Annex A

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ACE-EIA Paper 2/2020
For advice on 15 June 2020

Environmental Impact Assessment Ordinance (Cap. 499)
Environmental Impact Assessment Report

Improvement of Yuen Long Town Nullah (Town Centre Section)

PURPOSE

This paper presents the key findings and recommendations of the Environmental Impact Assessment (EIA) report on "Improvement of Yuen Long Town Nullah (Town Centre Section)" ("the Project") submitted under Section 6(2) of the Environmental Impact Assessment Ordinance (EIAO) (Application No. EIA-262/2020). The Drainage Services Department (DSD) ("the Applicant") and their consultants would present the EIA report at the meeting of EIA Subcommittee.

ADVICE SOUGHT

2. Members' views are sought on the findings and recommendations of the EIA report. The Director of Environmental Protection (DEP) would take into account comments from the public and the Advisory Council on the Environment (ACE) in deciding whether or not to approve the EIA report under Section 8(3) of the EIAO.

BACKGROUND

3. The existing Yuen Long Town Nullah (YLTN) was constructed in mid 1960s to alleviate the flooding risks in the Northwest New Territories and is one of the oldest drainage systems in Hong Kong. It primarily consists of channelized concrete bedding and embankments.

4. In January 2007, DSD commissioned a feasibility study on "Rehabilitation of Yuen Long Town Nullahs" (the Study) to investigate various options for improving the design and environmental conditions of the YLTN. The Study recommended intercepting the polluted dry weather flow (DWF) to the nullah for treatment in the existing Yuen Long Sewage Treatment Works (YLSTW) to alleviate the odour nuisance from the YLTN. It also recommended landscaping works to be undertaken along the nullah for beautification purpose in order to bring beneficial landscape and visual impacts.

5. The Project will involve the installation of the dry weather flow interception system (DWFIS) while the landscaping and beautification schemes will be taken forward under the future Yuen Long Barrage Scheme (YLBS). The YLBS will greatly draw down the water level in YLTN and provide more options for the landscaping and beautification schemes. A separate EIA study will be conducted for the YLBS.

6. The Applicant submitted the EIA report for the Project for approval on 11 February 2020. DEP, in conjunction with all relevant authorities, considers that the EIA report has met the requirements of the EIA Study Brief and the Technical Memorandum on EIA Process (TM), for the purpose of its exhibition for public inspection under Section 7(4) of the EIAO.

NEED FOR THE PROJECT

7. The polluted DWF discharging into the YLTN has been causing nuisance to nearby residents. The Project is proposed to resolve the odour problem through the provision of a covered DWFIS.

ENVIRONMENTAL BENEFITS

8. In addition to resolving odour problem, the Project will also bring about the following environmental benefits:

(i) Water Quality Improvement of Downstream Watercourse: The polluted DWF in YLTN is currently discharging into Shan Pui River and subsequently to Inner Deep Bay without any treatment. With the provision of the DWFIS to intercept the polluted DWF for proper treatment at the

Yuen Long Effluent Polishing Plant (YLEPP) (upgraded from YLSTW), the water quality of ecologically sensitive Shan Pui River and Inner Deep Bay can be improved;

(ii) Greening Enhancement: Green roof, vertical greening, shrub planting and grasscrete will be provided for the proposed DWF pumping station;

(iii) Blue-green Infrastructure: Less polluted upstream DWF from Kung Um Road Nullah will be used to maintain water flow in YLTN, which will be integrated with the landscaping and beautification works to be conducted in the future YLBS as blue-green elements for YLTN revitalization.

DESCRIPTION OF THE PROJECT

9. The Project covers the YLTN, part of the Kung Um Road Nullah and San Hui Nullah to the south, and part of Shan Pui River to the north (Figure 1). The scope of the Project includes:

(i) Construction of DWFIS along YLTN;

(ii) Construction of continuous u-channels adjacent to either side of the retaining walls;

(iii) Construction of a DWF pumping station with capacity of 18,000m^3/day; and

(iv) Laying twin rising mains of approximately 400m long to convey the intercepted DWF to the YLEPP.

