as shown in APPENDIX D showed that:

- (a) The cross section of the river mouth is fully open (0% blockage).
- (b) The shallowest sea bed level at the navigation channel is at -3.1m MSL, which is deeper than the dredging criteria (-2.0m MSL).
- (c) Maintenance dredging is not required based on the post-monsoon survey (April 2018)

The Meeting agreed that based on the results of the pre-monsoon (October 2017) and post-monsoon (April 2018) surveys, the river mouth was not affected by sedimentation since it did not meet the dredging criteria. Hence, there is no need for the maintenance dredging of Golok River Mouth at the time being.

3.3 Protection Work of Transit Point B

The Thai side presented the Revised Detail Design of the Transit Point B protection work hexagonal shape based on the 2D physical model as shown in APPENDIX E and informed that the protection works will cost about 2.4 million baht.

The Malaysian side has not received the design report with the detailed calculation from Thai side. Thai side shall provide the report for the review and agreement of the Malaysian side.

The meeting agreed to propose the cost of the protection works to be shared equally by both parties based on the Agreement between the Government of the Kingdom of Thailand and The Government of Malaysia on The Golok Rivermouth Improvement Project (1997). The implementation of the physical works is to be referred to JTWG committee since it involves legal issues that need to be resolved at higher level.

3.4 Rehabilitation and Protection Works at Golok River Mouth

The Thai side presented the 3D physical model final result based on the conclusion of the Joint Technical Meeting for Golok River Mouth Physical Modelling Work No.4 as shown in APPENDIX F.

The Thai side informed that the approval of the Environmental Impact Assessment (EIA) study is expected to be obtained by Jun 2019.

The Malaysian side informed that the detailed design of additional dyke will be completed by October 2018 and the detailed design period will take fourteen (14) months.

The rehabilitation works for Golok River Mouth shall be started in July 2019.

The revised schedule of work for both sides is as shown in APPENDIX G.

3.5 Mutual Calibration of Rating Curve at Cableway Station

In 2018, five (5) mutual gauging measurements were done monthly. The mutual gauging measurements are as shown in APPENDIX H.

The Meeting agreed on the 2017 mutual rating curve as shown in APPENDIX I.

3.6 Real Time Monitoring System and Joint Website for Golok River Basin

New Telemetry stations and joint website

The Thai side informed that the data sharing of six (6) new telemetry stations are under progress and cannot be completed by December 2018. However, Thai side proposed to setup two (2) small scale telemetry stations expected to be completed in October 2018 and the Thai side will report on the development progress of the remaining four (4) stations in the next JET meeting.

The meeting agreed that data sharing will be conducted when both sides are ready. The revised schedule for new telemetry stations is as shown in APPENDIX J.

AGENDA 4: OTHER MATTERS

4.1 Integrated River Basin Management (IRBM) Plan for Golok River

The Malaysian side reported that:-

- a) The new Agreement for the IRBM for Golok River is still in progress by the Malaysian working committee. The first draft of the Agreement is still in consultation internally with relevant departments and ministries.

The Meeting agreed that the JTWG to decide whether the IRBM Agenda to be continued under the Golok River Mouth working Committee.

4.2 Date and venue for next JET meeting

The meeting proposed the date and venue for the JET34 meeting is as follows:

Date:	November / December 2018
Venue:	1. Nan
	2. Sukothai
	3. Loei

AGENDA 5: MATTERS TO BE REFERRED TO THE JTWG

Matters for Information

1. Report of Monitoring and Evaluation of Golok River Mouth
2. Maintenance Dredging of Golok River Mouth
3. Rehabilitation and Protection Works at Golok River Mouth
4. Mutual Calibration of Rating Curve at Cableway Station
5. Real Time Monitoring System and the Joint Websites for Golok River Basin

Matters for Consideration

1. Protection Work at Transit Point B
2. Integrated River Basin Management (IRBM) Plan for Golok River

AGENDA 6: ADOPTION OF MINUTES OF THE MEETING

The Meeting agreed to adopt the minutes of meeting of the thirty third Meeting of Malaysia – Thailand Joint Evaluation Team on the Golok River Mouth Improvement Project.



(Mrs. Siti Aishah binti Hashim)
Co-Chairman
Joint Evaluation Team, Malaysia



(Mr. Prinya Kamolsin)
Co-Chairman
Joint Evaluation Team, Thailand

APPENDIX A

THE 33RD MEETING OF MALAYSIA – THAILAND JOINT EVALUATION TEAM (JET) ON THE GOLOK RIVER MOUTH IMPROVEMENT PROJECT




LIST OF MALAYSIAN DELEGATES

1.		Name Designation Department Contact no. Email	Mrs. Siti Aishah binti Hashim Deputy Director Division of Coastal Zone Management Department of Irrigation and Drainage Malaysia +6016 6241697 ct_aishah@water.gov.my
2.		Name Designation Department Contact no. Email	Dato' Ir. Nor Hisham bin Mohd. Ghazali Director Division of Water Resources Management and Hydrology Department of Irrigation and Drainage Malaysia +6019 2666553 hisham@water.gov.my
3.		Name Designation Department Contact no. Email	Ir. Roslina binti Yusop Deputy Director Division of Water Resources Management and Hydrology Department of Irrigation and Drainage Malaysia +6019 3555149 lina@water.gov.my
4.		Name Designation Department Contact no. Email	Mr. Marinamarican bin Abdullah Deputy Director Department of Irrigation and Drainage Kelantan +6019 9845343 marinamarican@water.gov.my
5.		Name Designation Department Contact no. Email	Mrs. Kalsom binti Mean Senior Engineer Division of Coastal Zone Management Department of Irrigation and Drainage Malaysia +6019 3034624 kalsom@water.gov.my

