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香港 國際機場 HONG KONG INTERNATIONAL AIRPORT

Expansion of Hong Kong International Airport into a Three-Runway System

1st Professional Liaison Group (PLG) Meeting

Airport Authority Hong Kong

15 October 2015

Agenda

1. Welcome Remarks by AAHK

2. Overview and Latest Progress of the 3RS Project

3. Marine Park Study, Marine Ecology and Fisheries Enhancement Strategy, Environmental Monitoring & Audit (EM&A) Framework

4. Upcoming Discussion Items for the PLG

5. Q&A Session

Operation of PLG

- Chaired by Ir Kevin Poole, Acting Executive Director, Third Runway, AAHK
- Supported by ERM as Environmental Permit Consultant
- 22 PLG members, including professionals and experts in environmental fields relevant to the 3RS development
- 2-4 meetings/ site visits per year
- Terms of reference, membership, confirmed minutes and meeting materials of PLG meetings will be available to public through a dedicated website

Terms of Reference

- On the basis of the relevant information of the 3RS Project including the detailed design, the progress of construction and operation as well as environmental monitoring and audit results provided by AAHK, to advise / facilitate AAHK on:
  - enhancing transparency and communication with relevant professional/ experts, as well as enquiries and complaints handling on all environmental issues related to the 3RS Project; and
  - promoting community cooperation and participation and implementation of suitable local environmental enhancement works that are included in the relevant Environmental Permit.

Latest updates as at 18 September 2015

Overview and Latest Progress of the 3RS Project

Airport Expansion
more than just a new runway

The whole three-runway system (3RS) is an infrastructure project which involves reclamation of approximately 650 hectares of land, a 3,800m-long new runway and related taxiways, a new passenger concourse and an apron with 57 parking positions, a 2.6km-long Automated People Mover system, a new high-speed Baggage Handling System, and the expansion of the existing Terminal 2, etc.

New Passenger Concourse and 57 parking positions

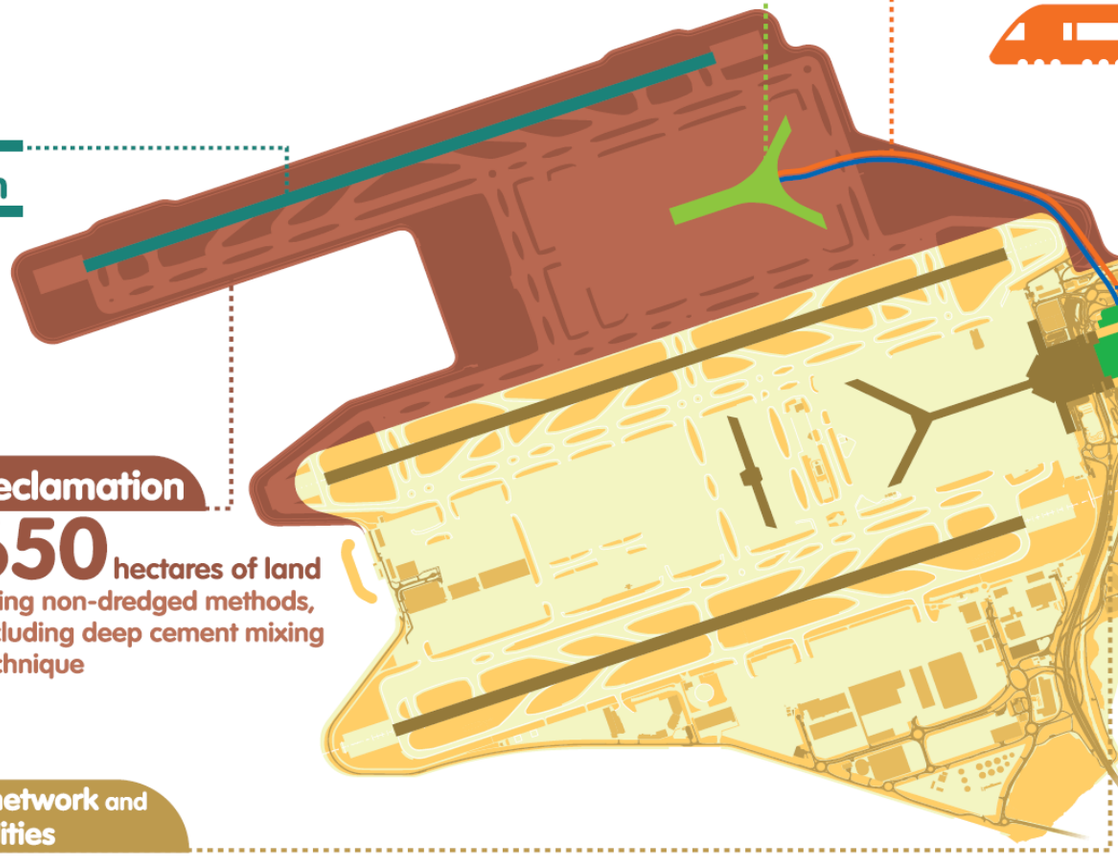
Floor area: **283,000** sq m

New Automated People Mover system

Top speed: **80** km/h

New runway

3,800m



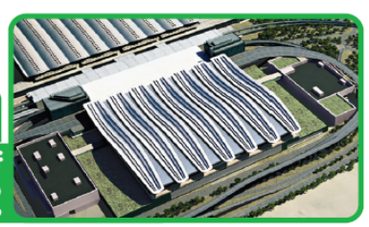
New Baggage Handling System

Baggage transport speed: **25-36** km/h

Reclamation

650 hectares of land

Using non-dredged methods, including deep cement mixing technique



Expansion of Terminal 2

Providing arrivals, departures and full-fledged passenger services

Comprehensive road network and transportation facilities

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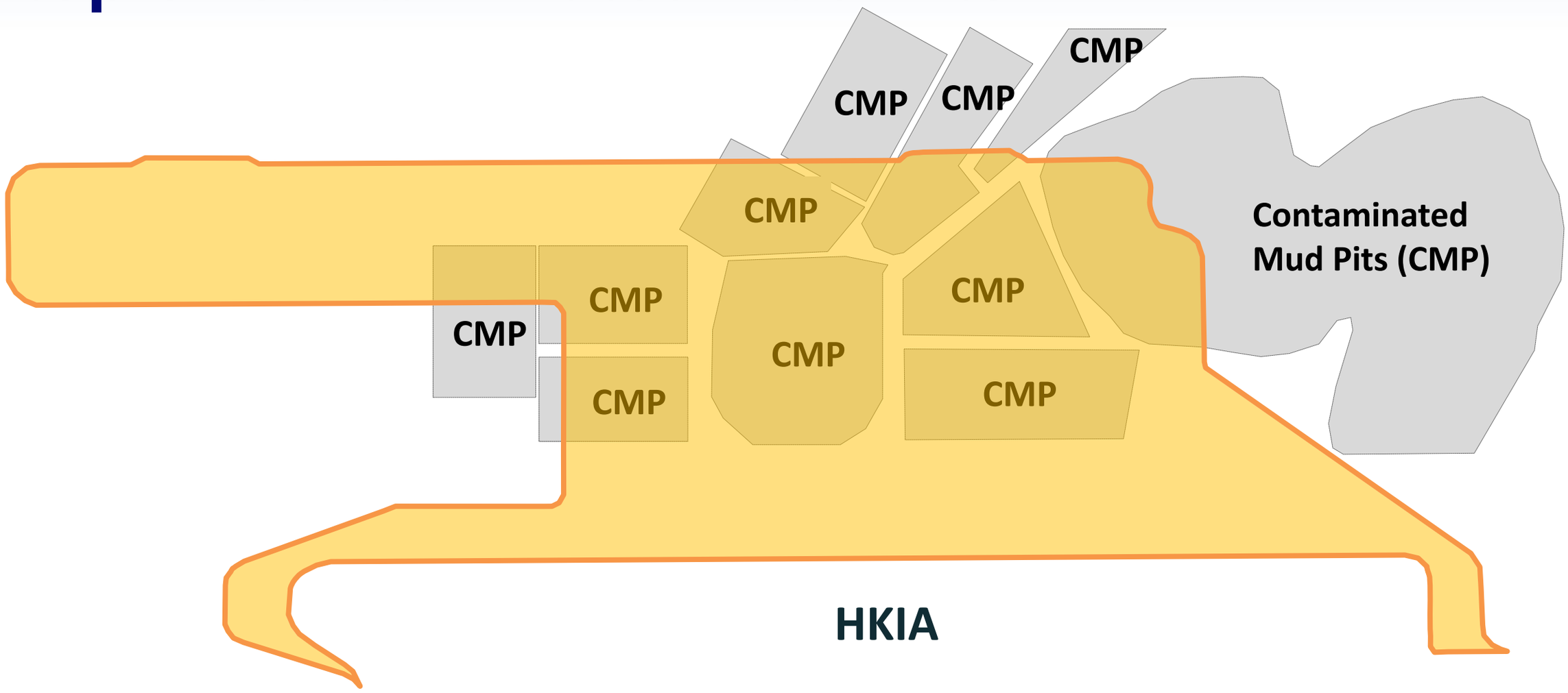
Land Formation of 650 hectares partially on top of Contaminated Mud Pits



- Reclaimed Area: ~650 ha
- Contaminated Mud Pits: ~270 ha (covers ~40% of the Site)
- Use of Non-dredged Reclamation Methods to reduce impacts to water quality

