For discussion
on 23 May 2021

Legislative Council
Panel on Environmental Affairs

Provision of Sewerage Network in North District, Tsuen Wan and Kwai Chung

PURPOSE

This paper seeks Members' views on the Government's proposals to upgrade the following sewerage items to Category A for taking forward the provision of sewerage network for parts of unsewered areas in North District, Tsuen Wan and Kwai Chung –

(a) part of **4345DS – North District sewerage stage 2 part 2A** at an estimated cost of $120 million in money-of-the-day (MOD) prices; and

(b) **4358DS – Sewerage to Lo Wai, Chuen Lung and Kau Wa Keng Old Village** at an estimated cost of $168 million in MOD prices.

Details of the proposals are at **Enclosures 1** to **2** respectively.

PROJECT SCOPE AND NATURE

2. The Government has been planning and extending the sewerage infrastructure proactively over the years to strive for continuous improvement in the public hygiene condition and water quality in rivers and marine waters. In recent years, the sewerage planning strategy focuses on four aspects, namely upgrading sewage treatment facilities and extending public sewerage systems to cater for population growth and development needs; providing village sewerage systems to improve the rural environment; installing dry weather flow

interceptors to improve the water quality of nearshore waters of Victoria Harbour; and rehabilitating aging sewers progressively.

3. The construction of village sewerage systems started in the 1990s. The current village sewerage programme covers about 570 villages, of which the sewerage systems for 259 villages have been completed and that of 68 are under construction. For those remaining projects under the programme, in addition to the two proposed items (a) and (b) in this paper, we will continue to seek funding for their implementation in the coming years in accordance with the progress of the programme and availability of resources.

4. This paper consists of two village sewerage projects in North District, Tsuen Wan and Kwai Chung which will serve an ultimate population of about 12 000.

WAY FORWARD

5. We plan to seek funding approval from the Finance Committee for the proposed works under part of **4345DS** and **4358DS** after consulting the Public Works Subcommittee. Members are invited to comment on these two sewerage projects.

Environment Bureau
Drainage Services Department
May 2022

Enclosure 1

4345DS - North District sewerage stage 2 part 2A

PROJECT SCOPE

The part of **4345DS** that is proposed to be upgraded to Category A comprises –

(a) the construction of a sewage pumping station with design capacity of about 1 230 cubic metres per day at Muk Wu;

(b) the construction of about 1.3 kilometers (km) of twin rising mains with a diameter of 200 millimetres (mm);

(c) the construction of about 1 km of gravity sewers with diameters ranging from 100 mm to 350 mm; and

(d) ancillary works[1].

A plan showing the locations of the proposed works is at **Annex to Enclosure 1**.

[1] Ancillary works include the utilities diversion, road and drainage works, provision of manholes, temporary closure and reinstatement of carriageways/footpaths/open space, necessary architectural, building services and landscaping works that are required to complete the proposed works.

JUSTIFICATION

2. Currently, Muk Wu in Ta Kwu Ling is still unsewered. The villagers in this area now rely on individual and simple on-site facilities such as septic tanks and soakaway (STS) systems[2] for sewage treatment and disposal. Extension of public sewerage system to this area can help improve environmental hygiene and further reduce the amount of pollutants being discharged into the nearby stream courses.

3. We now propose to provide public sewerage system for an unsewered village area, namely Muk Wu through the proposed works. The proposed sewerage system will serve an estimated ultimate population of about 4 100 by conveying the sewage to the existing Shek Wu Hui sewage treatment works for proper treatment and disposal.

4. We plan to commence the proposed works upon obtaining funding approval from the Finance Committee (FC) for target completion of the works in around four years.

5. We will retain the remainder of **4345DS**, which comprises the provision of public sewerage system for another four unsewered areas in North District, in Category B with funding to be sought after completion of the design and preparatory work.

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[2] STS systems operate by allowing the effluent to percolate through soil layers so that pollutants may be removed in a natural manner. However, if a STS system is located in an area where the ground water table is high, such as an area in proximity to the seaside or watercourses, it will not function properly due to ineffective percolation. There are also maintenance problems with some STS systems.

FINANCIAL IMPLICATIONS

6. We estimate that the total cost of the proposed works (as detailed in paragraph 1 above) to be $120 million in money-of-the-day prices.