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LIST OF MALAYSIAN DELEGATES

6.		Name Designation Department Contact no. Email	Mr. Khairul Sabri bin Abdullah Senior Engineer Division of Coastal Zone Management Department of Irrigation and Drainage Malaysia +6012 2202510 khairulsabri@water.gov.my
7.		Name Designation Department Contact no. Email	Ir. Louis Ho Yeng Gee Senior Engineer Division of Flood Management Department of Irrigation and Drainage Malaysia +6018 2332035 louis@water.gov.my
8.		Name Designation Department Contact no. Email	Mr. Azril Fitri Bin Zaabah Engineer Division of River Basin Management Department of Irrigation and Drainage Malaysia +6012 7022500 azrilfitri@water.gov.my
9.		Name Designation Department Contact no. Email	Mr. Ahmad Ikhwan bin Abdul Wahid Engineer Division of Coastal Zone Management Department of Irrigation and Drainage Malaysia +6013 6093085 ahmadikhwan@water.gov.my
10.		Name Designation Department Contact no. Email	Mr. Mohd Eizam bin Yusof Engineer Division of Water Resources Management and Hydrology Department of Irrigation and Drainage Malaysia +6016 4844359 eizam@water.gov.my

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LIST OF MALAYSIAN DELEGATES

11.		Name Designation Department Contact no. Email	Mr. Abdullah bin Awang Engineer Department of Irrigation and Drainage Kelantan +6012 9539506 abdullah_a@water.gov.my
12.		Name Designation Department Contact no. Email	Mr. Wan Zaidi bin Wan Mahamood Assistant Project Engineer Kelantan Federal Project Implementation Unit Department of Irrigation and Drainage Malaysia +6010 909 9199 wanzaidi@water.gov.my
13.		Name Designation Department Contact no. Email	Mr. Mohd Shafiq Bin Mohd Jabir Engineer Division of Coastal Zone Management Department of Irrigation and Drainage Malaysia +6010 2722114 shafiq@water.gov.my
14.		Name Designation Department Contact no. Email	Abdul Rafiq bin Abdul Razak Assistant Engineer Kelantan Federal Project Implementation Unit Department of Irrigation and Drainage Malaysia +609 741 9805
15.		Name Designation Department Contact no. Email	Mr. Mohammed Hairey bin Md Salih Assistant Engineer Division of Coastal Zone Management Department of Irrigation and Drainage Malaysia +6019 7026646 hairey@water.gov.my

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LIST OF MALAYSIAN DELEGATES

16.		Name Designation Department Contact no. Email	Mrs. Noorisah binti Mohd. Isa Assistant Engineer Division of Coastal Zone Management Department of Irrigation and Drainage Malaysia +6019 8208137 noorisah@water.gov.my
17.		Name Designation Department Contact no. Email	Ms. Mas Idayu Binti Mohamed Assistant Engineer Division of Coastal Zone Management Department of Irrigation and Drainage Malaysia +6011 12985519 masidayu@water.gov.my
18.		Name Designation Department Contact no. Email	Mr. Mohd Aliff Imran Bin Nizarudin Assistant Engineer Division of Coastal Zone Management Department of Irrigation and Drainage Malaysia +6018 7634844 aliff@water.gov.my

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LIST OF THAI DELEGATES

1.		Name Designation Department Contact no. Email	Mr. Prinya Kamolsin Expert on Irrigation (Hydraulic Engineering) Royal Irrigation Department +66 84 874 6074 p_kamolsin@mail.rid.go.th
2.		Name Designation Department Contact no. Email	Mr. Kanchadin Srpratoom Director, Foreign Project Management and International Affairs Division, Bureau of Project Management Royal Irrigation Department +6681 241 2688 kanchadin@yahoo.com
3.		Name Designation Department Contact no. Email	Mr. Arthon Suttigarn Director, Project Planning Division 4 Bureau of Project Management Royal Irrigation Department +66 83 115 7774 asut999@gmail.com
4.		Name Designation Department Contact no. Email	Miss Kanokporn Boochabun Director, Hydrology Irrigation Center (Southern Region), for Director of Water Management and Hydrology Royal Irrigation Department +6681 695 0743