10. The tentative construction programme is expected to commence in second quarter of 2021 for completion in early 2026.

CONSIDERATION OF ALTERNATIVES

11. The EIA study has considered alternative options for the development of the Project, including alternative design and layout, construction methods and sequence of works to avoid or minimise environmental impacts. The key alternative considerations and outcomes in the EIA report are highlighted below:

Alternative Design and Layout

(i) The water quality of the different branches of YLTN has been analysed to select the more polluted DWF (from San Hui Nullah, Town Centre Section and East Nullah) for treatment and recommend the less polluted DWF from Kung Um Road Nullah to maintain sufficient water flow in YLTN;

(ii) The discharged points of the proposed DWFIS for treatment (i.e. YLEPP, San Wai Sewage Treatment Works, or both) have been investigated to avoid extensive upgrading works of the existing sewerage facilities;

Construction Methods and Sequence of Works

(iii) Offsite precast method is proposed to most part of the pumping station structure to avoid environmental nuisance to nearby sensitive receivers during construction; and

(iv) Excavation of nullah bed is proposed to be carried out within an enclosed area surrounded by concrete blocks, sandbag barriers or other appropriate measures and only be undertaken in dry condition to avoid water quality impacts due to dispersal of suspended sediments.

SPECIFIC ENVIRONMENTAL ASPECTS TO HIGHLIGHT

Air Quality

12. With the covered DWFIS in place, odour problem caused by the existing polluted DWF entering the YLTN could be alleviated.

13. During operation, odour from the DWF pumping station would be mitigated by enclosed design with negative pressure, deodourization unit with 99.5% removal efficiency, and exhaust outlet facing away from air sensitive receivers. With the recommendation of the proposed mitigation measures, adverse air quality impact is not anticipated.

Water Quality

14. With proper implementation of the recommended mitigation measures, in particular the establishment of dry condition for excavation works within the YLTN

(through the use of concrete blocks/sandbags and diversion channels), adverse water quality impacts are not anticipated during the construction stage.

15. Currently, the flow from YLTN is discharged directly into Shan Pui River. With the proposed Project, the interception of polluted DWF of up to 18,000 m^3/day (about 50% of the current flow at YLTN) for tertiary treatment at YLEPP would reduce the pollution loads to Shan Pui River by about 742 kg/day of Suspended Solids, 1,906 kg/day of 5-day Biochemical Oxygen Demand, 197 kg/day of Total Nitrogen, 22 kg/day of Total Phosphorus and 2.8 x 10^{14} counts/day of *E. coli*. The reduction in pollution load caused by the operation of the Project will thus improve the water quality in Shan Pui River, which at present could not comply with the Water Quality Objectives.

Ecology

16. The construction works would be confined to the existing concrete channel and developed area, including the laying of twin rising mains along Wang Lok Street in Yuen Long Industrial Estate which falls partly within the Wetland Buffer Area. In order to minimize potential indirect disturbance to the nearby wetland habitats and to overwintering birds, it is proposed that the construction of rising mains will be conducted outside dry season (from November to March).

17. During operation, the ecological sensitive areas and wildlife at downstream would be benefitted from the improvement of the water quality of the watercourses. It is also anticipated that the average flow rate on the section of YLTN between the boundary of the Project (where DWF will be intercepted) and the YLEPP (where the treated effluent will be released nearby) would be reduced during the operation of the Project. While the reduced freshwater input can increase soil salinity in tidal wetlands, the Shan Pui River and Kam Tin River area is highly influenced from tidal flow of Deep Bay, and the mangrove area within the Study Area experiences high salinity for part of each day. In addition, it is estimated that interception of the DWF to the YLEPP would only lead to a reduction of about 3-4% of total volume of water to the section of Shan Pui River near the confluence with Kam Tin River where key ecological habitat is identified. Hence, adverse ecological impact during operation stage is not expected as a result of the small percentage of reduction in freshwater input to Shan Pui River.

Landscape and Visual

18. A tree survey was conducted, which identified 704 number of trees within the

Project Boundary. No Registered Old and Valuable Trees were found. According to the latest design, all trees would be preserved and no tree felling is necessary.

19. During operation, green roof, vertical greening and shrub planting would be provided at the DWF pumping station. It is also proposed that the architectural design of the DWF pumping station will utilize the surrounding landscape to blend the building with the surrounding environment. The landscape and visual impacts of the Project are considered acceptable with the implementation of the recommended mitigation measures.

Other Environmental Impacts

20. Other environmental impacts including noise, waste management and land contamination have been satisfactorily addressed in the EIA report. With the implementation of the recommended mitigation measures, the Project would comply with the requirements of the EIA Study Brief and TM.