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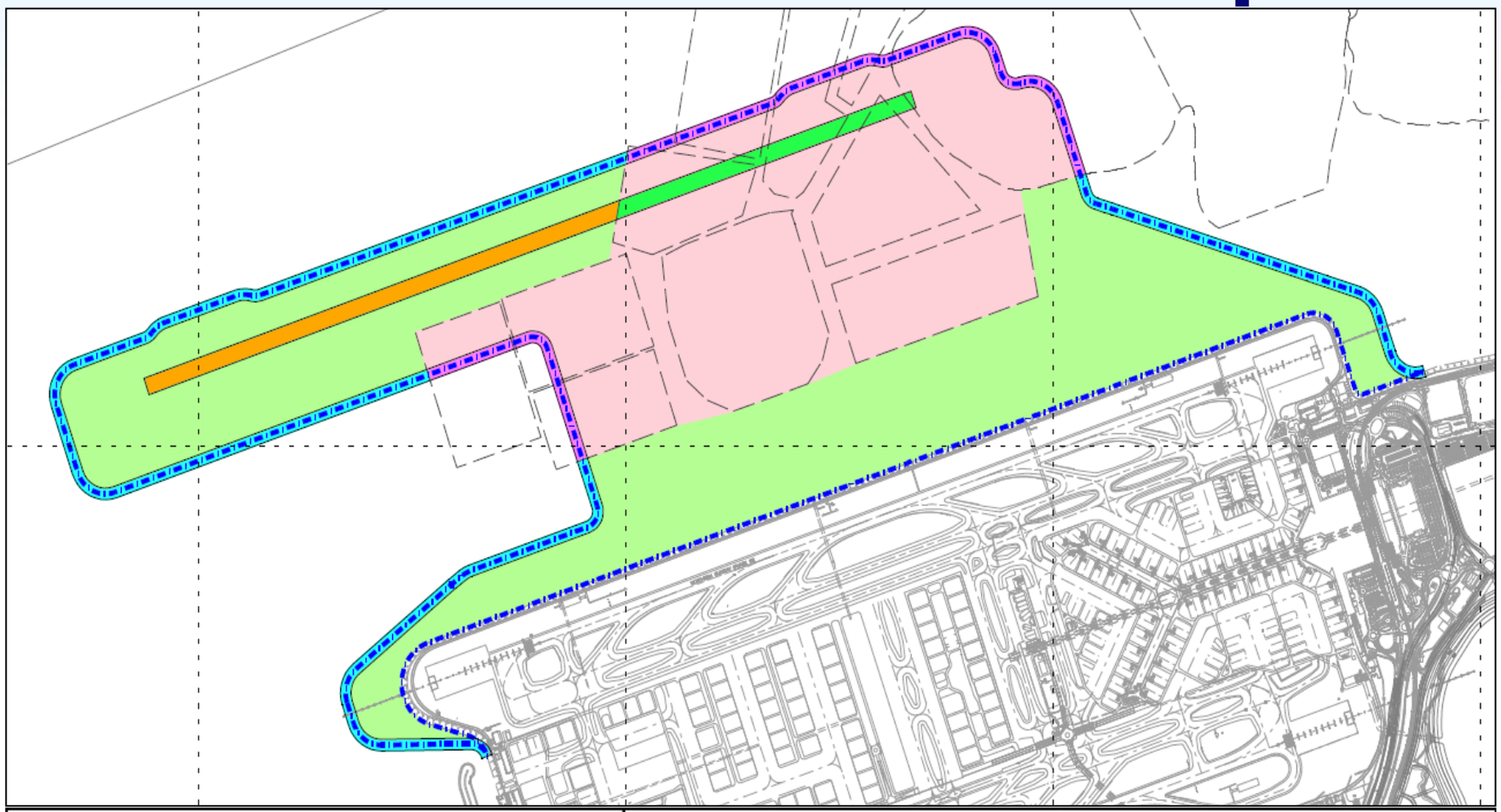
3RS Reclamation – Ground Improvement



Location	Possible Ground Improvement Methods					
	DCM	PVD	Stone Columns	Sand Compaction Piles	Vertical Sand Drains	Cylindrical Steel Cells
General Land Formation outside CMPs	✓	✓	✓	✓	✓	
General Land Formation inside CMPs	✓					
Seawall outside CMPs	✓		✓	✓	✓	✓
Seawall inside CMPs	✓					
Runway outside CMPs	✓		✓	✓	✓	
Runway inside CMPs	✓					

Note: Selection of ground improvement methods are subject to detailed design of the reclamation. Deep Cement Mixing (DCM) method will be applied on the CMP areas to avoid contaminated mud being released into the water column.

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Third Runway Concourse Overview

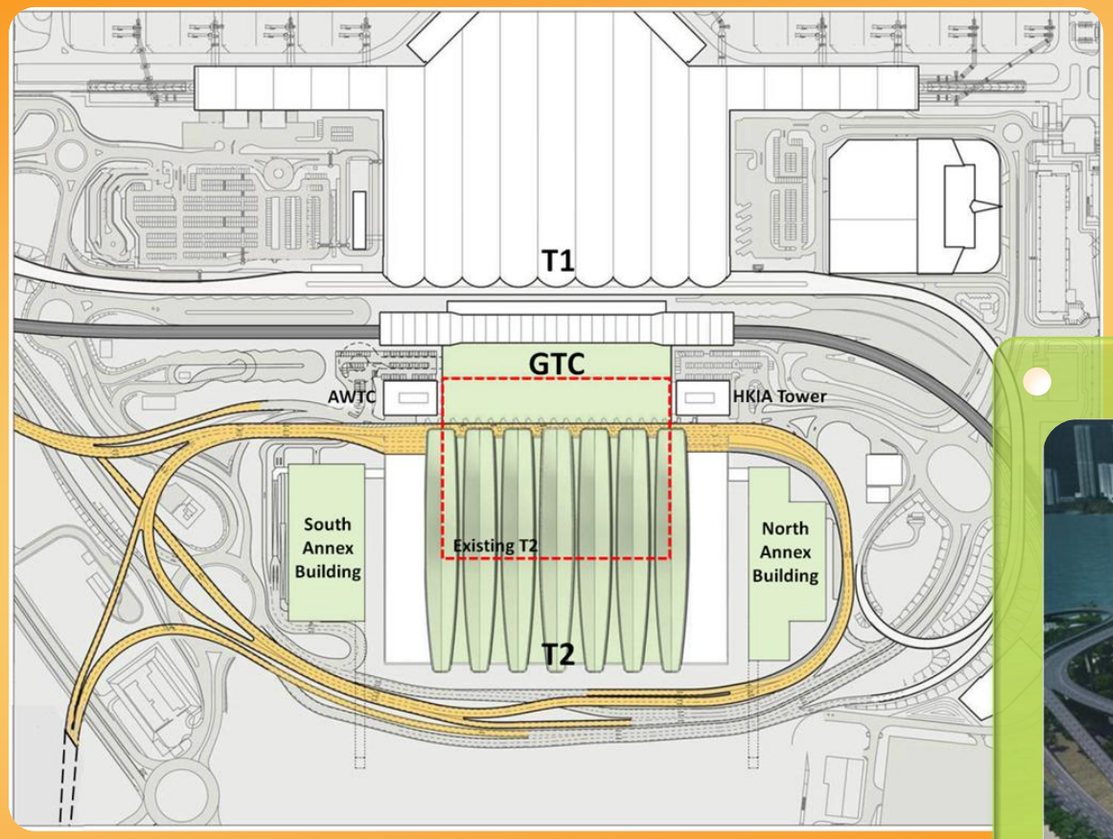
- **Floor Area : ~ 283,000 m²**
- **Total Aircraft Parking Positions : 57**
  Code F – 14
  Code E – 23
  Code C – 20

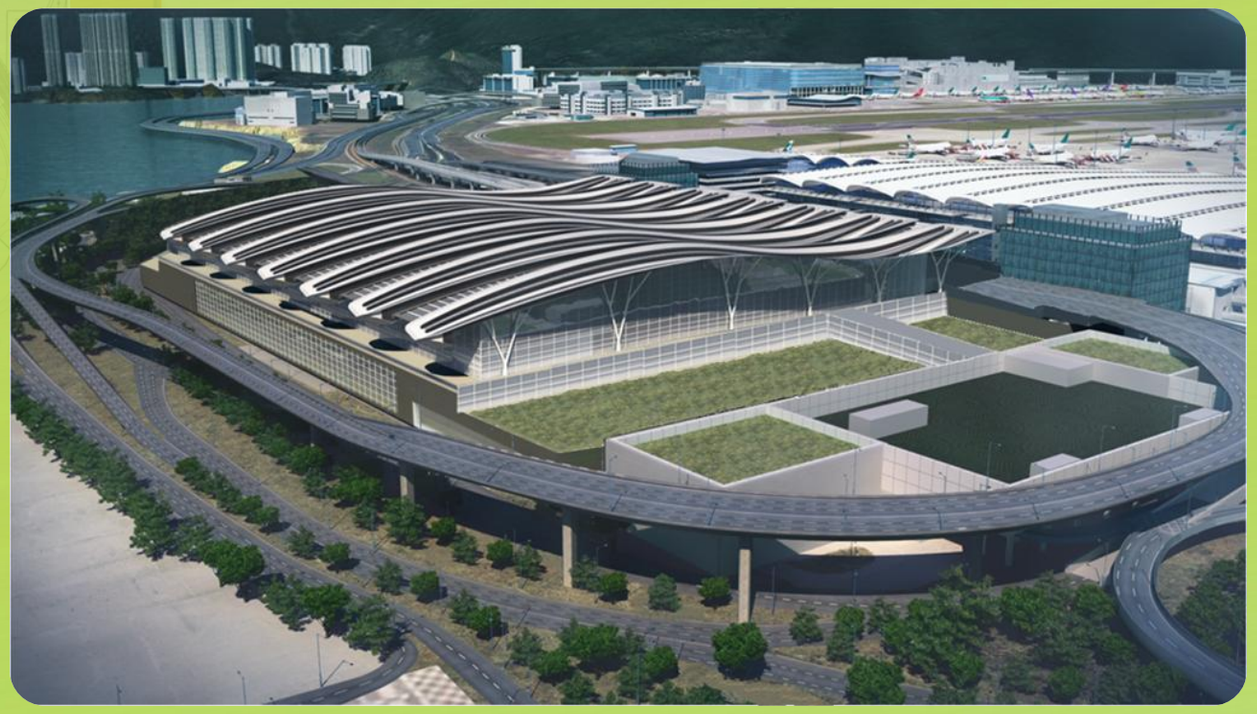
View of Central Commercial Node

Third Runway Concourse – Central Concourse (L6)

