

**Eastern District Council  
Information Paper  
Date of Meeting : 26 July 2007**

**Public Works Programme Nos. 90WC, 182WC and 186WC  
Replacement and Rehabilitation of Water Mains  
Stage 1 Phase 1, Stage 2 and Stage 3  
Works to be implemented in Eastern District**



Water Supplies Department  
July 2007

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**1 PURPOSE**

- 1.1 This information paper informs the members of the Eastern District Council the progress of the captioned public works programme in Eastern District.

**2 BACKGROUND**

- 2.1 Water Supplies Department (WSD) has planned a 15-year comprehensive programme under 4 stages to systemically replace and rehabilitate about 3,000 km of aged water mains to prevent their further deterioration, to improve the condition of the water supply network, and to maintain the quality of services to the consumers. The works commenced in December 2000 and are expected to be completed before 2015.
- 2.2 The water mains replacement and rehabilitation works in Eastern District commenced in April 2004, and all the works are envisaged to be completed before 2015. Stage 1 Phase 1, Stage 2 and Stage 3 of this 15-year works programme are being implemented under Public Works Programme No. 90WC, 182WC and 186 WC respectively. They include the replacement and rehabilitation of about 78 km of fresh water and salt water mains in Eastern District. Location plans of these works are at **Appendix 1**. The works under Stage 1 Phase 1 are being implemented under Contract No. 3/WSD/02, while those of Stage 2 are divided into Contract No. 8/WSD/06 and 28/WSD/06. WSD consulted the Works and Development Committee of the Eastern District Council in October 2000 and June 2002 on Stage 1 Phase 1 of the Project and received their support. WSD also consulted the Works and Development Committee and the Traffic and Transport Committee of the Eastern District Council in March 2006 and April 2006 respectively on Stage 2 of the Project and received their support. WSD is carrying out investigation and design for Stage 3 works and will consult Eastern District Council in early 2008 when detailed working proposals are available.

**(1) 90WC – Replacement and Rehabilitation of Water Mains - Stage 1 Phase 1 (Contract No. 3/WSD/02)**

The works under this item in Eastern District include the replacement and rehabilitation of about 13 km of water mains with sizes ranging from 80 mm to 400 mm in diameter and have an estimated cost of \$58M. The works commenced in April 2004 and are now about 95% complete. The remaining works are expected to be complete by the end of 2007.



The works are designed and supervised by Maunsell Scott Wilson Joint Venture and carried out by Costain – China Harbour – Aarsleff Joint Venture, and are being carried out in the following locations/streets in phases:-

District	Street / Road Name
Chai Wan	Lee Chung Street(completed), Ning Foo Street(completed), Chai Wan Road(completed), Chai Wan Road Roundabout(completed), Kut Shing Street(completed), Hong Man Street(completed), Cheung Lee Street(completed), Chui Hang Street(completed), Wan Tsui Road
North Point	Java Road(completed), Marble Road(completed), Chun Yeung Street(completed), Wharf Road(completed), Tin Chiu Street(completed), Shu Kuk Street, Kam Hong Street, Tong Shui Road
Mid-Level East	Braemar Hill Road, Cloud View Road

A programme of the works is at **Appendix 2**.

WSD will closely monitor the progress of the works to ensure that it will be completed as soon as possible.

(2) 182WC - Replacement and Rehabilitation of Water Mains - Stage 2

(Contract No. 8/WSD/06 and Contract No. 28/WSD/06)

This works include the replacement and rehabilitation of about 12 km of water mains with sizes ranging from 20 mm to 600 mm in diameter in Eastern District. The estimated cost of works in the district is \$74M. The works will be implemented under two works contracts. Contract No. 8/WSD/06 will replace/rehabilitate the water mains in Chai Wan and Shau Kei Wan areas. The works are carried out by Yick Hing Construction Company Limited. It commenced in April 2007 for completion by the end of 2010. Contract No. 28/WSD/06 will replace/rehabilitate the water mains in North Point and Fortress Hill areas. The works are carried out by Chun Wo Construction & Engineering Company Limited. It commenced in July 2007 for completion by the end of 2010.

The works are designed and supervised by Black & Veatch Hong Kong Limited and will be carried out in the following locations/streets in phases :-

District	Street / Road Name
Chai Wan	Ka Yip Street, Fung Yip Street, Sheung On Street, On Yip Street, Sun Yip Street, Sun On Street, Wing Tai Road, Chai Wan Road

Shau Kei Wan	Shau Kei Wan Main Street East, Aldrich Street, Tam Kung Temple Road, Factory Street, Kam Wa Street, Po Man Street, Mong Lung Street, Church Street, Church Lane
Tai Koo	King's Road
North Point	King's Road, Tsat Tsz Mui Road
Fortress Hill	King's Road

A programme of the works is at **Appendix 2**.