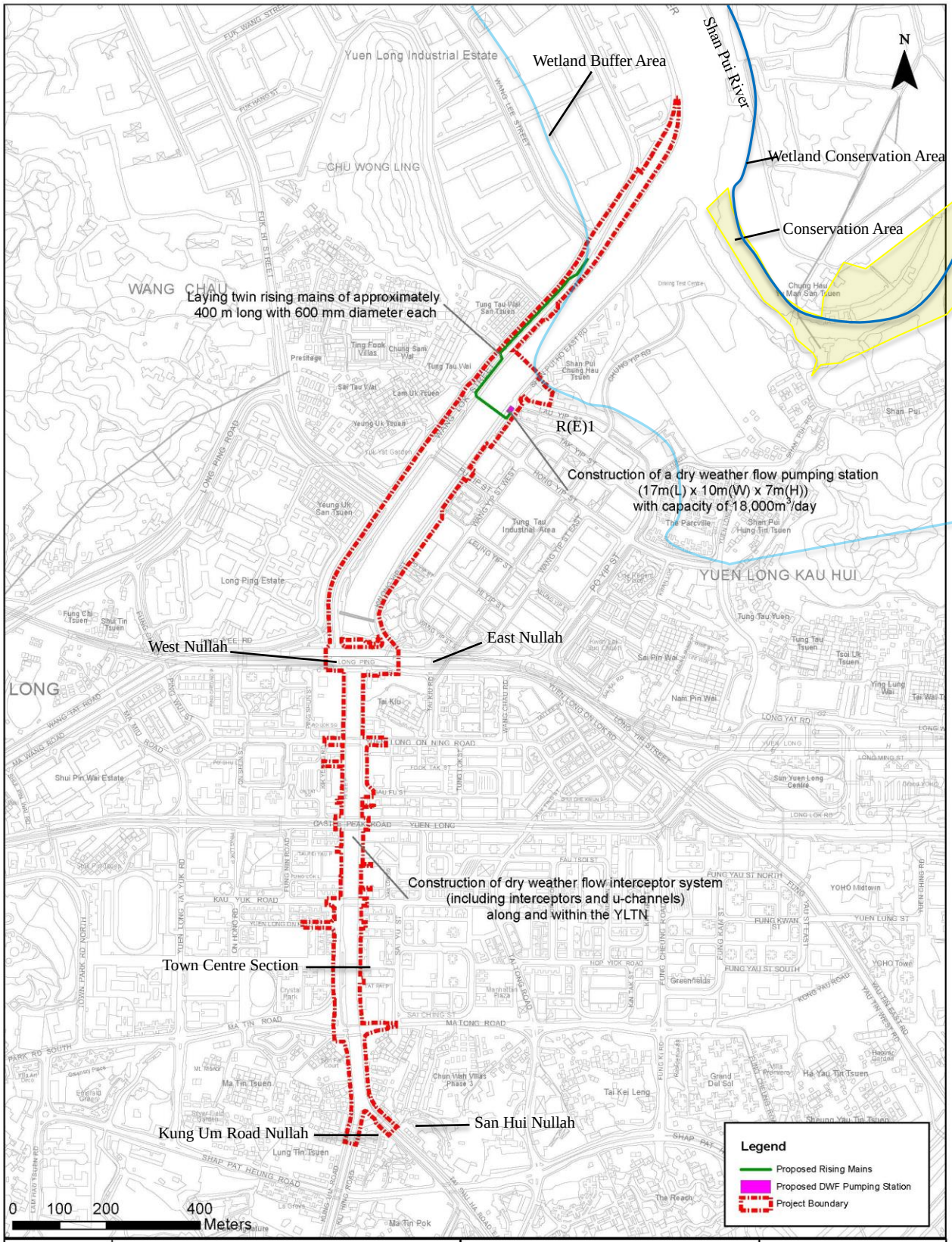
ENVIRONMENTAL MONITORING AND AUDIT (EM&A)

21. The EIA report includes an EM&A Manual which recommends an EM&A programmes during the construction and operational phase of the Project. Key recommended EM&A requirements cover air quality, noise, water quality, waste management, and visual & landscape.

PUBLIC CONSULTATION

22. The Applicant has made the EIA report, EM&A Manual and Executive Summary available for public inspection under the EIAO from 22 April 2020 to 21 May 2020. During the inspection period, a total of 25 sets of public comments were received by EPD. A summary of all public comments received by EPD during the public inspection period and a gist of the main concerns raised in the public comments will be provided separately.

June 2020
Environmental Assessment Division
Environmental Protection Department



Project Title: Improvement of Yuen Long Town Nullah (Town Centre Section)

Application No.: EIA-262/2020

Figure 1: General Layout of the Project