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LIST OF THAI DELEGATES

5.		Name Designation Department Contact no. Email	Mr. Abdultoleb Hemhoh Chief, Operation and Maintenance Branch 3 Golok River Basin Operation and Maintenance Project Royal Irrigation Department 66+735 380 401 dultoleb@gmail.com
6.		Name Designation Department Contact no. Email	Mr. Tawat Seenual Survey Engineer, Practitioner Level Marine Department +66 81 597 5487 gawat49@hotmail.com
7.		Name Designation Department Contact no. Email	Mr. Attapan Diloksopon Civil Engineer, Professional Level Bureau of Project Management Royal Irrigation Department +66 80 270 9997 atdplk@gmail.com
8.		Name Designation Department Contact no. Email	Mrs. Janjira Buddhawong Foreign Relations Officer, Professional Level Bureau of Project Management Royal Irrigation Department +66 86 397 7873 janjirab@yahoo.com

**THE 33RD MEETING OF MALAYSIA - THAILAND
JOINT EVALUATION TEAM (JET)
ON THE GOLOK RIVER MOUTH IMPROVEMENT PROJECT
PROPOSED AGENDA**

AGENDA 1: OPENING SESSION

AGENDA 2: ADOPTION OF AGENDA

AGENDA 3: MATTERS FOR CONSIDERATION

- 3.1 MONITORING AND EVALUATION OF GOLOK RIVER MOUTH
- 3.2 MAINTENANCE DREDGING OF GOLOK RIVER MOUTH
- 3.3 PROTECTION WORK AT TRANSIT POINT B
- 3.4 REHABILITATION AND PROTECTION WORKS AT GOLOK RIVER MOUTH
- 3.5 MUTUAL CALIBRATION OF RATING CURVE AT CABLEWAY STATION
- 3.6 REAL TIME MONITORING SYSTEM AND THE JOINT WEBSITE FOR GOLOK RIVER BASIN

AGENDA 4: OTHER MATTERS

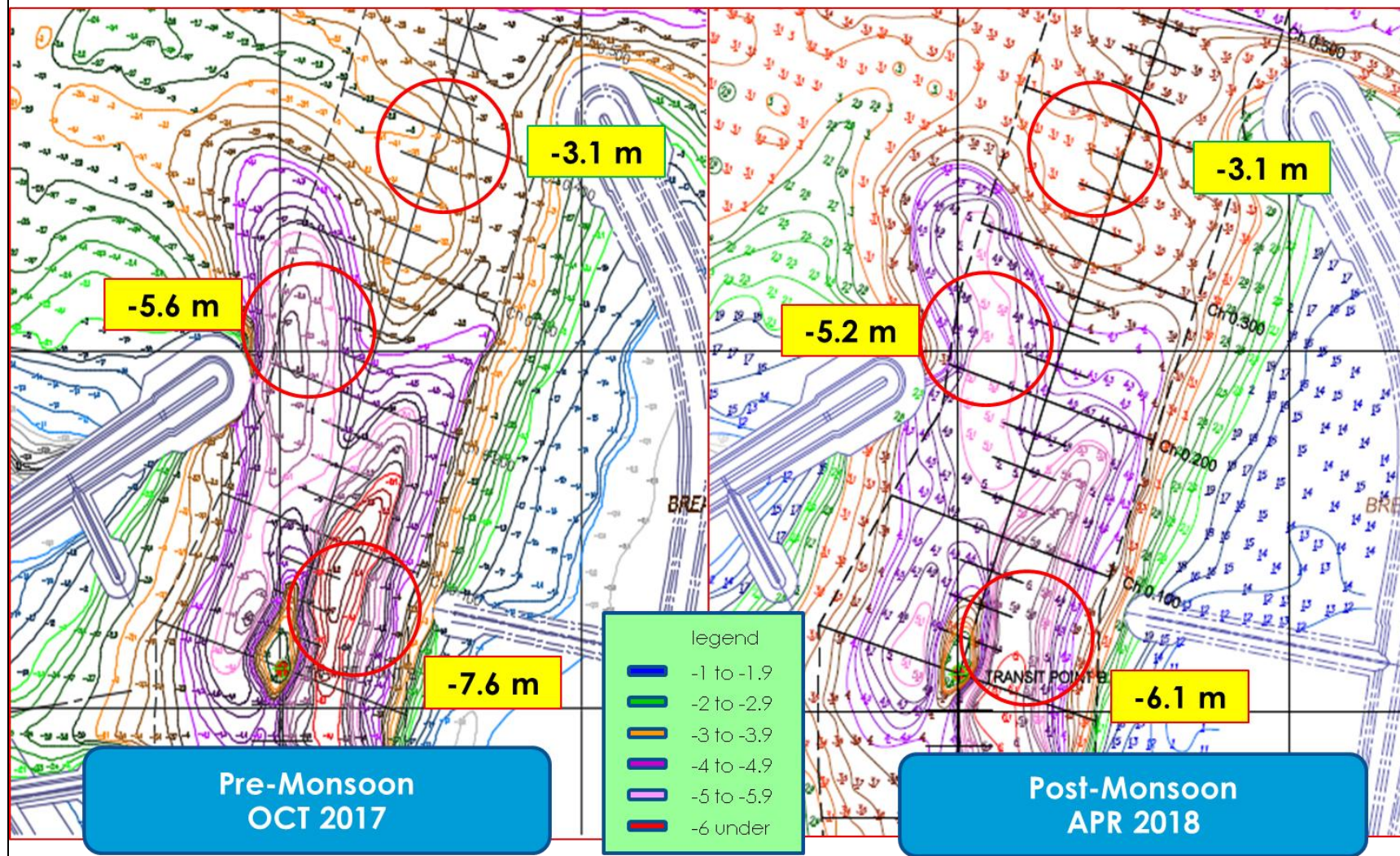
- 4.1 INTEGRATED RIVER BASIN MANAGEMENT (IRBM) PLAN FOR GOLOK RIVER BASIN
- 4.2 DATE AND VENUE FOR NEXT MEETING

