

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 706 – HIGHWAYS

Transport – Roads

878TH – Upgrading of Nim Wan Road (North) and Deep Bay Road

Members are invited to recommend to the Finance Committee –

- (a) the upgrading of part of **878TH** to Category A as **890TH** “Upgrading of Nim Wan Road (North) and Deep Bay Road – Investigation and Detailed Design” at an estimated cost of \$106.5 million in money-of-the-day prices; and
- (b) the retention of the remainder of **878TH** in Category B.

PROBLEM

We need to upgrade the Nim Wan Road (North) and Deep Bay Road from an existing single lane carriageway with two-way traffic to a single two-lane carriageway to meet the latest traffic need and current design standards, including reducing sharp curves, improving driving sightline and traffic safety.

/PROPOSAL

PROPOSAL

2. The Director of Highways proposes, with the support of the Secretary for the Environment, to upgrade part of **878TH** to Category A as **890TH** at an estimated cost of \$106.5 million in money-of-the-day (MOD) prices to engage consultants to undertake the detailed design for upgrading of Deep Bay Road (DBR), and investigation and detailed design for upgrading of Nim Wan Road (North) (NWR(N)).

PROJECT SCOPE AND NATURE

3. We propose to upgrade part of **878TH** to Category A, the scope of which includes –

- (a) detailed design for upgrading of DBR –
 - (i) review the findings of previous investigation study; carry out detailed design for the proposed upgrading works of DBR; and
 - (ii) carry out archaeological surveys, site investigations and the associated works supervision; and update the impact assessments on the environmental, traffic, heritage, land and other related aspects.
- (b) investigation and detailed design for upgrading of NWR(N) –
 - (i) review the findings of previous feasibility study; carry out investigation and detailed design for the proposed upgrading works of NWR(N); and
 - (ii) carry out archaeological surveys, site investigations and the associated works supervision; and assess the impact on the environmental, traffic, heritage, land and other related aspects.

———— The layout plan of the proposed works project is shown at **Enclosure 1**.

4. We plan to, after funding approval from the Finance Committee (FC), commence in parallel the proposed detailed design for upgrading of DBR, and the proposed investigation and detailed design for upgrading of NWR(N), preliminarily expecting the detailed design for upgrading of DBR will be completed in around two and a half years. For upgrading of NWR(N), we expect to complete the investigation and detailed design in around four and a half years, including the completion of the relevant statutory procedures under the Environmental Impact Assessment Ordinance (EIAO) and the Roads (Works, Use and Compensation) Ordinance) within 18 months and 11 months respectively. To meet the project implementation programme, we have invited tenders in parallel to enable early commencement of the proposed consultancies and partly reflected the returned tender prices in this proposal. The consultancy contracts will only be awarded upon obtaining FC's funding approval. When the consultants are on board, we will further review if there would be any room to shorten the time required for the above investigation and detailed design.

5. We will retain the remaining part of **878TH** in Category B, and we will apply for funding in phases to tie in with the construction works programme. The scope of the remaining part includes –

- (a) widening of the existing about 4.2 kilometres long NWR(N) and about 3.6 kilometres long DBR from a single lane carriageway with two-way traffic to a single two-lane carriageway of 7.3 metres width, including approximately a total of 6.7 kilometres in the form of at-grade road and 1.1 kilometres in the form of bridge structures; and
- (b) the associated civil, structural, geotechnical, drainage, landscape and environmental impacts mitigation works.

JUSTIFICATIONS

6. In 1980s, Nim Wan Road and Deep Bay Road were originally a road linking Tuen Mun to Lau Fau Shan along the coastline of Deep Bay. Since 1993, with the construction of the West New Territories (WENT) Landfill and the operation of heavy-duty vehicles, the NWR has been divided into two sections, namely Nim Wan Road (Tuen Mun Section) (NWR(TM)) to the west of the WENT Landfill, and NWR(N) to the east of the WENT Landfill. Both NWR sections are connected by an internal road within the WENT Landfill for use by authorised vehicles only.

