HOUSING & DEVELOPMENT BOARD

Summary of Response to Feedback on Environmental Impact Study (EIS) for Tengah North and South

I. Overview: Approach to planning and greenery

The Government takes a holistic and long-term approach to urban planning, to balance social, environmental and economic considerations, and judiciously steward Singapore's scarce land resources to guide sustainable development and meet the needs of current and future generations. This involves addressing trade-offs across a wide variety of land-use needs, including for housing, green spaces, infrastructure, community facilities, amongst others.

The Government is committed to continue providing both recreational park spaces and areas of natural greenery that serve to meet our needs and provide urban relief as we develop. When there is a need to develop greenfield and vegetated sites, we will carry out environmental studies to better understand the topography, hydrology, flora and fauna of the area so that we are able to take a science-based approach towards greenery and wildlife management, and inform us on our planning and development strategy for the area. Any decision to proceed is made only after such studies and engagement with stakeholders are carried out.

Due to household growth as a result of marriage and family formation, and changing social structures and housing preferences, there is a strong demand for public housing across Singapore in both mature and non-mature estates. To meet this demand, agencies would adopt a range of development options such as increasing the density of developments while ensuring liveability, and prioritising the development of brownfield sites, where possible. Hence a balanced approach is adopted, in retaining nature areas based on a science-based approach and meeting land-use needs.

II. Site context

The study area for the two EISes within Tengah, is about 226 hectares (ha) (Tengah North: about 166ha; Tengah South: about 60ha) and largely comprises land zoned as 'Residential", "Waterbody" and "Park" under URA's gazetted Master Plan 2019 (see Figure 1).

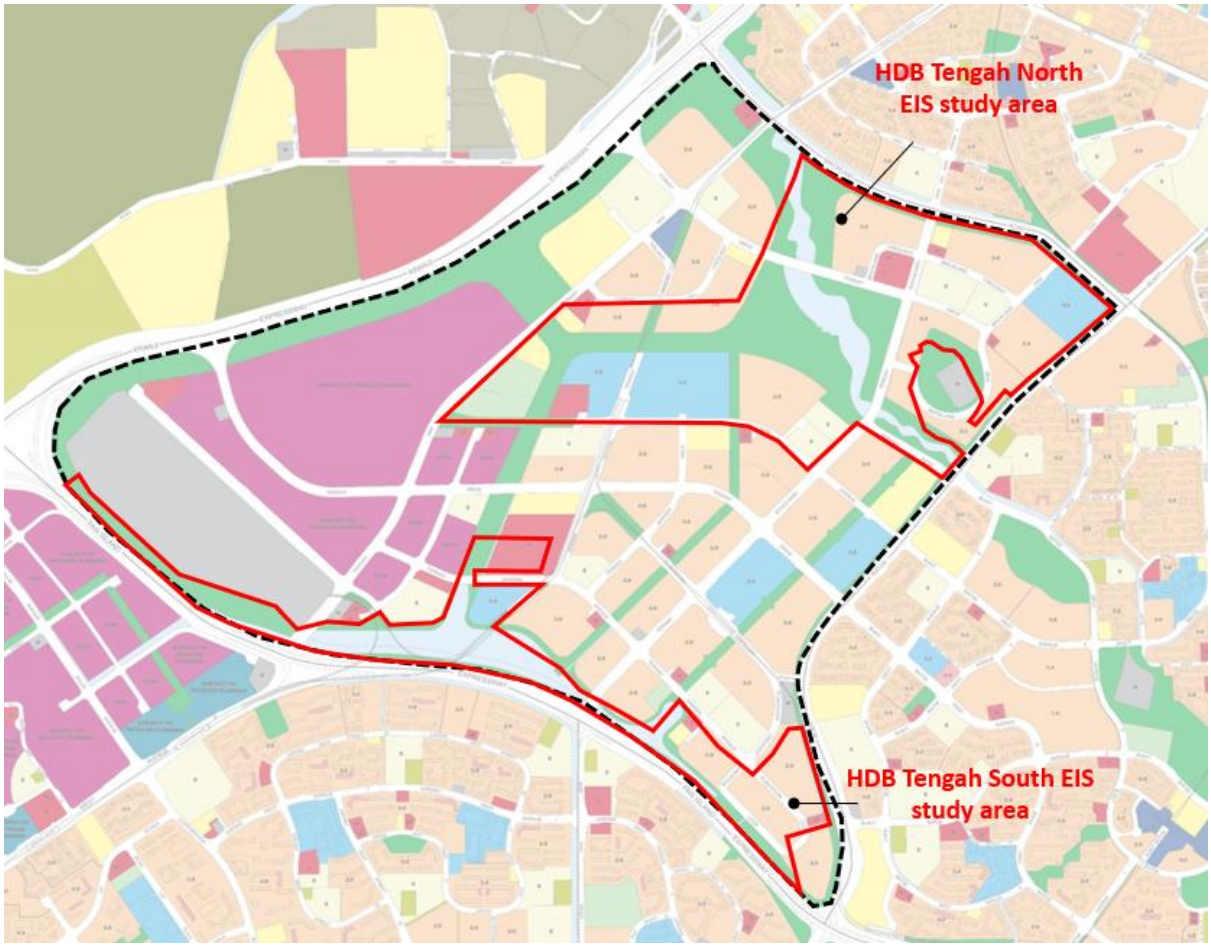

Figure 1: Tengah Master Plan 2019

An Environmental Baseline Study (EBS) was conducted for Tengah from 2016-2017. Since then, HDB has engaged two external consultants to conduct in-depth EISes, one for Tengah North and one for Tengah South (for more details, please see the full reports for Tengah North and Tengah South). The purpose is to provide an assessment of the nature and extent of potential environmental and cumulative impacts arising from the upcoming development of the area, and to guide HDB's development plans in a way that would mitigate the potential environmental and cumulative impacts.

The key EIS findings and recommendations are summarised below:

Tengah North

i. Four main vegetation and habitat types are present within the EIS Study Area:

a) abandoned-land forest (57.20ha, 34.4%)
b) scrubland and herbaceous vegetation (49.95ha, 30.0%)

c) waste woodland (45.47ha, 27.3%)
d) abandoned-land forest with native regeneration (1ha, 0.6%)

The remaining area consists of farms, managed vegetation, cleared land and non-vegetated areas. A variety of waterbodies such as closed canopy forest streams, open-country streams, closed-canopy & semi open-country ponds and open country ponds are present.