AGENDA 5: MATTERS TO BE REFERRED TO JTWG

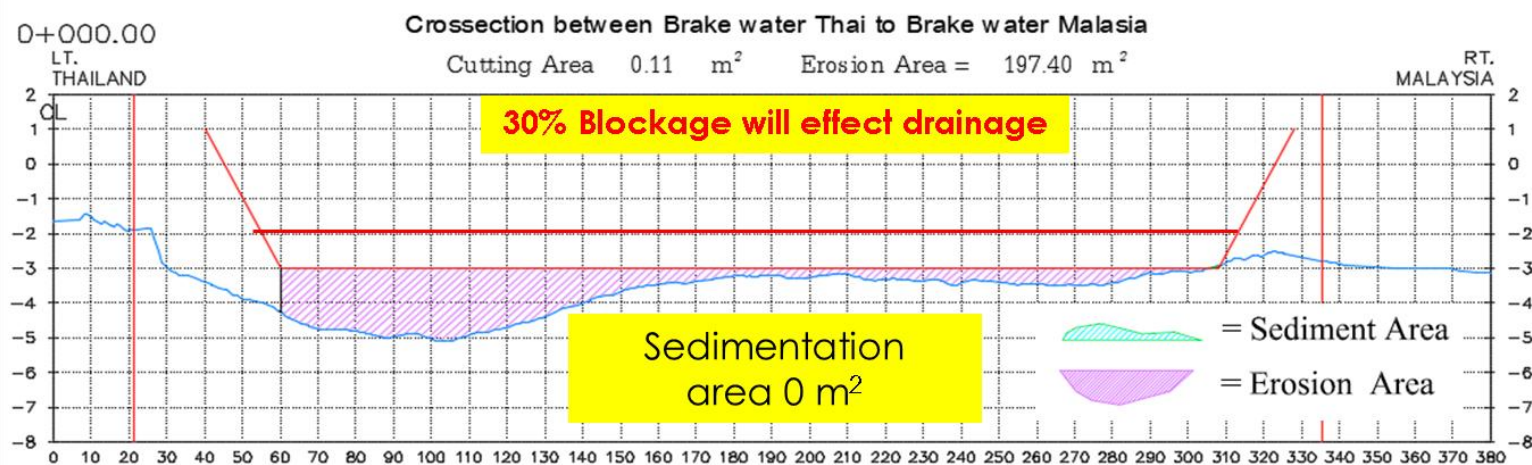
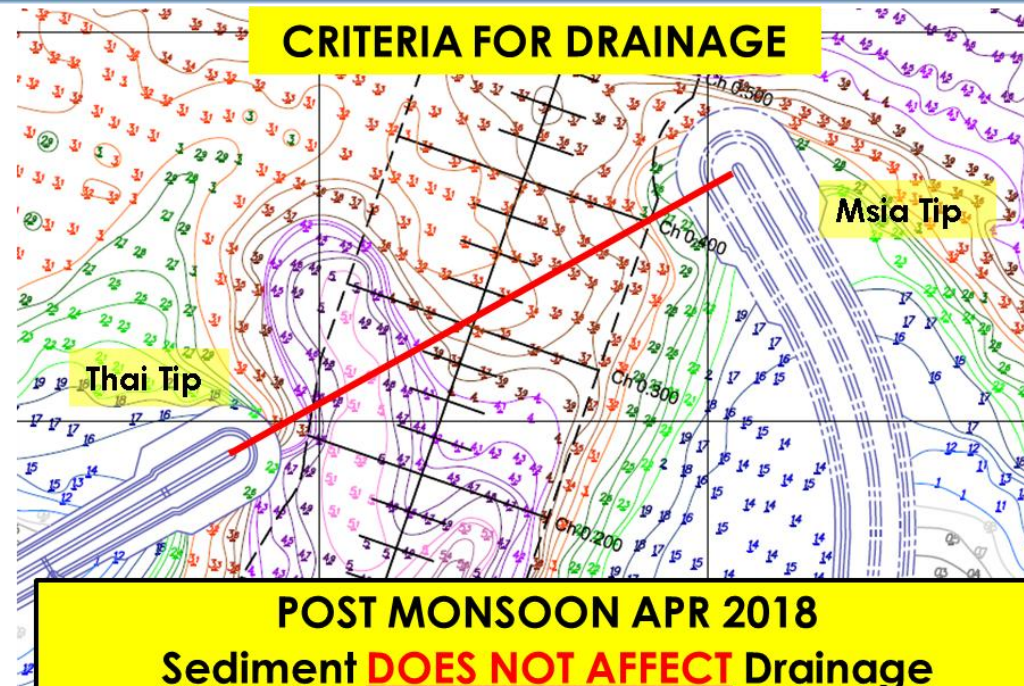
AGENDA 6: ADOPTION OF MINUTES OF MEETING

Monitoring and Evaluation of Golok River Mouth

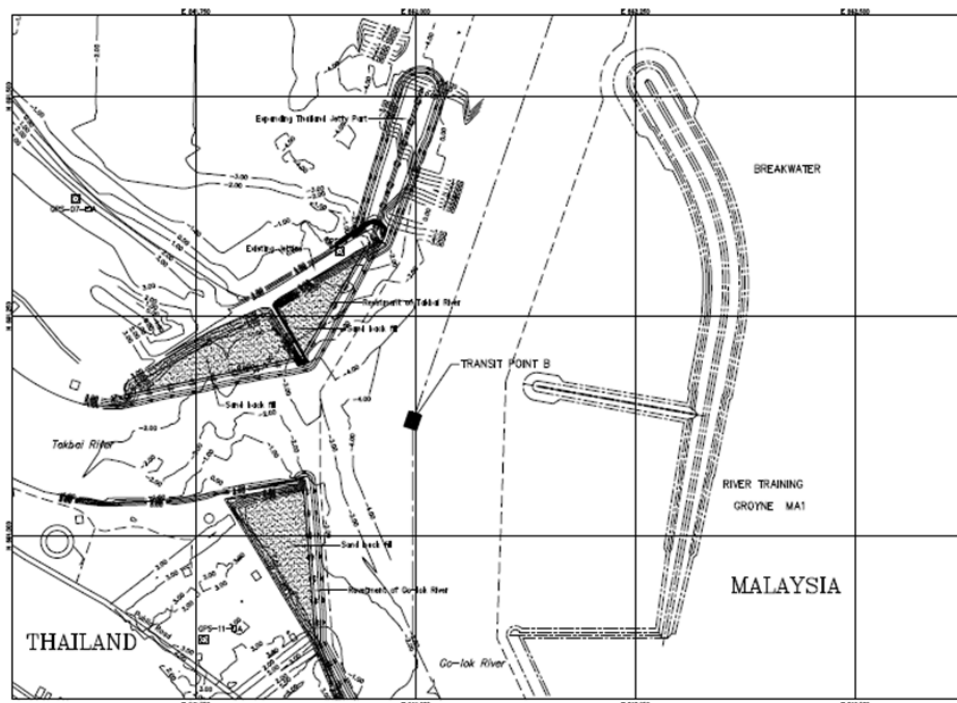
The sea bed level at rivermouth remain at -3.1 m MSL



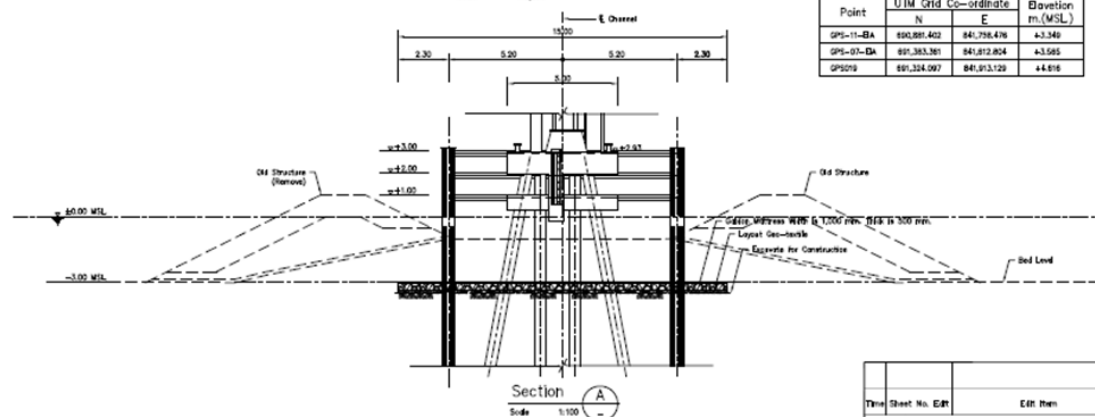
Maintenance Dredging of Golok River Mouth



Protection Work at Transit Point B



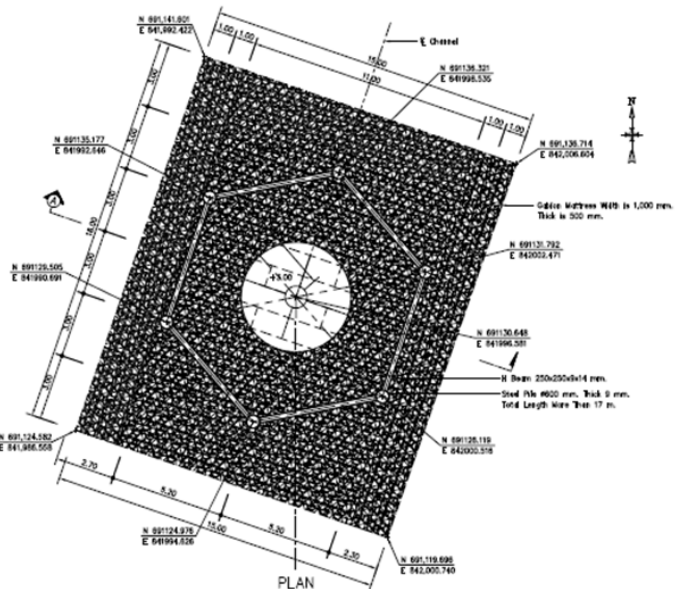
Master Plan
Scale 1:2,500



Section A
Scale 1:100

Survey Control Point

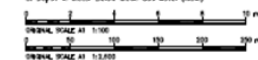
Point	UTM Grid Co-ordinate	Elevation m.(MSL)
GPS-11-BA	690,881.402 841,758.476	43.340
GPS-07-GA	691,383.381 841,812.804	43.585
GPS09	691,324.087 841,913.129	44.816



Layout Plan of Gabion Mattress
Scale 1:100

Note of Contractor:

1. Contractor must execute leveling before construction.
2. Layout Geo-textile.
3. Install Gabion mattress in the pattern by layout plan of Gabion mattress.
4. The contractor will have to offer the installation method to approve before construction.
5. Survey Map by Chikwong Co., Ltd.
6. Survey Map in Period September - October 2018
7. Unmanned Aerial Vehicle (UAV) Project (UAV)
8. Depth in Water below Mean Sea Level (MSL)



Royal Irrigation Department

Go-Iok River Mouth Improvement
Narathiwat Province

Structure of Scour Protection
Around Transit Point B
Plan and Cross Section

Consultants
Droid Consult Co., Ltd.
Chikwong Co., Ltd.
Karnam Technology Consultant Co., Ltd.

Design		Royal Irrigation Department	
Drawing	Passed	Checked	Checked
Check	Approved	Approved	Approved
Approved	Date	Approved	Date

Time Sheet No. EIR	EIR Item	Check	Approved	Approved	Date
Contract No. 49/2558 (100)	ENCAG.CHULANAKAT	Royal Irrigation Department	Office of Project Planning	Contract No. 49/2558 (100)	D-12

3D Physical Model Final Result (Conclusion)

Properties	Existing	Improvement
- Scouring	- Severe scouring at TPB (0.5 – 3.0 m.)	<u>Less</u> scouring at TPB (0 – 0.9 m.)
- Velocity Pattern around Transit Point B	High Velocity - around TPB High Turbulence - at left and right side of TPB - Severe condition for navigation - Flow direction induce scouring at the tip of Thai Breakwater	- <u>Less</u> Turbulence and lower velocity - <u>Better</u> condition for navigation

3D Physical Model Final Result (Conclusion) cont'd

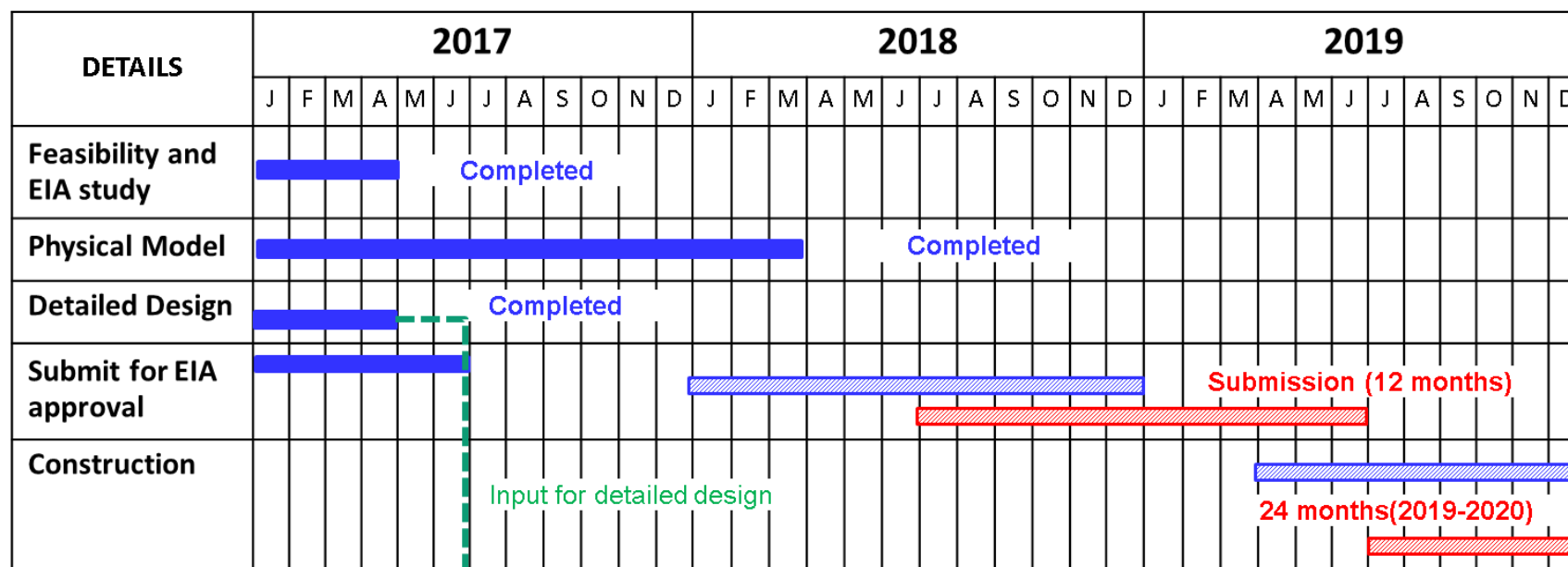
Properties	Existing	Improvement
- Velocity at river entrance	<ul style="list-style-type: none"> - Low Velocity - Cause sediment deposit at river entrance - Serious scouring at the tip of Thai breakwater 	<ul style="list-style-type: none"> - High Velocity - No Sediment deposit at river entrance - Possible to have scouring at toe of Malaysia breakwater
- Wave penetration into river	<ul style="list-style-type: none"> Wave height - Low reduction from sea to river entrance (CH +400) - Gradually reduce to ripple with in 500 m from entrance 	<ul style="list-style-type: none"> Wave height - High reduction from sea to river entrance (CH +400) - Gradually reduce to ripple with in 500 m from entrance

3D Physical Model Final Result (Conclusion) cont'd

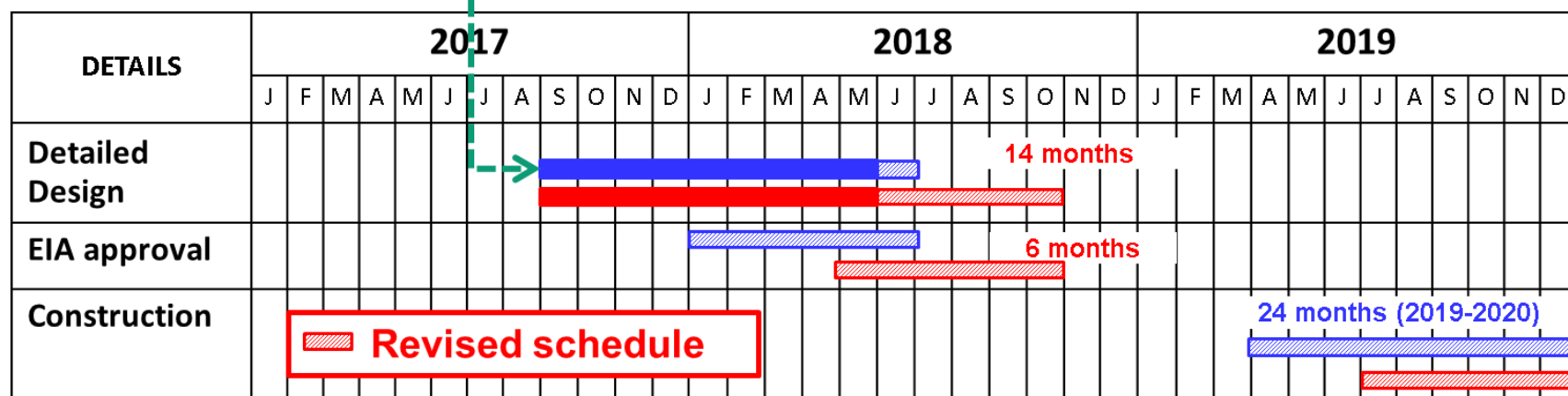
With reference to the “Minutes of Joint Technical Meeting for Golok River Mouth Physical Modeling Works No. 1, No. 2 and No. 3” and the presented 3D Physical Model revised results, the Meeting agreed to recommend:

- (a) The wave conditions for the physical model was calibrated based on the offshore wave parameters.
- (b) The results of the 3D physical model is taken qualitatively as the physical model is designed as moveable bed and the model scale is beyond recommended parameters previously suggested (1 : 40 – 1 : 60).
- (c) Both sides agree with the results of the 2D physical model conducted to study and determine the shape of the protection works at Transit Point B.
- (d) Both sides agree with the qualitative results of the 3D physical model conducted to study and assess the flow pattern, water level changes and wave penetration changes caused by the proposed protection works at Transit Point B and the proposed rehabilitation works at Golok River Mouth.
- (e) The improvement works at Golok River Mouth which includes the protection works at Transit Point B and rehabilitation works at Golok River Mouth (breakwater extension, training wall and dyke) to be undertaken based on the following justification:
 - i. The improvement works are expected to enhance river flow, reduce back water effect at upstream of Golok river and reduce water level.
 - ii. The construction of the extended breakwater is expected to reduce the wave penetration inside Golok River Mouth
 - iii. The improvement works are expected to reduce scouring around Transit Point B and at the tip of Thai breakwater

Physical Model & EIA road map (THAILAND)



Detailed design & EIA road map (MALAYSIA)