7. The WENT Landfill is expected to be exhausted in 2026, we take this opportunity to plan for reconnecting NWR(TM) and NWR(N) to enhance the
/coastal

coastal road network and the connectivity between Tuen Mun West and Yuen Long West, and improve the level of traffic accessibility for emergency, while upgrading the NWR(N) and DBR to meet the current design standards, including reducing sharp curves, improving driving sightline and traffic safety.

8. The feasibility study to review the upgrading of NWR(N) and DBR from the existing single lane carriageway with two-way traffic to a single two-lane carriageway was completed in late 2020, and the feasibility of the upgrading works was affirmed. According to the findings of the feasibility study, the Government plans to implement the upgrading of NWR(N) and DBR.

9. The upgrading of DBR is not a designated project and is not required to follow statutory environmental impact assessment (EIA) process. We commenced the relevant investigation study of DBR in September 2020. The investigation study for upgrading DBR will soon be completed and it is proposed to proceed with the detailed design for DBR, and to carry out site investigation works to gather geotechnical and geological information for related design works.

10. We propose to carry out the investigation and detailed design for upgrading of NWR(N) in parallel and also to conduct the relevant impact assessments, including EIA to identify the environmental impacts of the project and recommend the required mitigation measures. We will also carry out site investigation works to gather geotechnical and geological information for related design works.

FINANCIAL IMPLICATIONS

11. We estimate the cost of the proposed part of the project to be upgraded to Category A to be \$106.5 million in MOD prices, with breakdown as follows –

	\$ million (in MOD prices)
(a) Detailed design for upgrading of DBR	20.5
(i) Consultants' fees	10.7
(ii) supervision of archaeological survey and site investigation works	1.2
(iii) archaeological survey and site investigation works	8.6

/(b)

		\$ million (in MOD prices)
(b)	Investigation and detailed design for upgrading of NWR(N)	76.3
	(i) Consultants' fees	25.2
	(ii) supervision of archaeological survey and site investigation works	6.1
	(iii) archaeological survey and site investigation works	45.0
(c)	Contingencies	9.7
Total		106.5

12. In view of the complexity and multi-disciplinary nature of the detailed design for upgrading of DBR and investigation and detailed design for upgrading of NWR(N), we plan to engage consultants to undertake the investigation and detailed design and supervise the associated site investigation works. The basis of the estimate of the consultants' fee is at **Enclosure 2**.

13. Subject to funding approval, we plan to phase the expenditure as follows –

Year	\$ million (in MOD prices)
2022-23	6.6
2023-24	18.5
2024-25	27.5
2025-26	16.2
2026-27	20.5
2027-28	17.2
	106.5

14. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period from 2022 to 2028. We will engage consultants to undertake the proposed investigation and detailed design on a lump sum basis. For the proposed archaeological survey and site investigation works, we will issue the tender under a standard re-measurement contract because the quantity of works involved may vary depending on actual ground conditions.

15. The proposed investigation and detailed design and the associated site investigation will have no recurrent financial implication.

PUBLIC CONSULTATION

16. We consulted Tuen Mun District Council (DC) and Yuen Long DC on the upgrading of NWR(N) and DBR on 5 March 2019 and 16 April 2019 respectively. Two DCs requested for prompt implementation of the upgrading works.

17. We also consulted the Ha Tsuen Rural Committee and local residents in mid-2021. They all expressed their strong support for prompt implementation of the upgrading of NWR(N) and DBR.

18. We gazetted the proposed upgrading of DBR under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) on 10 December 2021, and are dealing with the public objections received in accordance with the statutory procedures¹. We will continue to maintain close liaison with the concerned parties on the progress of upgrading of Deep Bay Road during the detailed design stage.