WSD will closely monitor the progress of the works to ensure that it will be completed as soon as possible.

### (3) 186 WC - Replacement and Rehabilitation of Water Mains - Stage 3

This Project includes the replacement and rehabilitation of about 53 km of water mains with sizes ranging from 20 mm to 1000 mm in diameter in Eastern District. The estimated cost of works within the district is \$300M. The Project is now under investigation stage, and site works is programmed to start in late 2008 for completion by 2013.

The project is being designed and site works will be supervised by Maunsell-Metcalf & Eddy Joint Venture and will be carried out in the following locations/streets in phases :-

District	Street / Road Name
Chai Wan	Fei Tsui Road, Lin Shing Road, Sui Man Lane, Sui Man Road, San Ha Street, Kam Yuen Lane, Yee Shun Street, Yee Fung Street, Yee Tai Street, Yee Shing Street, Lee Chung Street, Ning Foo Street, Wan Tsui Road, Chai Wan Road
Shau Kei Wan	Shau Kei Wan Road, Sun Sing Street, Nam On Street, Nam Hong Street, Nam On Lane, Aldrich Street, A Kung Ngam Road
Sai Wan Ho	Sai Wan Ho Street, Tai Foo Street, Tai Lok Street, Tai Ning Street, Tai On Street, Shing On Street, Tai Shek Street, Wai Hang Street, Greig Road, Yau Man Street
Quarry Bay	Model Lane, Hoi Yu Street, Hoi Chak Street, Hoi Tai Street, Hoi Kwong Street, Hoi Wan Street, Tong Chong Street, Finnie Street, Pan Hoi Street, Mansion Street, Mount Parker Road



North Point	Java Road, North Point Road, Tong Shui Road, Shu Kuk Street, Kam Hong Street, Tin Chiu Street, Healthy Street East, Healthy Street Central, Healthy Street West, junction of Ming Yuen Western Street and King's Road, Tsat Tsz Mui Road, Tanner Road, Glass Street, Tin Chong Street, junction of Hei Wo Street and King's Road, Cheung Hong Street, Fort Street, North View Street, Island Eastern Corridor
Fortress Hill	Fortress Hill Road, King's Road, Electric Road, Oil Street, Fuk Yuen Street, Power Street
Tin Hau	Tin Hau Temple Road, Whitfield Road, Victoria Park Road, Merlin Street, Hing Fat Street, Gordon Road, Wing Hing Street, Mercury Street, Jupiter Street, Shell Street, Watson Road

### 3 METHODOLOGY OF REPLACEMENT AND REHABILITATION

#### 3.1 Construction Method – A Brief Description

The traditional open cut replacement method is to replace an existing water main by open trench excavation and laying a new water main alongside the existing mains. Although this traditional open cut method will cause more disturbances, it is often more practicable particularly for small diameter water mains and when the working spaces are confined. In order to reduce the disruption to traffic and the environment, we will also adopt the “trenchless” or alternatively named “limited excavation” method to replace or rehabilitate the water mains as far as practicable. The trenchless method will greatly reduce the extent of the excavation as well as the road reinstatement required. In the selection of method for the replacement or rehabilitation of the water mains, we need to consider many factors including geographic conditions, working restrictions, traffic and environmental constraints, etc. Despite the advantages, adoption of the trenchless replacement/replacement method is not always suitable for all mains.

#### 3.2 Traffic impact

We will implement the following measures to minimise the impact to the traffic during the course of works:-

- (1) Apply for Excavation Permits via the Internet Interface Utility Management System managed by the Highways Department. Through this system we will coordinate the works of other government departments and utility undertakers in the vicinity. This will avoid excessive excavation works being carried out by different parties in the same area at the same time;
- (2) Works will be carried out by trenchless replacement/rehabilitation method as far as practicable at roads with heavy traffic to minimise the disturbance to the traffic;

- (3) The contractor will set up a Traffic Management Liaison Group to hold regular meetings with other government departments and utility undertakers to discuss and review the temporary traffic arrangements;
- (4) Prior to the start of excavation works, the contractor will submit the proposed temporary traffic arrangement to the Transport Department, Road Management Office of the Hong Kong Police Force and the Highways Department for vetting and agreement;
- (5) Implement temporary traffic arrangement schemes at major routes or busy road junctions. The works will also be carried out in phases and be confined to one traffic lane at a time to minimise impact to traffic.

### 3.3 Environmental impact

We will implement the following measures to minimise the impact to the environment during construction:-

- (1) Carry out environmental impact assessment in the proximity of the proposed construction activities prior to the works and set out relevant standards for monitoring the impact of works to the public.
- (2) Implement necessary measures including daily removal of soil and wastes generated from the site in accordance with the relevant Ordinances and Regulations.
- (3) Monitor the noise generated during the course of works and, where necessary, implement mitigation measures including using silencer and noise barrier to reduce the construction noise.
- (4) Liaise with the noise sensitive receivers in the proximity of the works and where necessary, adjust the working time to suit.

### 3.4 Impact to Customers

After the water mains are replaced/rehabilitated, we need to temporarily suspend the water supply in order to connect the new supply system to the customers. We will implement the following measures to minimise the impact of the supply suspension to the customers:

- (1) Consult and coordinate with the affected customers and issue supply suspension notices to the affected customers at least three working days in advance to ensure they have knowledge of the supply suspensions at least 3 days earlier.
- (2) Closely control the works arrangement to minimise the number of supply suspensions and to limit the duration of each supply suspension to 8 hours.



#### **4 BENEFITS FROM THE PROJECT**

Water main leaks and bursts will cause interruption to water supply and disruptions to traffic. The Project will improve the reliability of the water supply systems. Upon completion of the Project, the water supply networks will be strengthened. The situation of water main bursts and leaks causing disruptions to traffic due to road closures and inconveniences to customers due to supply interruptions for emergency repairs will be improved as a result.

#### **5 ENQUIRIES**

WSD has established liaison groups under each stage of the Project to answer enquiries from the public in regard to the works of this Project. Prior to the commencement of works, we will notify and disseminate relevant information to the affected parties. We have also set up telephone hotlines to collect the views of the public and to facilitate the public in making enquiries about the works.

Meanwhile, WSD welcome all DC members to give their views by contacting the following persons:

##### Water Supplies Department

Chief Engineer/Consultants Management

Mr. WONG Kwok Hung

Tel. No. 2634 3500

Senior Engineer/Consultants Management (3)

Mr. TSE Min Tat

Tel. No. 2634 3772

Engineer/Consultants Management (7)

Mr. LEE Kam Cheong

Tel. No. 2634 3570

##### Contract No. 3/WSD/02

##### Maunsell Scott Wilson Joint Venture

Resident Senior Engineer

Mr. Thomas KOO

Tel. No. 2979 0600

Resident Engineer

Mr. Raymond CHAN

Tel. No. 2979 0600

Contract Nos. 8/WSD/06 & 28/WSD/06

Black & Veatch Hong Kong Limited

Resident Senior Engineer  
Mr. Kelvin HO

Tel. No. 2967 0821

PWP No. 186 WC

Maunsell – Metcalf & Eddy Joint Venture

Principal Engineer  
Mr. CHANG Ping Wah

Tel. No. 2685 6284



## Public Works Programme Nos. 90WC and 182WC

Replacement and Rehabilitation of Water Mains  
- Stage 1 Phase 1 and Stage 2Time Table of Major Works to be implemented in Eastern District  
in the coming 12 monthsContract No. 3/WSD/02

Affected area		Anticipated commencement date	Anticipated completion date
(1)	<u>North Point</u> Tong Shui Road Shu Kuk Street Kam Hong Street	Commenced Commenced Commenced	End of Sep. 2007 End of Oct. 2007 End of Oct. 2007
(2)	<u>Mid Level East</u> Braemar Hill Road Cloud View Road	Commenced Commenced	End of Aug. 2007 End of Aug. 2007
(3)	<u>Chai Wan</u> Wan Tsui Road	Commenced	End of July 2007

Contract No. 8/WSD/06

Affected area		Anticipated commencement date	Anticipated completion date
(1)	<u>Chai Wan</u> Ka Yip Street Sun Yip Street Fung Yip Street Sheung On Street Wing Tai Road Chai Wan Road On Yip Street	September 2007 September 2007 September 2007 September 2007 November 2007 November 2007 May 2008	June 2008 July 2008 December 2008 December 2008 September 2008 October 2008 November 2008

Contract No. 28/WSD/06

As this works contract has only just commenced, the contractor is now planning the sequence of works. The programme on the anticipated commencement and completion dates of works is not yet available. It is however envisaged that the majority of the works will commence later this year in phases.