Third Runway Concourse – Arrival Level

Terminal 2 Expansion Overview

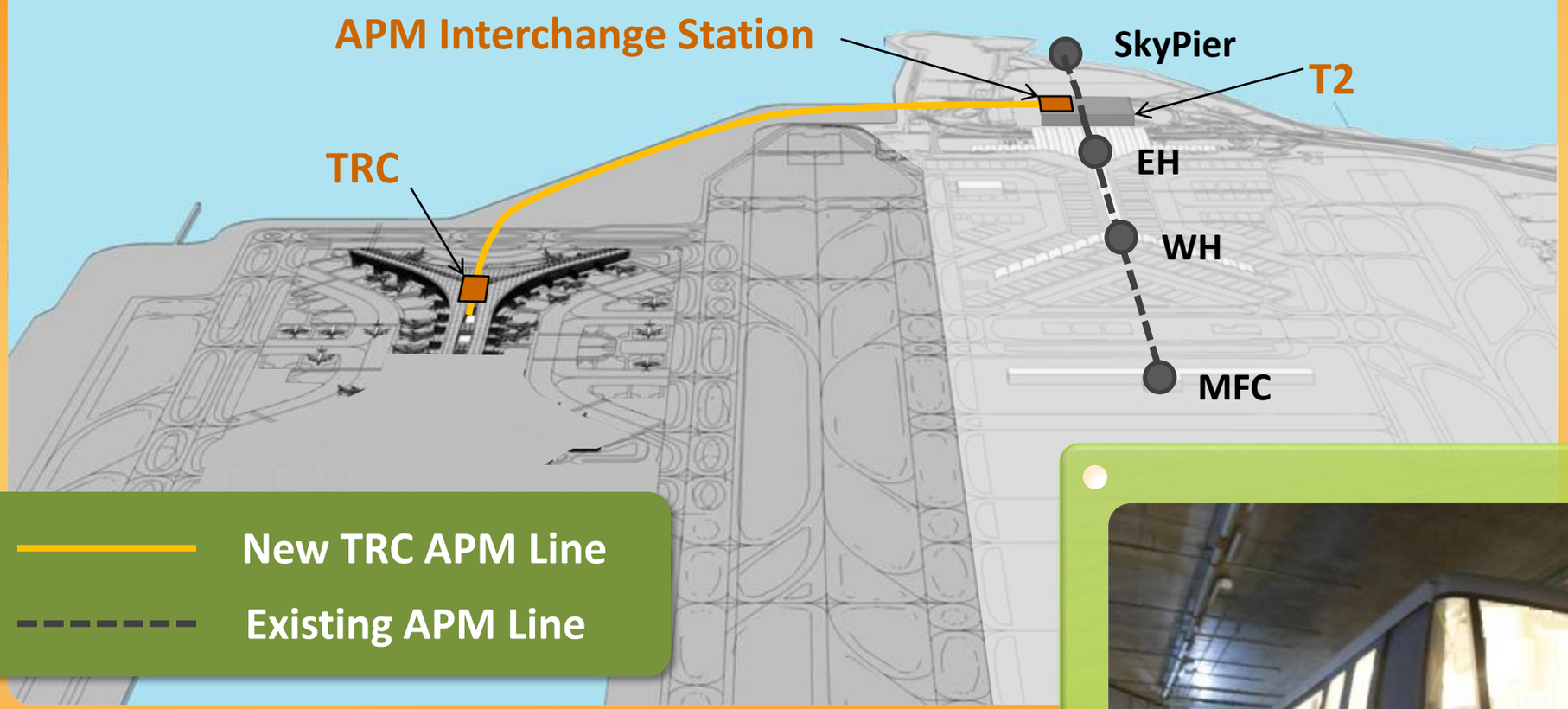




- Floor area：~ 300,000 m^2
- Check-in Counters：216
- Baggage Reclaim Carousels：8

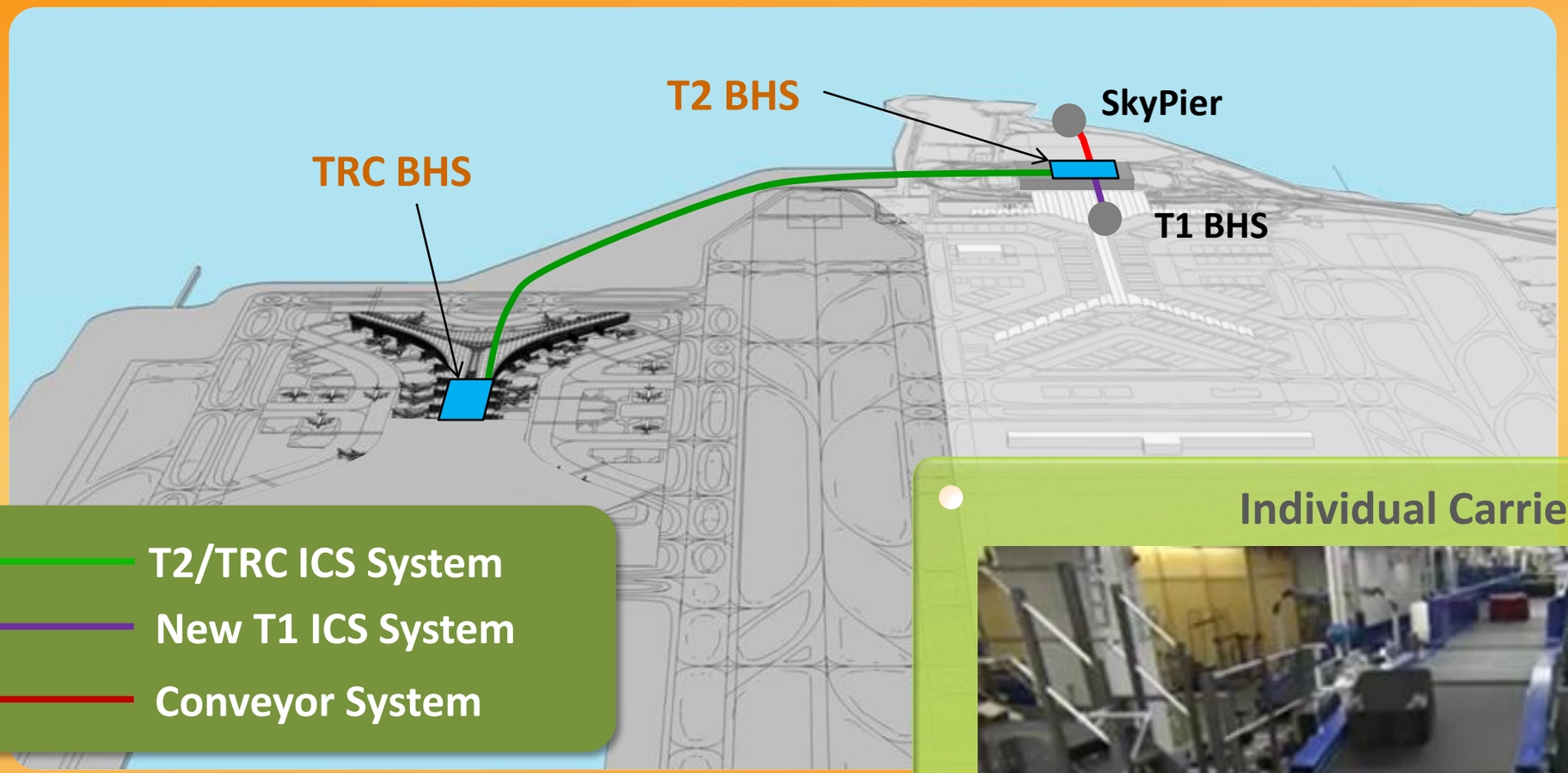
T2 Expansion – Meeters and Greeters Hall (L5)

Automated People Mover System Overview



- Station Distance: 2.6 km between T2 and TRC
- Headway: 2.5 mins
- Maximum Train Speed: 80 km/hr
- Car Length: 12 m

Baggage Handling System Overview



Individual Carrier System

- Individual Carrier System (ICS)
- Transport Speed: 25 to 36 km/hr
- First Bag on Reclaim Carousel: 20 mins
- Last Bag on Reclaim Carousel: 40 mins

T2 and the Third Runway Passenger Concourse Aprons (Video)

3RS Project Schedule

Planning	Approval	Implementation
• Environmental Impact Assessment studies • Associated designs/details	• Environmental Permit (EP) - issued on 7 Nov 2014 • Project cost updates and funding options • Other statutory requirements	• Detailed designs/contract documentation • Land formation • Construction of related facilities
Completed	**On-going**	**Expected Period for the Project: 8 years***