PUBLIC CONSULTATION

7. We consulted the Ta Kwu Ling District Rural Committee and the Committee on Land Development, Housing and Works of North District Council in March 2021 and April 2021. Both Committees expressed support to the proposed works.

8. We gazetted the proposed sewerage works under the Water Pollution Control (Sewerage) Regulation (Cap. 358AL) in November 2021. No objection was received and the proposed works were authorised in March 2022.

ENVIRONMENTAL IMPLICATIONS

9. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The Drainage Services Department has completed a Preliminary Environmental Review for the proposed works which concluded that with the implementation of appropriate mitigation measures, the proposed works would not cause long-term adverse environmental impact. We have included in the project estimate of the proposed works the cost for implementation of the necessary environmental mitigation measures to control the short-term environmental impact brought by the project.

10. At the construction stage, we will require the contractors to control noise, dust and site run-off nuisances to within the established standards and guidelines through the implementation of the recommended mitigation measures. These measures include the use of quality powered mechanical equipment and temporary noise barriers to reduce noise impact, regular water-spraying to the construction site to minimise emission of fugitive dust, and on-site treatment of site run-off to minimise potential water quality impact. We will also carry out regular site inspections to ensure that these recommended mitigation measures

and good practices will be properly implemented on site.

11. At the planning and design stages, we have considered ways to reduce the generation of construction waste where possible. In addition, we will require the contractors to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible in order to minimise the disposal of inert construction waste at the public fill reception facilities (PFRF[3]). We will encourage the contractors to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

12. At the construction stage, we will also require the contractors to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractors to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

13. We estimate that the proposed works will generate in total about 4 200 tonnes of construction waste. Of these, we will reuse about 2 000 tonnes (48%) of inert construction waste on site and deliver about 1 700 tonnes (40%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 500 tonnes (12%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRF and landfills is estimated to be about $220,000 for the proposed works (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

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[3] PFRF are specified in Schedule 4 of Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRF requires a licence issued by the Director of Civil Engineering and Development.

HERITAGE IMPLICATIONS

14. The proposed works will not affect any declared monuments, proposed monuments, graded historic sites / buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office (AMO).

15. We conducted a Built Heritage Impact Assessment (BHIA) in October 2009 and identified two historic buildings within the boundary of the project, i.e. Tin Hau Temple (Ta Kwu Ling) and Entrance Gate of Muk Wu Wai. We will implement appropriate mitigation measures to preserve these two historic buildings in accordance with the recommendations of the BHIA. At the construction stage, if we identify any other building / structure either at grade level or underground which was built in or before 1969, we will alert AMO as soon as possible.

LAND ACQUISITION

16. We have reviewed the design of the proposed works to minimise the extent of land acquisition. We will resume about 1 060 square metres (m^2) of private land and clear about 23 300 m^2 of government land for implementing the proposed works. The land resumption and clearance at Muk Wu will not affect any household, but two non-domestic structures will be affected by the proposed works and will be cleared.

Environmental Bureau
Drainage Services Department
May 2022

圖例 LEGEND :

- 擬建的鄉村污水收集系統範圍 PROPOSED VILLAGE SEWERAGE AREA
- 擬建的污水泵喉 PROPOSED RISING MAIN
- 擬建的木湖污水泵房 PROPOSED MUK WU SEWAGE PUMPING STATION

845 000 N

844 000 N

843 000 N

831 000 E

832 000 E

833 000 E

天后廟 (打鼓嶺)
TIN HAU TEMPLE
(TA KWU LING)