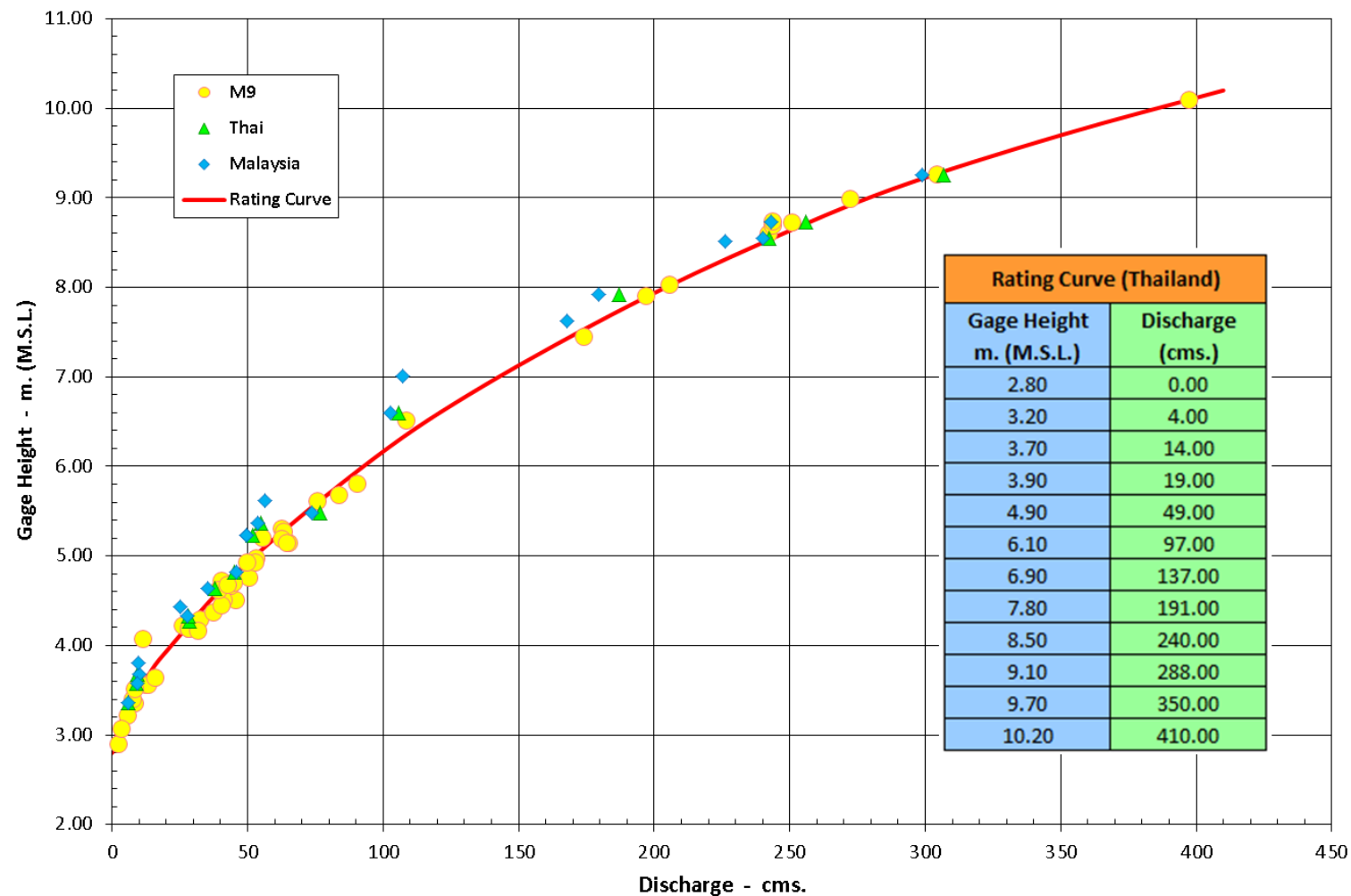


2018 Mutual Gauging

Date	G.H. m. (M.S.L.)	Width m.	Area sq.m.	Velocity m./s.	Discharge cms.	Remark
30 January 2018	4.930	38.96	105.600	0.470	49.636	M 9
15 February 2018	4.080	15.13	20.295	0.548	11.118	M 9
29 March 2018	3.410	22.26	24.700	0.295	7.277	M 9
26 April 2018	4.170	34.22	73.920	0.429	31.725	M 9
24 May 2018	3.520	21.14	25.178	0.328	8.263	M 9

Rating Curve at Cableway station 2017 (Mutual)



RATING CURVE WATER YEAR 2015-2017 STATION X.119A
GOLOK RIVER AT BAN LANTU , SUNGAI KOLOK , NARATHIWAT



Progress of New Telemetry Station

ACTIVITIES	2016				2017				2018				2019			
	Q3	Q4			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	SEP	OCT	NOV	DEC	J - M	A - J	J - S	O - D	J - M	A - J	J - S	O - D	J - M	A - J	J - S	O - D
Setup	Completed															
Testing on data collection	Completed															
Calibration																
Data sharing																

Note:

 Progress (Thailand)
 Planning (Thailand)

Note:

 Progress (Malaysia)
 Planning (Malaysia)

2 station only

*data to be shared when both side are ready