*Indicative timeline that is subject to change

Statutory Approval Process

17 Apr 2014

EIA Final Report to EPD

Mid Apr – Mid Sep

- Review by EPD
- Public Inspection
- Review by ACE

Mid Sep – Nov

EPD to consider approval of EIA Report

7 Nov 2014

EPD approved the EIA report and issued the EP (Permit No.: EP- 489/2014)

8 Jul 2015

Pending ExCo authorization under FSRO & TPO for commencement of reclamation

Start handling representations and objection resolution

8 May 2015

Government Notices were issued according to FSRO and TPO

17 Mar 2015

ExCo affirmed the need for 3RS

Project Implementation Stage – Roles of Supporting Consultants

AAHK (Permit Holder)

Environmental Team (ET) (Mott MacDonald)

Roles of ET:

- Implement EM&A programme in accordance with the EM&A requirements
- Develop EM&A related submissions under the EP

Independent Environmental Checker (IEC) (AECOM)

Roles of IEC:

- Audit the overall EM&A performance
- Verify relevant submissions under the EP

Environmental Permit Consultant (EPC) (ERM)

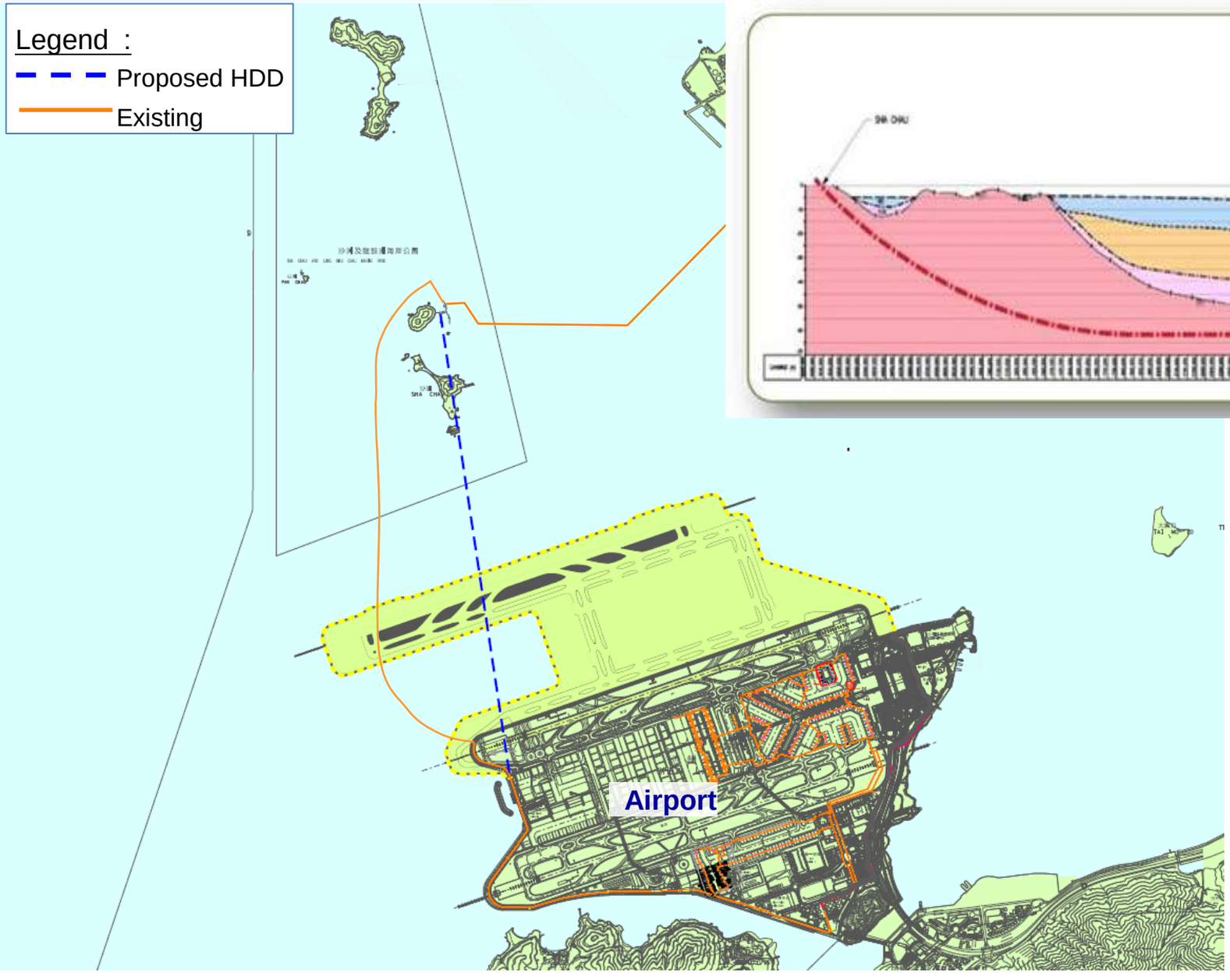
Roles of EPC:

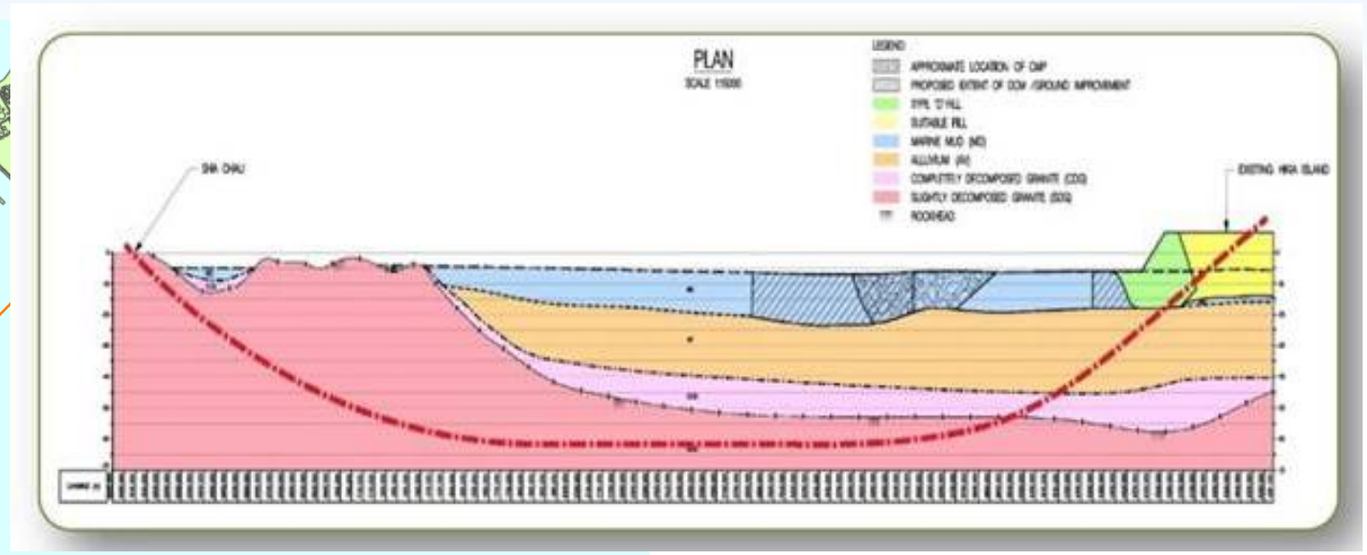
- Manage EP issues
- Develop marine ecology and fisheries related EP submissions
- Establish communication channels with the public and other stakeholders

Planned Activities

	Activity	Construction Phase
1	Advanced Works	
2	Land Formation Works	
3	Works on Existing Airport Island	
4	Works on Reclaimed Land	

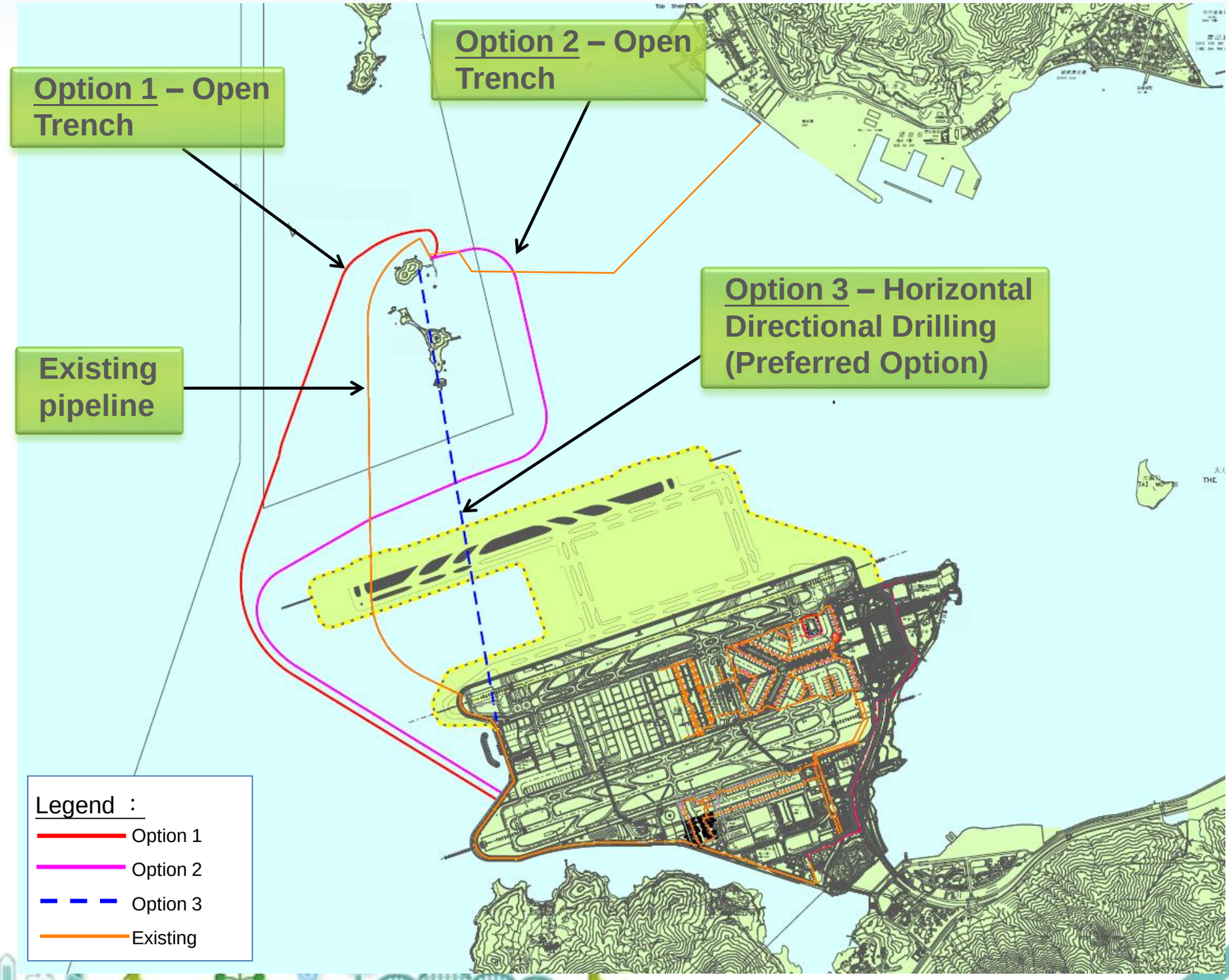
Advanced Works – Horizontal Directional Drilling (HDD) for Aviation Fuel Pipeline Diversion





- The HDD pipeline drilling works will be carried out in the rock stratum below seabed and no FSRO authorization is required

HDD for Aviation Fuel Pipeline Diversion – Use of the Best Practicable Environmental Option



HDD for Aviation Fuel Pipeline Diversion – Sequence

Option Selection

Consultation:
- Country and Marine Parks Board

EIA Evaluation:
Preferred Option with least environmental impacts

Assessment:
- Identified impact to Sha Chau egretry
- Formulated mitigation measures

Pre-construction Egretry Survey

Applications for Permits/Licences:
- Marine Park Permit (SCLKCMP)
- Effluent discharge Licence

Required EP Submissions before commencement of Project Construction

EM&A Programme - Construction Phase
- Air quality and noise monitoring
- Landscape and Visual (L&V) monitoring (Sha Chau)
- Site Inspections

Site Establishment at HKIA

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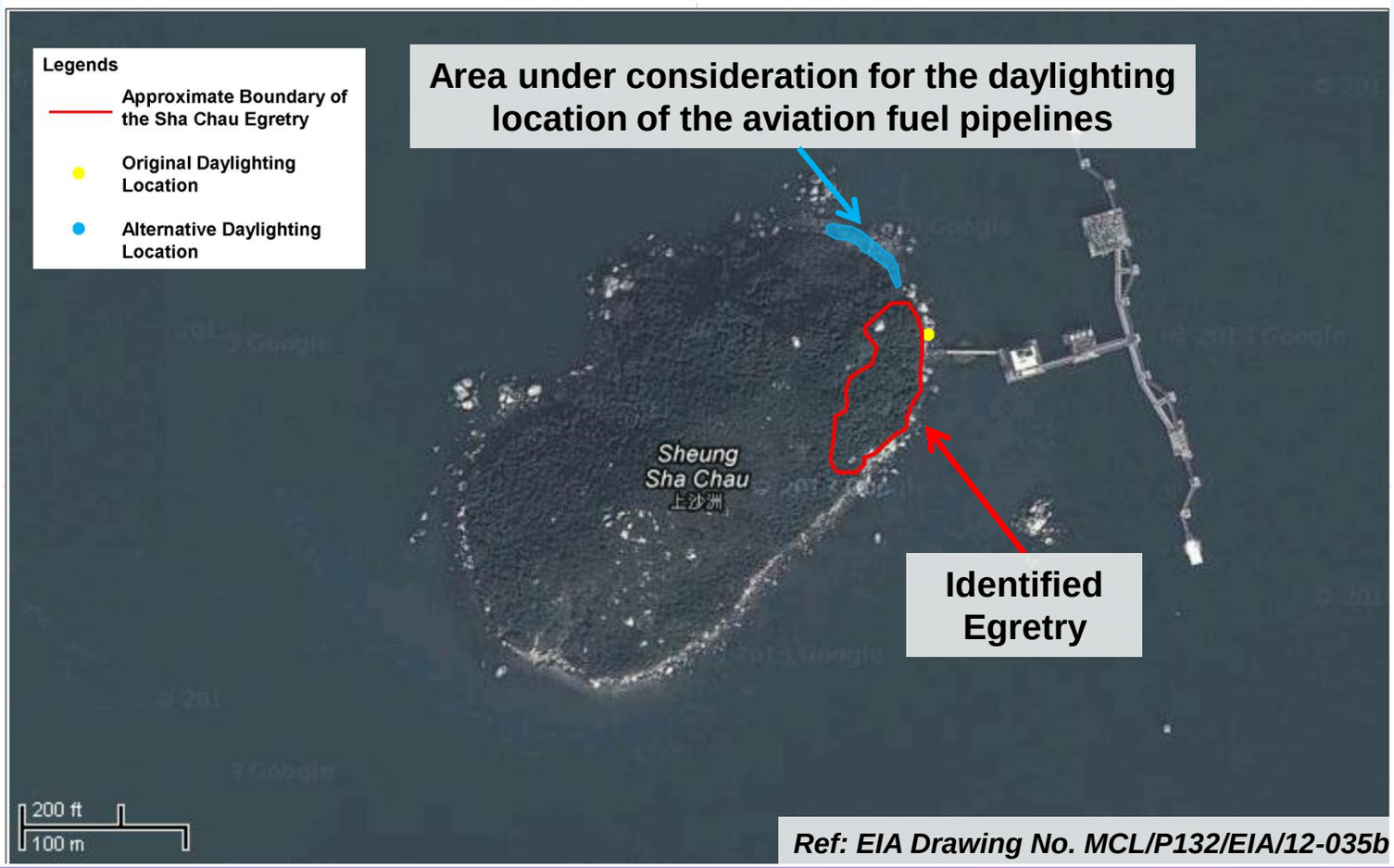
Egretry Identified on Sha Chau Island – Proposed Daylighting Location



Ref: EIA Drawing No. MCL/P132/EIA/12-035b

Mitigation Measures

- The daylighting point shall be kept to the minimum in size and be situated as far away from the latest egretry boundary as practicable
- The daylighting location and mooring of flat top barge shall not encroach into the Sha Chau Egretry
- Artificial lighting shall be confined within the site
- The containment pit at the daylighting location shall be covered or camouflaged
- No tree shall be felled
- No construction works during the ardeids' breeding season between April and July
- No night-time construction works shall be carried out

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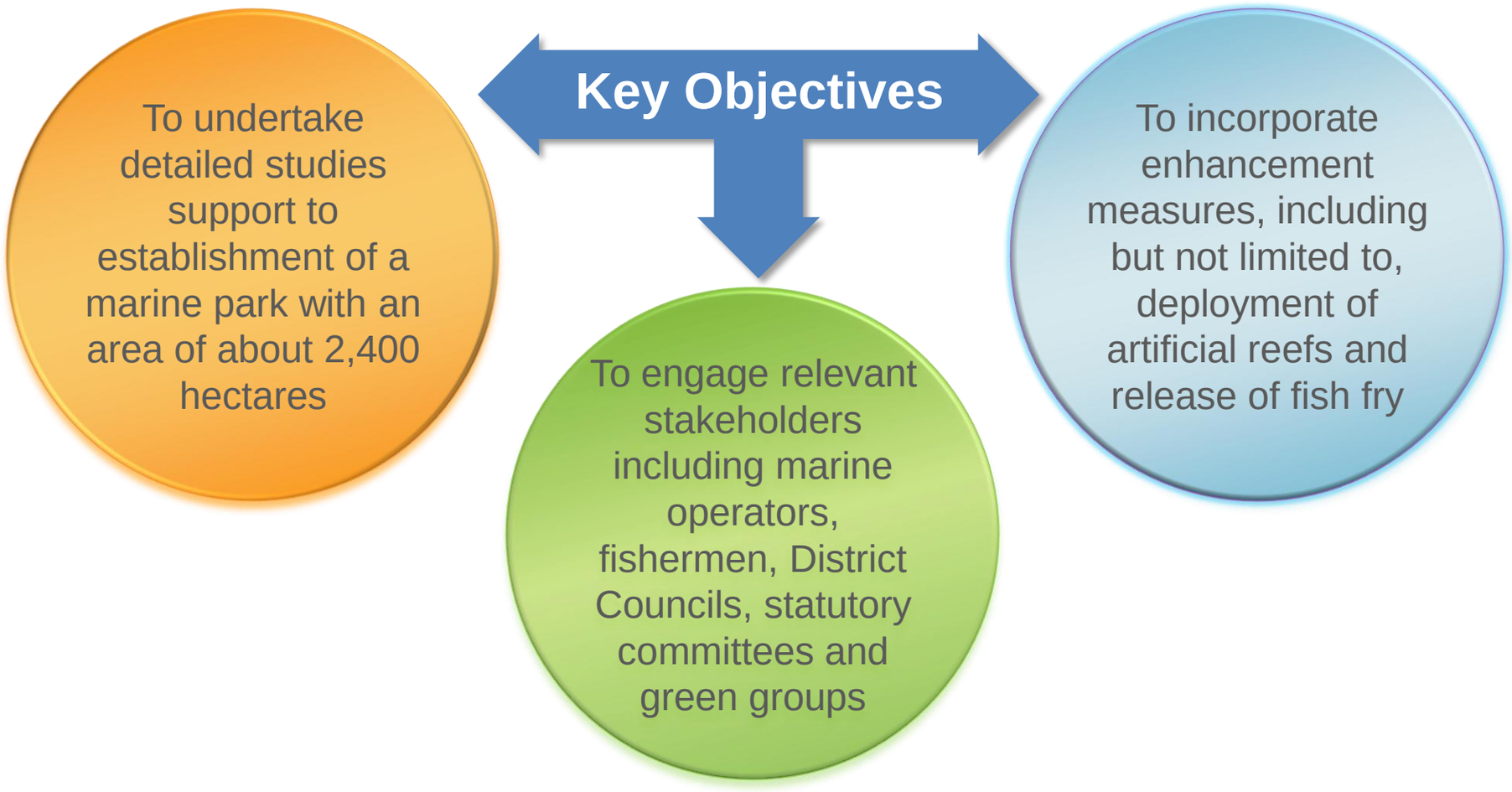
Marine Park Study,

Marine Ecology and Fisheries Enhancement Strategy,

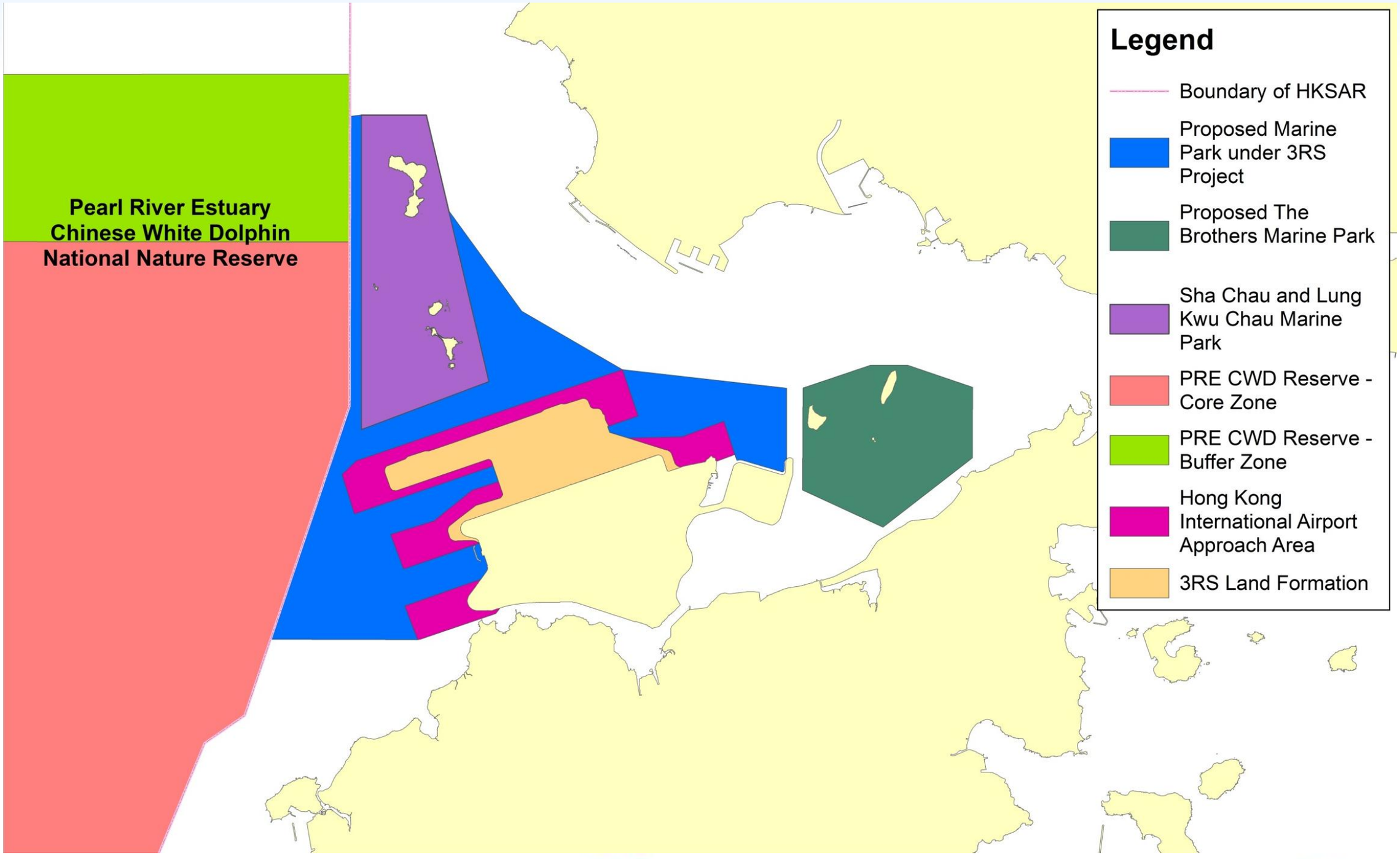
Environmental Monitoring & Audit Framework

Marine Park Study

- **A new Marine Park is proposed to mitigate impacts on marine ecology and fisheries and provide a positive influence on restoration and recovery of these resources in affected waters**



Marine Protected Areas around 3RS



Approach to the Marine Park Study

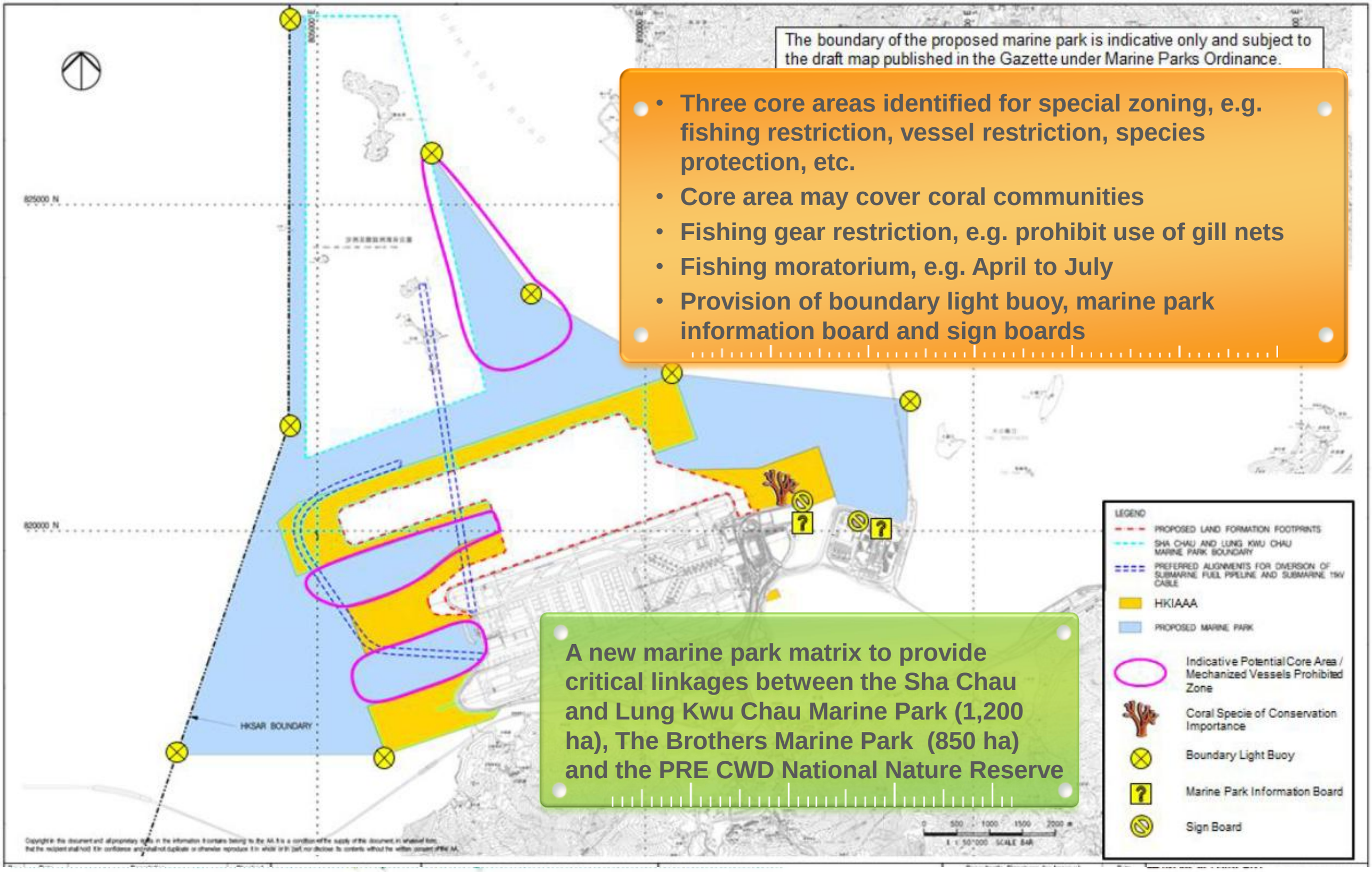
Marine Park Proposal

- Preliminary review of EIA recommendations
- Identify recent developments in the surrounding environment
- Recommend and fine-tune the preliminary Marine Park boundary and potential management and enhancement options

Preparatory Works on Designation

- Desktop review of management practice and experience
- Detailed study on environmental, ecological and fisheries profiles
- Recommend marine park extent and management plan
- Recommend enhancement measures
- Assess potential interfaces with surrounding environment
- Stakeholder consultation
- Support statutory procedures under Marine Parks Ordinance

Marine Park Considerations (2014)



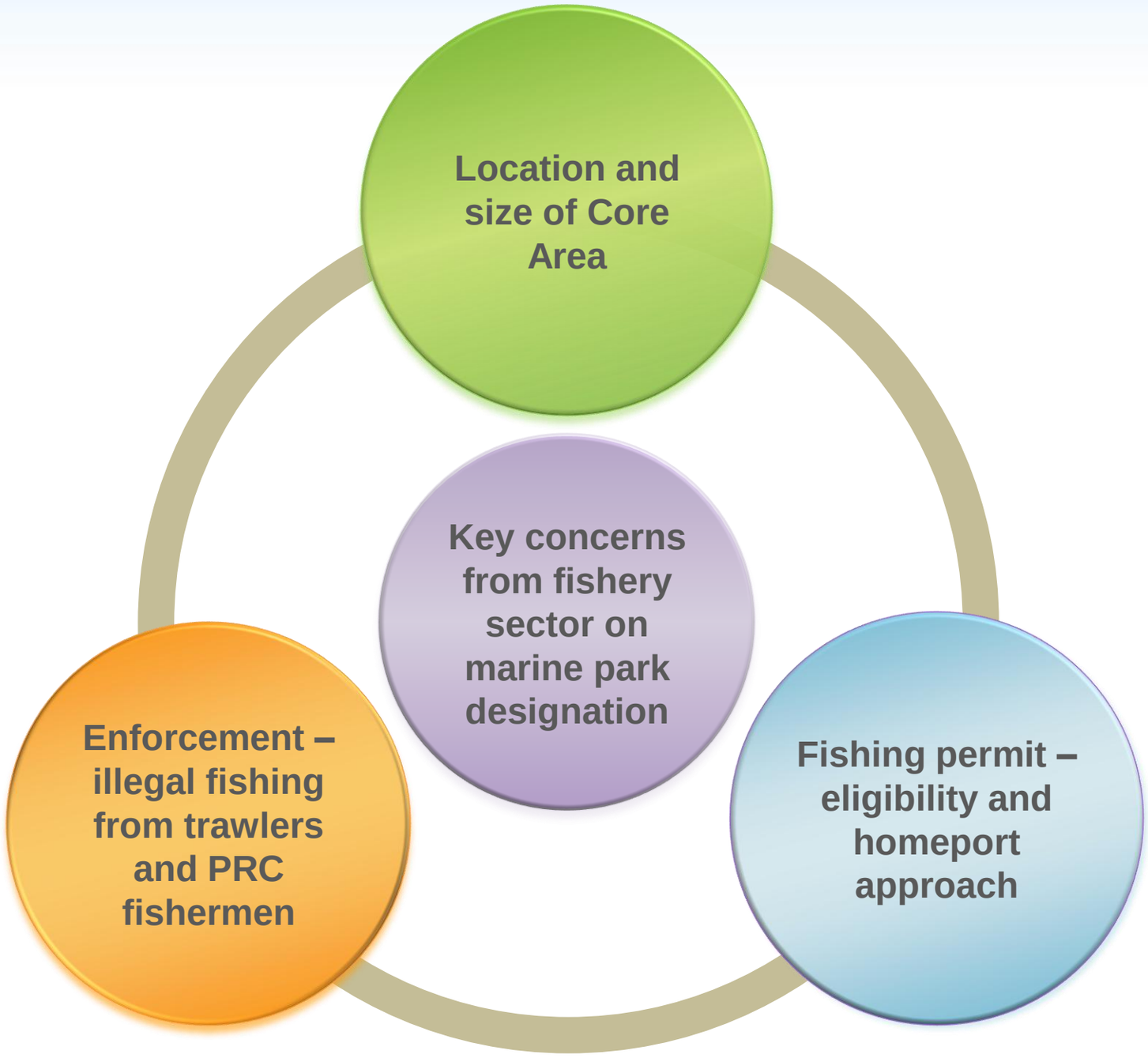
- **Three core areas identified for special zoning, e.g. fishing restriction, vessel restriction, species protection, etc.**
- **Core area may cover coral communities**
- **Fishing gear restriction, e.g. prohibit use of gill nets**
- **Fishing moratorium, e.g. April to July**
- **Provision of boundary light buoy, marine park information board and sign boards**

A new marine park matrix to provide critical linkages between the Sha Chau and Lung Kwu Chau Marine Park (1,200 ha), The Brothers Marine Park (850 ha) and the PRE CWD National Nature Reserve

Marine Park Potential Management Options

- **Zoning to protect Chinese White Dolphins and fisheries resources**
  - **Establishment of Mechanized Vessels Prohibited Zone / Core Area**
- **Integrated management of three marine parks as one**
  - **Anchoring Area in Sham Shui Kok The Brothers Marine Park (BMP)**
  - **Core Area in Siu Mo To (BMP) to protect fisheries**
  - **Core Area within and connecting Hong Kong International Airport Approach Areas (HKIAAA) to protect fisheries**
  - **Core Area possibly east of Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP) and within to protect Chinese White Dolphins**

Fisheries Management



Specific measures to be explored and discussed with the industry:

- **Fishing restrictions - Full no-take Core Area**
- **Fishing restrictions - Seasonal closure at Core Area only**
- **Fishing gear restriction, e.g. prohibit use of gill nets or purse-seine, mesh size regulations**
- **Introduction of voluntary quotas or restriction on age/size at first capture**

Enhancement Measures in the Marine Park

Artificial reef (AR) deployment within Core Area

- Enhancement objective(s)
- Size and location
- Design and arrangement
- Implementation and monitoring

Restocking of fish fry at the new AR sites

- Enhancement objective(s)
- Species
- Size, quantity and frequency
- Implementation and monitoring

And potentially more…

Stakeholder Engagement

Marine Operators	• High Speed Craft Consultative Committee • Local Vessels Advisory Committee
Fisheries	• Major fishermen's organizations and affected fishermen
Local Communities	• CLG • District Councils • Rural Committees
Advisory/Statutory Committees	• PLG • Marine Parks Committee • Country and Marine Parks Board • Capture Fisheries Subcommittee
Other Stakeholders	• Green groups • Ecotour operators • Subsea utilities owners/ operators

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Marine Park Study – Tentative Timeline for Key Tasks

Near term deliverables

Submission of Marine Park Proposal to ACE
Q4 2015

Submission of Marine Park Proposal to EPD
Q1 2016

Prepare Interim Study Report
Q1-Q2 2016

1st Round of Stakeholder Consultation
Q3-Q4 2016

Prepare Draft Detailed Study Report
Q1-Q2 2017

2nd Round of Stakeholder Consultation
Q3-Q4 2017

Prepare Final Detailed Study Report
Q1-Q2 2018

Statutory Procedures for Designation of Marine Park
Designation to tie in with 3RS full operation

Marine Ecology and Fisheries Enhancement Strategy (MEFES)

Enhancement of habitats for marine ecology and fishery resources

- Eco-enhancement designs of seawall
- Potential fisheries “no-take-zone” / enhancement areas
- Deployment of artificial reefs

Promotion of a sustainable fisheries industry

- Support and enhance on-going fisheries operations
- Support measures that assist in shifting fisheries operations
- Support the promotion and enhancement of fisheries-related business opportunities

Encouragement of scientific research and studies

- Support Marine Research Programme
- Adaptive Management in response to CWD population status

Promotion of environmental education and eco-tourism

- Examples:

- Support establishment of eco-trails with displays
- Promote eco-tourism in the marine parks/ sustainable fishing operations
- Promote coast cleaning campaigns
- Support horseshoe crabs breeding and release programme
- Promote education programme

Studies to support Marine Ecology and Fisheries Enhancement Strategy

Enhancement Funds

Marine Ecology Conservation Plan & Fisheries Management Plan

Eco-enhancement seawall design study

Feasibility study on fish fry release

Direct Funding by AAHK

Feasibility study on construction phase Dolphin Protection Areas

Feasibility study on artificial reef deployment

Other potential enhancements

Management Committees of the MEEF and FEF

Marine Ecology Enhancement Fund

- Academics
- Dolphin Experts
- Green Groups
- AAHK

Fisheries Enhancement Fund

- Fishermen Associations' Representatives
- Relevant Stakeholders
- AAHK

AAHK will develop:

- **TOR and *modus operandi***
- **Appropriate mechanisms for accepting funding applications and means of managing funds and deliverables**
- **Details on Secretariat, technical support and staffing arrangements**

Tentative Timeline for Establishment of MEEF and FEF

Submissions of MECP & FMP to ACE

Q4 2015

Submissions of MECP & FMP to EPD

Q1 2016

Establishment of Management Committees and Funds

Q2 2016

Call for Funding Applications

Q3 2016

Environmental Monitoring and Audit (EM&A) Programme

As specified in the EP, an EM&A Programme will be implemented:

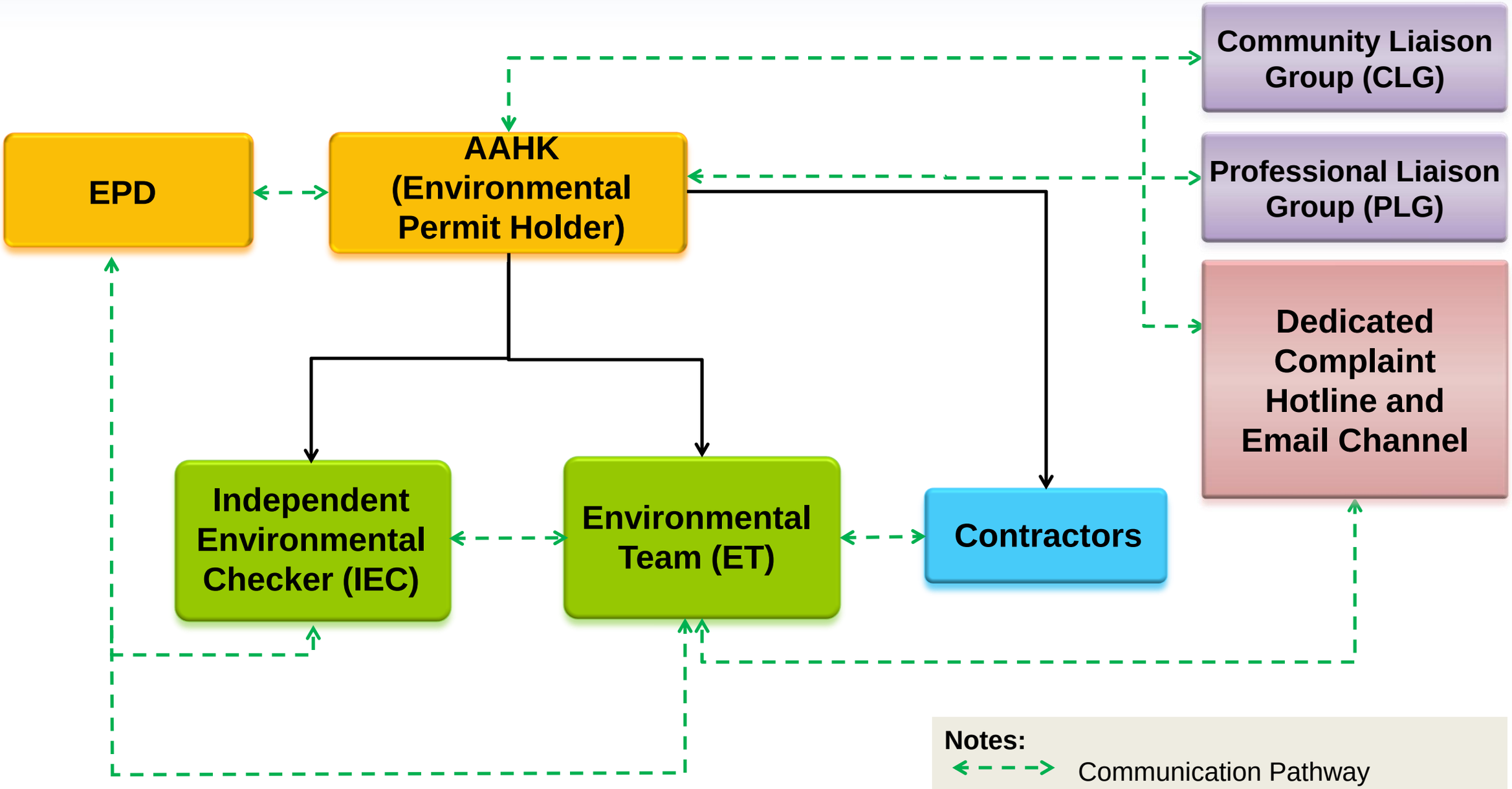
Purpose of EM&A

To ensure compliance with the EIA study recommendations, to assess the effectiveness of the recommended mitigation measures and to identify any further need for additional mitigation measures or remedial action.

EM&A Requirements

- **Submission of Updated EM&A Manual**
- **Implementation of the EM&A programme in accordance with the EM&A requirements**
- **Conduct baseline and impact environmental monitoring**
- **Submission of EM&A Reports**

Communication Pathway for EM&A Project Organization



Notes:

Communication Pathway

Employment + Communication Pathway

Key Activities of EM&A Programme

Baseline Monitoring

Air Quality, Noise, Water Quality, Dolphin

Impact Monitoring

Air Quality, Noise, Water Quality (General/ DCM specific), Dolphin

Site Inspection

Audit on the implementation of the specified environmental mitigation measures

EM&A Reporting

Monthly EM&A Reports will be made available to the Public

Planned Activities under EM&A

EM&A related Submissions made to EPD

- *Marine Travel Routes and Management Plan for Construction and Associated Vessels*
- *Complaint Management Plan*
- *Construction Works Schedule and Location Plans*
- *Spill Response Plan*
- *Waste Management Plan*
- *Updated EM&A Manual*

Sep 2015

Other planned EP Submissions

- *Baseline Monitoring Report*
- *Marine Mammal Watching Plan*
- *Dolphin Exclusion Zone Plan*
- *Silt Curtain Deployment Plan*
- *Detailed Plan on Deep Cement Mixing*

EM&A Baseline Monitoring – Pre Construction Phase

- Air Quality Monitoring
- Noise Monitoring
- Water Quality Monitoring
- Dolphin Monitoring

EM&A Activities – Construction Phase

- Impact Monitoring
- Site Inspections
- Audit of the implementation of environmental mitigations
- EM&A Reporting

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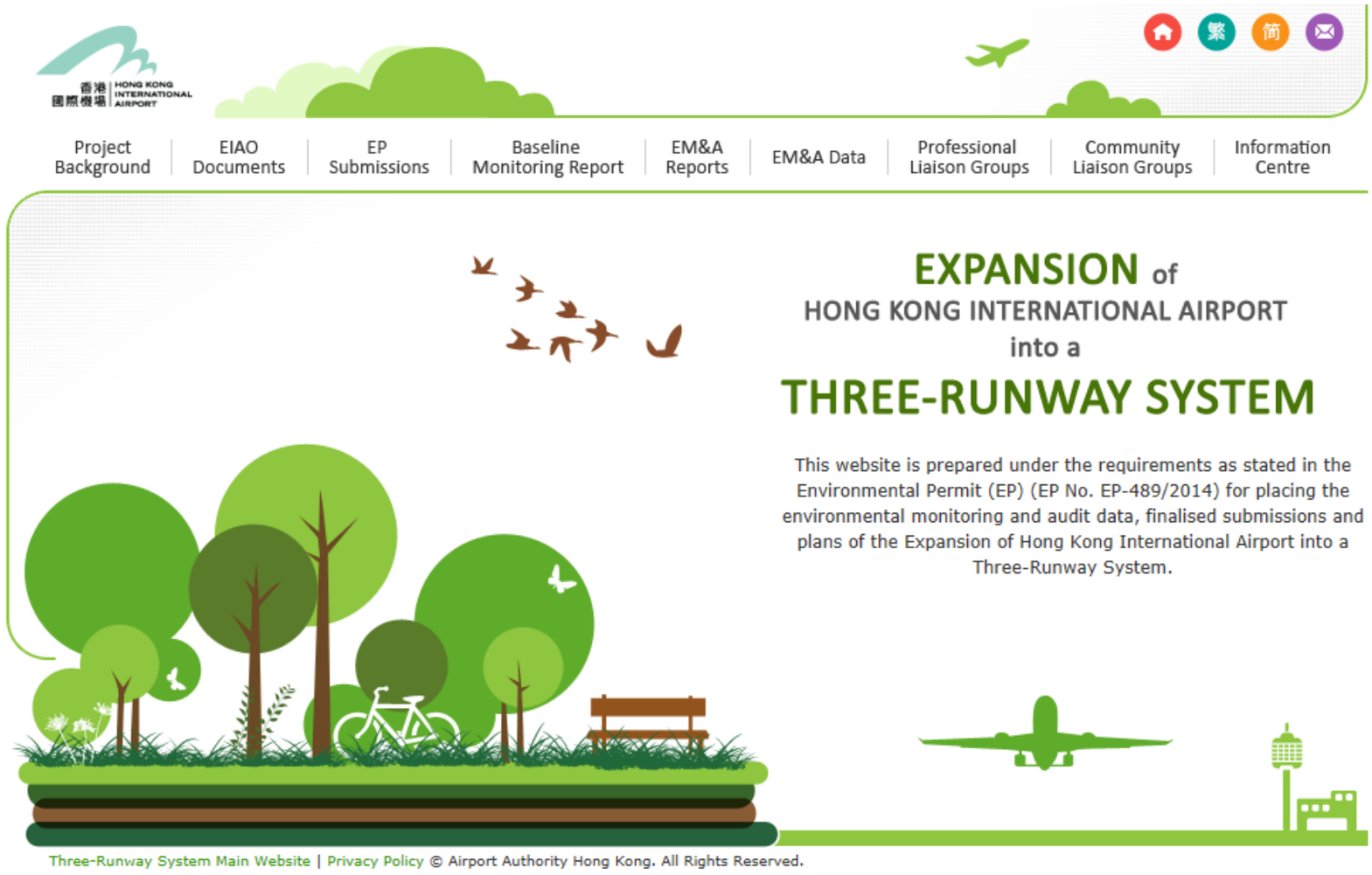
Setting up of a Dedicated Website for EM&A Data and 3RS Project Information

- Provide public access to the project information; EP Submissions; latest EM&A data; terms of reference, membership, confirmed minutes and meeting materials of PLG and CLG.



Upcoming Discussion Items for the PLG

DCM

EM&A Results and Programme
- **The latest updates/results on Baseline and Impact Monitoring**

Effectiveness of Mitigation Measures

Latest Construction Progress
- **Updates on HDD works**
- **Updates on upcoming reclamation related works**

Latest EP Submissions
- **Summary of the key near-term deliverables (i.e. Marine Mammal Watching Plan, Coral Survey Plan, Detailed Plan on Deep Cement Mixing etc.)**
- **Updates on MECP and FMP**

Q&A Session

Thank You

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