木湖
MUK WU

文錦渡
MAN KAM TO

木湖圍圍門
ENTRANCE GATE
OF MUK WU WAI

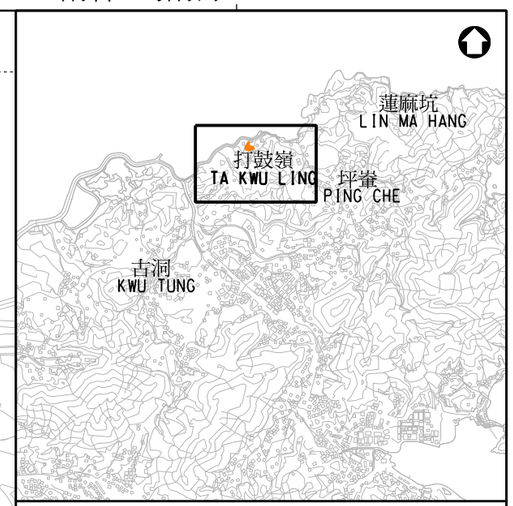
打鼓嶺
TA KWU LING

南坑
NAM HANG

新屋嶺
SAN UK LING

將污水輸送至石湖墟污水處理廠
TO CONVEY SEWAGE TO SHEK WU HUI
SEWAGE TREATMENT WORKS

文錦渡路 MAN KAM TO ROAD



位置圖 LOCATION PLAN
比例 SCALE 1 : 200 000

版 no.	日期 date	修改項目 description	簽 initial

圖則名稱 drawing title

工務工程計劃編號 4345DS - 北區污水收集系統第2階段第2A期
PWP ITEM NO. 4345DS - NORTH DISTRICT SEWERAGE STAGE 2 PART 2A

繪畫 drawn	SIGNED L. S. TSE	日期 date 14 APR 2022
核對 checked	SIGNED C. Y. HO	日期 date 14 APR 2022
批核 approved	SIGNED C. H. CHAN	日期 date 14 APR 2022
部門 office	淨化海港計劃部 HABOUR AREA TREATEMENT SCHEME DIVISION	

圖則編號 drawing no. DSS/2022/002

比例 scale 1: 10 000 OR AS SHOWN

香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

Enclosure 2

4358DS – Sewerage to Lo Wai, Chuen Lung and Kau Wa Keng Old Village

PROJECT SCOPE

The proposed scope of works under **4358DS** comprises –

(a) the construction of about 4.6 kilometres of gravity sewers with diameters ranging from 150 millimetres (mm) to 250 mm at Lo Wai, Chuen Lung and Kau Wa Keng Old Village; and

(b) ancillary works[1].

A plan showing the locations of the proposed works is at **Annex to Enclosure 2**.

JUSTIFICATION

2. Currently, Lo Wai and Chuen Lung in Tsuen Wan and Kau Wa Keng Old Village in Kwai Chung are still unsewered. The villagers in these areas now rely on individual and simple on-site facilities such as septic tanks and soakaway systems for sewage treatment and disposal. Extension of public sewerage system to these areas can help improve environmental hygiene, reduce the amount of pollutants being discharged into the nearby stream courses, and further protect the coastal water quality of Tsuen Wan and Rambler Channel.

3. We now propose to provide public sewerage system for three unsewered areas, namely Lo Wai, Chuen Lung and Kau Wa Keng Old Village through the proposed works. The proposed sewerage system will serve an estimated

[1] Ancillary works include the utilities diversion, road and drainage works, provision of manholes, temporary closure and reinstatement of carriageways/footpaths/open space, necessary landscaping works that are required to complete the proposed works.

ultimate population of about 7 900 by conveying the sewage to the existing Stonecutters Island Sewage Treatment Works for proper treatment and disposal.

4. We plan to commence the proposed works upon obtaining funding approval from the Finance Committee for target completion in around three years.

FINANCIAL IMPLICATIONS

5. We estimate that the total cost of the proposed works (as detailed in paragraph 1 above) to be $168 million in money-of-the-day prices.

PUBLIC CONSULTATION

6. We consulted the Tsuen Wan Rural Committee, the Environment, Health and Climate Change Committee of Tsuen Wan District Council, and the Planning and District Facilities Management Committee of Kwai Tsing District Council during the period of February to April 2021. The three Committees expressed support to the proposed works.

7. We gazetted the proposed sewerage works in three packages under the Water Pollution Control (Sewerage) Regulation (Cap. 358AL) in May 2021. There was no objection received against the first and second packages for Lo Wai and Chuen Lung and they were authorised in March 2022. There were five objections received against the third package for Kau Wa Keng Old Village. It was authorised by the Chief Executive in Council in March 2022 after considering all the unresolved objections.

ENVIRONMENTAL IMPLICATIONS

8. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The Drainage Services Department has completed a Preliminary Environmental Review for the proposed works which concluded that with the implementation of appropriate mitigation measures, the proposed works would not cause long-term adverse environmental impact. We

have included in the project estimate of the proposed works the cost for implementation of the necessary environmental mitigation measures to control the short-term environmental impact brought by the project.

