

MONITORING FORM (Revised)

The Ministry of Infrastructure and Public Utilities conduct environmental monitoring. The result of monitoring will be reported to JICA by this form as a part of the Progress Report.

1. Responses/Actions to Comments and Guidance from Department of Environmental Protection and Conservation (DEPC)

| Monitoring Item | Monitoring Results during Report Period | Comments from DEPC |
|-----------------|---|---|
| All | As bellow | Results accepted with NO further comment. |

2. Ecosystems

1) Animals occurrence around the Project site (at any time)

| Item | Remarks (Found date & locations, numbers) |
|-------------|---|
| Dugongs | No animals sighted since the start of the project |
| Sea Turtles | No animals sighted since the start of the project |
| Others | Substantial aggregation of coral reef-associated fish and macro-inverts at the relocation site. |

※Please write the latest information and the date you observed the above animals.

3. Corals and Water Quality

| Monitoring site | | Status of corals (live coral %/coral cover % based on Coral Lukluk Method) ⁽¹⁾ | | Water temp (°C) | Salinity (‰) | pH | | | Turbidity (NTU) | | | Remarks |
|--|--|--|---------------------|-----------------------|---------------------|---------------------|-------|---------|--------------------|-------------------------|----------------------------------|--|
| | | Result | Baseline | | | RANGE | RANGE | RANGE | Baseline | Standard ⁽⁴⁾ | Measured value (MAX) | |
| Coral relocation site | Bommie 1 | 33% | 100% ⁽³⁾ | 28.4 ⁽²⁾ | 33.2 ⁽²⁾ | 8.16 ⁽²⁾ | N/A | 7.8-8.3 | 0.0 | N/A | <9.5 | No baseline data available ⁽⁶⁾ |
| | Bommie 2 | 38% | 100% ⁽³⁾ | | | | | | | | | |
| | Bommie 3 | 45% | 100% ⁽³⁾ | | | | | | | | | |
| | Bommie 4 | 60% | 100% ⁽³⁾ | | | | | | | | | |
| Permanent monitoring site of coral | S4T2 (Fatumar-u Bay) ⁽⁷⁾ | 19% | <31% | 28.2 | 33.4 | 8.16 | N/A | | 0.0 | N/A | <9.5 | No baseline data available ⁽⁶⁾ |
| | S2T1 (Ifira) ⁽⁷⁾ | 22% | <5% | 27.9 | 33.2 | 8.13 | N/A | | 0.0 | N/A | <9.5 | No baseline data available ⁽⁶⁾ |
| | S3T3 (Iririki) ⁽⁷⁾ | 8% | <5% | 28.4 | 33.2 | 8.16 | N/A | | 0.0 | N/A | <9.5 | No baseline data available ⁽⁶⁾ |
| Construction site | M-1 | | | 27.6 | 30.9 | 8.16 | 8.15 | | 0.0 | 0.0 | <9.5 | Works as noted ⁽⁸⁾ |
| | M-2 | | | 27.7 | 33.2 | 8.13 | 8.16 | | 0.0 | 0.0 | <9.5 | Works as noted ⁽⁸⁾ |
| | M-3 | | | 27.9 | 33.2 | 8.14 | 8.14 | | 0.0 | 0.0 | <9.5 | Works as noted ⁽⁸⁾ |
| | M-4 | | | 27.8 | 33.2 | 8.13 | 8.15 | 0.0 | 0.0 | <9.5 | Works as noted ⁽⁸⁾ | |
| | M-5 | | | 28.0 | 33.2 | 8.12 | 8.14 | 0.0 | 0.0 | <9.5 | Works as noted ⁽⁸⁾ | |
| | M-6 ⁽⁹⁾ | | | - | - | - | 8.19 | - | 0.0 | <9.5 | Works as noted ⁽⁸⁾ | |
| | M-7 ⁽⁹⁾ | | | - | - | - | 8.16 | - | 0.0 | <9.5 | Works as noted ⁽⁸⁾ | |
| Permanent monitoring site of water | C-1 | | | 27.4 | 33.1 | 8.16 | 8.15 | 0.0 | 0.0 | <9.5 | Works as noted ⁽⁸⁾ | |
| | C-2 | | | 28.1 | 33.3 | 8.15 | 8.15 | 0.0 | 0.0 | <9.5 | Works as noted ⁽⁸⁾ | |
| | C-3 | | | 28.2 | 33.4 | 8.14 | 8.16 | 0.0 | 0.0 | <9.5 | Works as noted ⁽⁸⁾ | |

Temperature and salinity is used to judge if turbidity is due to the project activities or storm water.

The coral data and water quality data were collected on March 16, 2017 and April 26, 2017 respectively.

- (1) The Corel Lukluk Method was used to determine live coral cover. The bleached coral is counted as live coral as VFD judges that these corals still have the potential to regrow.
- (2) The location of coral relocation site is close to the S3T3 and therefore the water quality data of S3T3 was used.
- (3) The relocated coral percentage is based on all live corals successfully transplanted
- (4) Environmental standard of the Basic Environment Act in Japan.
- (5) Standard of fisheries water in Japan - Background + 2mg/L. The standard for the particular day with the highest result at the monitoring point is shown.
- (6) The baseline pH and Turbidity are not available for the Coral Monitoring & Coral Relocation Sites as the contractor's baseline survey conducted from October-November 2015 did not include these sites.
- (7) Water quality monitoring commenced for the additional points of S3T3, S2T1 and S4T2 on April 26, 2017 following a request from JICA.
- (8) Dredging at Wharf Zone III and Zone IV. Excavation at Wharf Zone IV and V. Pouring lean concrete and reinforced concrete coping beams Zone II – Zone IV. Backfilling, Zone III – IV. Removal of old wharf piles at Wharf Zone I.
- (9) Points M6 and M7 were both inside the silt curtain while dredging activity was underway, and therefore it was not able to measure the water quality data.

4. Grievance

| Grievances from Project Affected Persons | Responses of Executing Agency and Results | Remarks |
|--|---|---------|
| NO grievances reported | | |