19. We consulted the Legislative Council Panel on Environmental Affairs about this study on 25 April 2022. Members supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

ENVIRONMENTAL IMPLICATIONS

20. Although the upgrading of DBR is not a designated project under Schedule 2 of the EIAO, we have completed a Preliminary Environmental Review (PER) in the feasibility study to assess the environmental impacts of the proposed /works

¹ Before the funding application for the main construction part of **878TH**, we will complete the relevant statutory procedures.

works and the required mitigation measures. We will require the consultants to review/update the findings of the PER in the detailed design stage and submit the Environmental Review Report to the relevant Authority for approval.

21. The upgrading of NWR(N) is a designated project² under Schedule 2 of the EIAO and we have to apply for an environmental permit for the construction and operation of the NWR(N) upgrading works. We will conduct an EIA study to assess the environmental impacts arising from the proposed works in accordance with the requirements of the EIAO.

22. The proposed archaeological surveys and site investigation works will only generate minimal amount of construction waste. We will require the consultant to comprehensively consider how to reduce the generation of construction waste and to reuse or recycle the construction waste as much as possible in the detailed design stage.

HERITAGE IMPLICATIONS

23. The proposed investigation and detailed design and the associated archaeological surveys and site investigation works will not affect any declared monuments, proposed monuments, graded historic sites and buildings, and government historic sites identified by the Antiquities and Monuments Office. As the scope of future works involves Sites of Archaeological Interest, namely Hang Hau Tsuen, Sha Kong Miu (South), Sha Kong Miu (North), Ngau Hom Shek, Ngau Hom Sha, Fu Tei Au, Sheung Pak Nai, Ha Pak Nai and Long Jok Tsuen, we will conduct archaeological surveys, archaeological impact assessment and relevant cultural heritage impact assessment in this study, and recommend appropriate mitigation measures if necessary.

LAND ACQUISITION

24. The proposed investigation and detailed design and the associated archaeological surveys and site investigation works will not require any land acquisition. We will examine the need and extents of land acquisition and clearance required for the upgrading of NWR(N) and DBR during the construction stage.

/BACKGROUND

² The project is classified as a Designated Project under the EIAO (Cap 499) because it comprises road bridges more than 100 metres in length between abutments; drainage diversion works which discharge into Deep Bay within 300 metres from the nearest Site of Special Scientific Interest, site of cultural heritage, and coastal protection area.

BACKGROUND INFORMATION

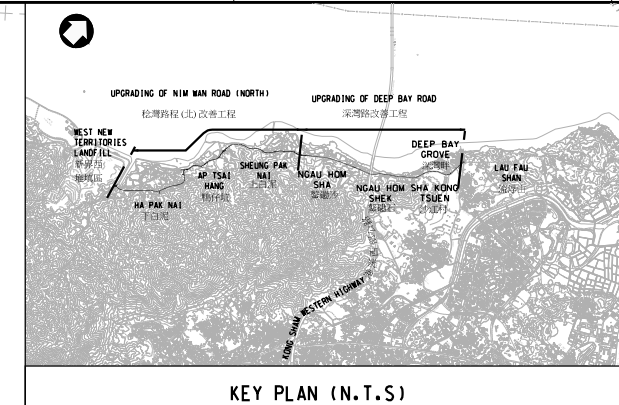
25. In September 2020, Highways Department engaged consultants to carry out the investigation and associated site investigation works for the proposed upgrading of DBR, at a cost of \$28.68 million. The cost has been paid under **Subhead 5101DX** “Environmental works, studies and investigations for items in Category D of the Public Works Programme”. The investigation for the proposed upgrading of DBR will be completed by end September 2022.

26. The proposed investigation, detailed design and the associated site investigation works will not directly involve any tree removal or planting proposals. This study will examine the impacts to trees during construction stage, the need for tree preservation and tree planting proposals.

27. We estimate that the proposed investigation and detailed design and the associated archaeological surveys and site investigation works will create about 20 jobs (5 for labourers and 15 for professional or technical staff)³, providing a total employment of 750 man-months.

**Environment Bureau
Highways Department
June 2022**

³ The jobs for labourers to be created will mainly be responsible for carry out archaeological survey and site investigation works, and the jobs for professional/technical staff to be created will mainly be responsible for carrying out the proposed study and supervising the associated archaeological survey and site investigation works.



100

200

UPGRADING OF NIM WAN ROAD (NORTH)
稔灣路(北)改善工程

UPGRADING OF DEEP BAY ROAD
深灣路改善工程

WEST NEW TERRITORIES LANDFILL
新界西堆填區

HA PAK NAI
下白泥

AP TSAI HANG
鴨仔坑

SHEUNG PAK NAI
上白泥

NGAU HOM SHA
鰲磡沙


NGAU HOM SHEK
鰲磡石


SHA KONG TSUEN
沙江村

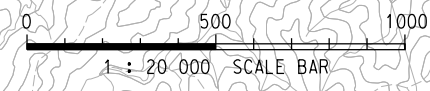
DEEP BAY GROVE
深灣畔

LAU FAU SHAN
流浮山

LEGEND:

 PROPOSED ALIGNMENT FOR NIM WAN ROAD(NORTH) AND DEEP BAY ROAD UPGRADING WORKS
擬建稔灣路(北)與深灣路改善工程的道路走線

 PROPOSED VEHICULAR BRIDGE
擬建行車橋樑



圖則名稱 drawing title

工務計劃項目第878TH (部分) - 稔灣路(北)與深灣路改善工程 - 勘察研究及詳細設計 - 平面圖

PUBLIC WORKS PROGRAMME ITEM NO.878TH (PART) - UPGRADING OF NIM WAN ROAD (NORTH) AND DEEP BAY ROAD - INVESTIGATION AND DETAILED DESIGN - LAYOUT PLAN

圖則編號 drawing no. HMW6878TH-SK0013 比例 scale 1:20000

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HIGHWAYS DEPARTMENT HONG KONG 路政署 香港

**878TH (part) – Upgrading of Nim Wan Road (North) and Deep Bay Road –
Investigation and Detailed Design**

Breakdown of the estimates for consultants’ fees (in September 2021 prices)

Consultants’ fees^(Note 1)			Estimated man- months	Average MPS* salary point	Multiplier <small>(Note 2)</small>	Estimated fee (\$ million)
(a) Detailed design for upgrading of DBR						
(i)	Consultants’ fees	Professional	32	38	2.0	5.6
		Technical	70	14	2.0	4.2
					Sub-total	<u>9.8#</u>
(ii)	supervision of archaeological survey and site investigation works	Professional	4	38	1.6	0.5
		Technical	11	14	1.6	0.5
					Sub-total	<u>1.0#</u>
(b) Investigation and detailed design for upgrading of NWR(N)						
(i)	Consultants’ fees	Professional	76	38	2.0	13.1
		Technical	149	14	2.0	9.0
					Sub-total	<u>22.1#</u>
(ii)	supervision of archaeological survey and site investigation works	Professional	22	38	1.6	3.0
		Technical	43	14	1.6	2.1
					Sub-total	<u>5.1#</u>
					Total	<u>38.0#</u>

*MPS = Master Pay Scale

Notes

- The actual man-months and fees will only be known after selection of the consultants through the usual competitive bidding system.
- A multiplier of 2.0 is applied to the average of MPS salary point to estimate the full staff costs of consultants’ staff, including overhead and profit, as the

employed staff will work in the consultants' offices. A multiplier of 1.6 is applied to the average MPS salary point in the case of resident site staff supplied by the consultants. (As at today, MPS salary point 38 = \$85,870 per month and MPS salary point 14 = \$30,235 per month.)

Remarks

The figures in this Enclosure are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 11 of the main paper.