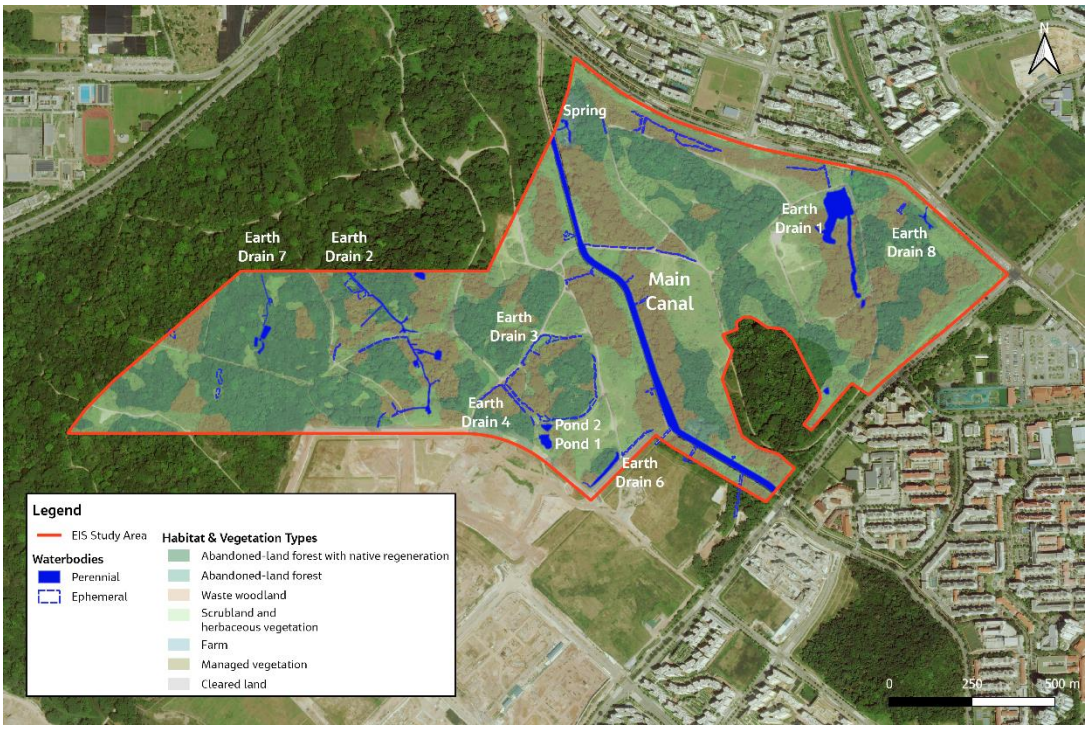

Figure 2: Vegetation and Waterbodies Map

ii. Key floristics findings include *Leea angulata, Glochidion zeylanicum var zeylanicum, Ficus apiocarpa* and *Mucuna biplicata* while the faunistic findings include the straw-headed bulbul (*Pycnonotus zeylanicus*), Sunda pangolin (*Manis javanica*) and bamboo bats (*Tylonycteris* spp.).

iii. Habitats found on site support the populations of these species of Conservation Significance (CS) including providing breeding habitats for species such as the red-wattled lapwing (*Vanellus indicus*) and the blue-winged pitta (*Pitta moluccensis*). The forest streams also provide habitats for aquatic species such as the common walking catfish (*Clarias cf. batrachus*), dwarf wisp (*Agriocnemis nana*) and variable featherlegs (*Copera vittata*).

iv. Habitats of high ecological value were hence identified, including the abandoned-land forest with native regeneration, abandoned-land forest and closed-canopy streams. Accordingly, a preliminary Recommended Area of Conservation (RAC) that amounts to 68.8 ha (41.5% of the EIS Study Area) was identified. Following intensive consultations and robust discussion with agencies and Nature Groups (NGs), a revised RAC was developed considering the land use limitations, incorporating as much of the area as possible and providing compensatory measures where possible, to amount to 48.9 ha (29.5% of the EIS Study Area). This revised RAC is a protected area as part of Forest Corridor to

provide a natural habitat and enhance wildlife connectivity across the town towards the Bukit Batok and Bukit Gombak forests.

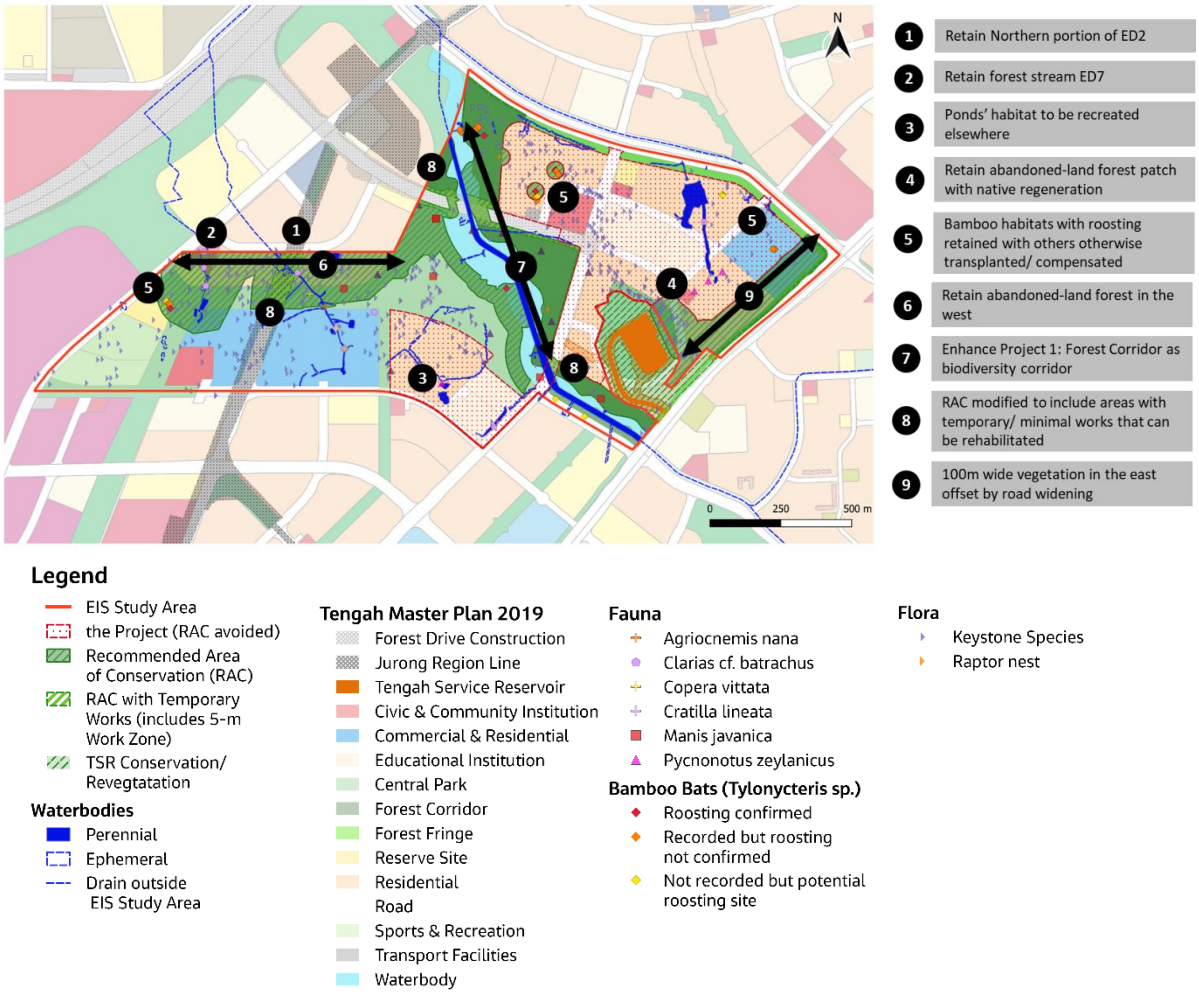

Figure 3: Recommended Area of Conservation with Summary of Ecological Considerations

Note:
RAC with Temporary Works refers to areas which are required to be cleared, have infrastructure built or used as working space, but which should be revegetated with native species as soon as work was completed.

Tengah South

i. Four main vegetation and habitat types are present with the EIS Study Area:

a) scrubland and herbaceous vegetation (12.9ha, 21.43%)
b) waste woodland (10.59ha, 17.59%)
c) abandoned-land forest (9.51ha; 15.8%)
d) mixed forest habitat (2.15 ha; 3.25%).

The remaining areas are covered by farms, managed vegetation, and other non-vegetation area such as construction area and infrastructure.

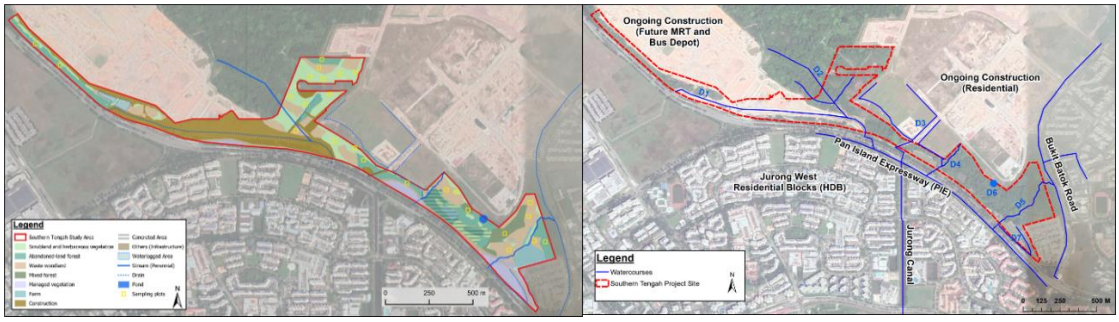

Figure 4: Vegetation and Waterbodies Map

ii. Key floristics findings include *Ficus stricta, Ardisia elliptica, Dacryodes cf. costata* and *Tarenna fragrans, Glochidion zeylanicum var. zeylanicum* while the faunistic findings include Malay staff sergeant (*Athyma reta moorei*), Asian softshell turtle (*Amyda cartilaginea*), and straw-headed bulbul (*Pycnonotus zeylanicus*), Sunda pangolin (*Manis javanica*)

iii. Two areas of high conservation value were identified within the Project Site. The singular specimen of *Dacryodes cf. costata (*TE3493), along with its recommended Tree Protection Zone (TPZ), and the linear strip of habitat abutting the PIE on the western section of the Southern Tengah were delineated as a Recommended Area of Conservation (RAC). In total, the RAC occupies 3.22ha (5.35%) of the Southern Tengah (see Figure 2)

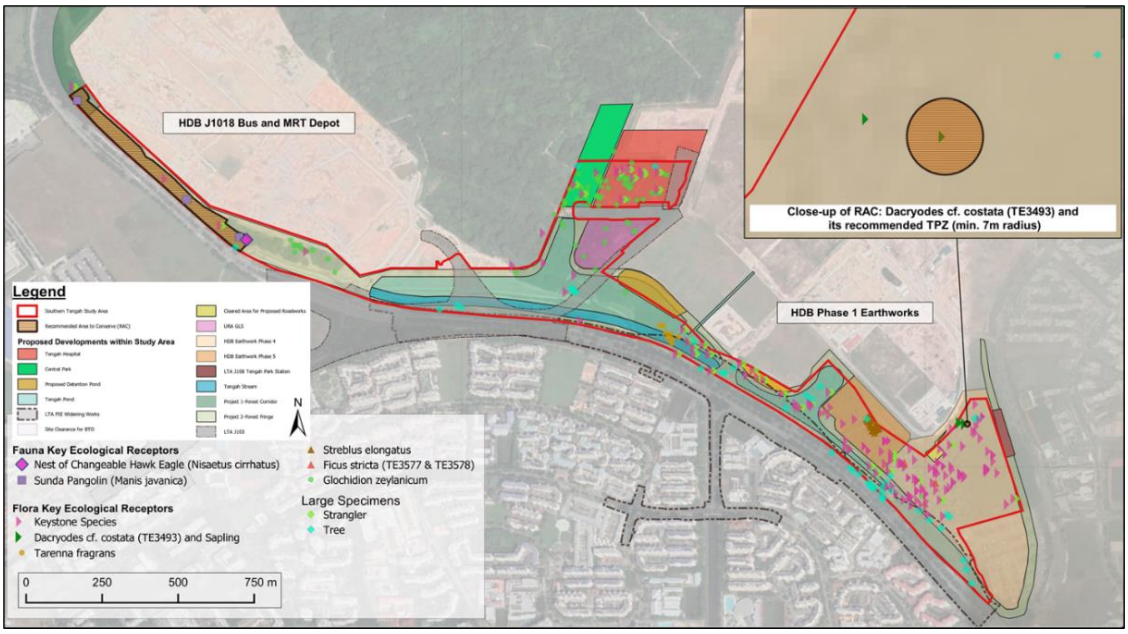

Figure 5. Recommended Area of Conservation (RAC)

III. Engagement with stakeholders

Together with NParks, LTA, JTC, PUB and URA, HDB carried out several engagements with Nature Groups. These sessions provided opportunities for the various parties to come together to share their perspectives and reach a common understanding on Singapore's land-use needs and challenges, and to co-create solutions to address the various concerns.

IV. Feedback received

The EIS reports were also published online for public feedback from 5 Nov 2021 to 3 Dec 2021. In total, we received 12 and 4 responses for Tengah North and Tengah South EIS reports respectively via HDB's feedback channels.

We value the feedback from our partners and members of the public and have considered every suggestion that has been submitted. Many have voiced concerns on the general loss of habitat and vegetation, worsening climate change, as well as the importance of Tengah to the ecological connectivity between the Western Catchment and Central Catchment Nature Reserve in Singapore. There were also suggestions to retain more forested area within Tengah and Bukit Batok towns.

V. Responses to feedback

We have always been mindful of the need to develop housing areas sensitively, to mitigate potential environmental impact. Taking into consideration the EIS findings and all the feedback we have received, HDB and NParks are studying the possibility of conserving the RACs as natural green areas, in addition to the approximately 140ha of natural green and park areas that have been safeguarded in URA's Master Plan.

To establish long term connectivity from the Western Catchment to Tengah, NParks has also been working with agencies to create or enhance the connectivity between Western Catchment and Central Catchment Nature Reserves (CCNR) through Tengah. Specifically, for connectivity towards the CCNR, there were suggestions to have an eco-link across the Brickland Road/Bukit Batok Road junction in Tengah North so that wildlife can use them to cross the roads safely. There are some challenges to overcome for this connection as this is a major road junction also located next to the overhead North-South Line MRT viaducts as well as underground infrastructure and services. HDB, NParks, LTA and URA are currently studying this connection and other possible means for ecological connectivity in this area.

In addition, HDB has adopted several key ideas in essence, and the measures include:

A) **Retention of the existing closed-canopy forest streams in Tengah North**: HDB recognises the importance of retaining a large area as habitat for flora and fauna as well as establishing the eco-corridor through the northern part of Tengah. Hence HDB is working closely with the agencies to review the land use plan to enlarge the nature areas, to avoid developing the RAC and to retain the existing forest streams, together with their catchment areas as much as possible (subject to ensuring that the prevailing hydraulic conveyance requirements can be met and ensuring that no flood risks will arise from the retention), as these habitats are uncommon and important for threatened aquatic fauna found in these streams.

B) Creation of Habitats: HDB will be working with NParks to create a wetland/pond habitat, similar to the open country ponds within the Tengah North study area (Pond 1 & 2), with Active, Beautiful, Clean Waters (ABC Waters) design features incorporated within the Central Park in Tengah. HDB will also be working with NParks and PUB to create terrestrial and aquatic habitats within the future Forest Fringe and Tengah Pond. These green and blue features can also serve as habitats for wildlife in future and bring about a better blue-green experience for future residents of the area.

C) Enhanced ecological connectivity

- **Towards Bukit Batok and Central Catchment Nature Reserves (CCNR)**: As part of the RAC, HDB is working with agencies to study the feasibility of retaining a 100m wide green corridor along Bukit Batok Road, to form part of the Forest Corridor and further enhance the connectivity towards the CCNR.

- **Within Tengah South**: HDB will be working with NParks, LTA and other relevant agencies, to study grade-separated wildlife crossings to enhance the wildlife connectivity within Tengah South and other green spaces in the vicinity.

D) Implementation of Environmental Monitoring and Management Plan (EMMP): HDB will engage a specialist EMMP consultant to develop an EMMP which will mitigate and manage any potential environmental impact arising from development works (including shepherding of wildlife before site clearance, earth control measures and noise monitoring), and closely monitor the works from start to end; and

E) Biophilic design of future developments: Guided by the Biophilic Town Framework which aims to better integrate nature and the urban environment, greenery will be woven throughout the developments in Tengah.

As land use plans are not static, the Government will regularly review our plans to ensure that they remain relevant to the changing needs of Singaporeans, and would only proceed with development or launch sites when necessary after careful study of various options. Agencies will continue to assess our various land use needs and engage stakeholders when we review the plans for the western half of the site in future.