9. At the construction stage, we will require the contractors to control noise, dust and site run-off nuisances to within the established standards and guidelines through the implementation of the recommended mitigation measures. These measures include the use of quality powered mechanical equipment and temporary noise barriers to reduce noise impact, regular water-spraying to the construction site to minimise emission of fugitive dust, and on-site treatment of site run-off to minimise potential water quality impact. We will also carry out regular site inspections to ensure that these recommended mitigation measures and good practices will be properly implemented on site.

10. At the planning and design stages, we have considered ways to reduce the generation of construction waste where possible. In addition, we will require the contractors to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at the public fill reception facilities (PFRF). We will encourage the contractors to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

11. At the construction stage, we will also require the contractors to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractors to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste at PFRF and landfills respectively through a trip-ticket system.

12. We estimate that the proposed works will generate in total about 3 000 tonnes of construction waste. Of these, we will reuse about 2 100 tonnes (70%) of inert construction waste on site and deliver about 600 tonnes (20%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 300 tonnes (10%) of non-inert construction waste at landfills. The

total cost for disposal of construction waste at PFRF and landfills is estimated to be about $100,000 for the proposed works (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

13. The proposed works will not affect any declared monuments, proposed monuments, graded historic sites / buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

14. We have reviewed the design of the proposed works to minimise the extent of land acquisition. We will resume about 209 square metres (m^2) of private land and clear about 11 951 m^2 of government land for implementing the proposed works. The land resumption and clearance at Lo Wai, Chuen Lung and Kau Wa Keng Old Village will not affect any household, but 13 non-domestic structures will be affected by the proposed works and will be cleared.

Environment Bureau
Drainage Services Department
May 2022

將污水輸送至葵涌基本污水處理廠
TO CONVEY SEWAGE TO KWAI CHUNG
PRELIMINARY TREATMENT WORKS

川龍
CHUEN LUNG

荃灣
TSUEN WAN

葵涌
KWAI CHUNG

TAI WO
RCHANGE

WAH YUEN BRIVE

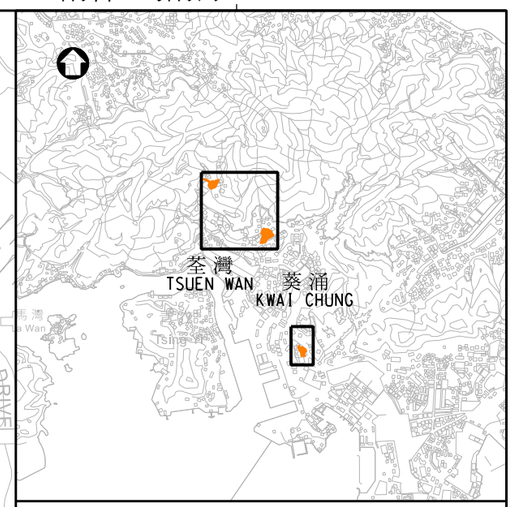
CASTLE PEAK ROAD - KWAI CHUNG

九華徑舊村
KAU WA KENG
OLD VILLAGE

將污水輸送至西北九龍基本污水處理廠
TO CONVEY SEWAGE TO NORTHWEST KOWLOON
PRELIMINARY TREATMENT WORKS

老圍
LO WAI

將污水輸送至葵涌基本污水處理廠
TO CONVEY SEWAGE TO KWAI CHUNG
PRELIMINARY TREATMENT WORKS



位置圖 LOCATION PLAN
比例 SCALE 1 : 200 000

圖例 LEGEND :

擬建的鄉村污水收集系統範圍
PROPOSED VILLAGE SEWERAGE AREA

圖則名稱 drawing title

工務工程計劃編號 4358DS號 - 老圍, 川龍及九華徑舊村污水收集系統
PWP ITEM NO. 4358DS - SEWERAGE TO LO WAI, CHUEN LUNG AND KAU WA KENG OLD VILLAGE

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繪畫 drawn	SIGNED K. S. LEUNG	日期 date	14 APR 2022
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批核 approved	SIGNED W. L. LEE	日期 date	14 APR 2022
部門 office	淨化海港計劃部 HABOUR AREA TREATEMENT SCHEME DIVISION		

圖則編號 drawing no. DSS/2022/001

比例 scale N.T.S. OR AS SHOWN

香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION