

## Chapter - II Performance Audit

### Department of Urban Development

#### 2.1 Schemes for providing Potable Water Supply and Sewerage Facilities in Unauthorised Colonies

The Performance Audit covers two schemes namely “Providing potable water supply in unauthorised colonies” and “Providing sewerage facilities in unauthorised colonies” being implemented by Delhi Jal Board (DJB), for which funds are provided by the Urban Development Department (UDD), Government of National Capital Territory of Delhi (GNCTD) in the form of grants-in-aid. The significant audit findings are summarised below.

#### Highlights

*Grants-in-aid received for development of capital assets were irregularly diverted and utilised for other purposes, without the approval of the Urban Development Department.*

*(Paragraph 2.1.6)*

*In the absence of a strategic plan to provide piped water supply to all 1,797 unauthorised colonies (UACs) by December 2018 as envisaged by GNCTD, only 353 UACs were provided piped water supply during 2013-18 and as of March 2018, 567 UACs were still dependent on tube-wells/hand-pumps and water supplied through water tankers by DJB for their potable water requirements.*

*(Paragraph 2.1.7)*

*Works of laying water and sewer lines were planned and executed by divisions in an uncoordinated manner, resulting in expenditure incurred remaining unfruitful and the intended benefits undelivered.*

*(Paragraphs 2.1.7.1 and 2.1.8.1)*

*Out of 34 works of Phase-I of Sewerage Master Plan for Delhi -2031, to be completed by 2016, only 11 works were completed by July 2018 with 20 works being in progress and three still at pre-execution stage. Out of 1797 UACs, 1573 UACs (88 per cent) were not provided with sewerage facilities as of March 2018 and sewage generated by these 1573 UACs flowed into storm water drains and eventually into River Yamuna in its untreated form.*

*(Paragraph 2.1.8)*

*DJB planned and executed water supply and sewer line works in UACs situated on land belonging to Forest Department and Archaeological Survey of India, in violation of the UDD guidelines for development works in UACs.*

*(Paragraphs 2.1.7.2 and 2.1.8.2)*

*There were deficiencies in preparation and approval of estimates, delay in award and execution of works, selection of ineligible bidders and extension of undue benefit to contractors.*

*(Paragraphs 2.1.9 and 2.1.10)*

*Out of 657 water tankers used for water supply by DJB, 250 tankers (38 per cent) operated without monitoring equipment such as GPS, water level meters/flow meters/chlorine meters etc. as envisaged by the DJB under the Water Tanker Distribution Management System project.*

*(Paragraph 2.1.11)*

### **2.1.1 Introduction**

Unauthorised Colony (UAC) means a colony/development comprising of contiguous area, where no approval of Layout Plan and/or building plan has been obtained by residents of these colonies from the agency concerned (DDA/MCD). Unauthorised colonies in Delhi have been in existence right from the time when planned development of Delhi started with the setting-up of Delhi Development Authority (DDA) in 1957. In December 1996, Hon'ble High Court of Delhi directed GoI to constitute a high level committee to frame a policy and terms and conditions for regularisation of UACs. After a long drawn process, Regulations for regularisation of unauthorised colonies in Delhi were notified by Delhi Development Authority (DDA) in March 2008. In compliance to Regulations 2008, GNCTD finalized a list of 1,797 UACs for consideration for regularisation.

In September 2012, GNCTD issued notification for development works in 895 UACs out of 1,797 UACs and their regularisation in terms of Regulations 2008. However, none of these 895 UACs could be regularised due to non-finalisation of boundaries of these colonies. In December 2015, GNCTD decided that, for development works, no distinction should be made between colonies eligible for regularisation and other colonies (902 UACs). The only exception to this rule would be in respect of colonies falling inside forest areas or areas under Archaeological Survey of India regulations.

Under the plan scheme "Provision of essential services in unauthorised colonies", the DJB was implementing two schemes of "Providing potable water supply in UACs" and "Providing sewerage facilities in UACs", for which UDD, GNCTD releases Grants-in-aid (GIA). The scheme "Providing potable water supply in UACs" involved laying of internal water lines in UACs and supply of water through water tankers in UACs. The scheme "Providing sewerage facilities in UACs" involved laying of internal sewer lines in un-sewered UACs. In the budget documents of 2015-16, GNCTD had envisaged (July 2015) provision of piped water supply to all households in a time-bound manner within a period of three years. In the budget of 2018-19, the timeline was extended to December 2018.

As of March 2013, out of a total of 1,797 UACs in NCT of Delhi, piped water supply and sewerage facilities were available in 877 (48.8 *per cent*) and 98 UACs (5.5 *per cent*) respectively. In the following five years from 2013-14 to 2017-18, additional 353 and 126 UACs were provided piped water supply and sewerage facilities respectively. Thus, as of March 2018, out of a total 1797 UACs, piped water supply and sewerage facilities were available in 1,230 (68.4 *per cent*) and 224 UACs (12.5 *per cent*) respectively.

### 2.1.2 Organizational Structure

The Delhi Jal Board, formed in 1998, is under the administrative control of the UDD, GNCTD. It is headed by a Chairman, who is assisted by the Chief Executive Officer, four Members heading respective wings<sup>1</sup>, Chief Engineers heading various Zones, and Superintending Engineers and Executive Engineers heading Circles and Divisions respectively.

### 2.1.3 Audit Objectives

The main objectives of this performance audit were to assess whether:

- (i) financial management of the schemes was efficient;
- (ii) there was proper planning for providing water supply and sewerage facilities in unauthorised colonies;
- (iii) tendering, awarding and execution of development works were in accordance with the extant rules;
- (iv) facilities created were effectively functioning and served the intended purpose; and
- (v) Oversight and monitoring mechanism was adequate and effective.

### 2.1.4 Audit Scope and Methodology

The Performance Audit, covering the period of five years from 2013-14 to 2017-18, commenced in April 2018. An entry conference was held (April 2018) with the Special Secretary and officers of the UDD and DJB, wherein the audit objectives, criteria, scope and methodology were discussed. The audit was conducted during April to September 2018 through examination of records in UDD, Headquarters of DJB, selected 18 divisions<sup>2</sup> and joint physical verifications, wherever required. Simple random sampling method was used for selection of Divisions for audit. For the purpose of audit, 25 *per cent* (11 divisions) of the 41 Divisions which utilised GIA under the scheme of “Providing potable water supply in UACs” and 38 *per cent* (8 divisions) of

<sup>1</sup> Water Supply, Drainage, Finance and Administration

<sup>2</sup> One-fourth of the 41 under Water Supply Scheme: 11 Divisions (RPC, W(Projects)-IX, North West-II, North-I, South-III, South-IV, West-III, South West-II, North East-II, E&M HP-1 and E&M W&S South-II) and one-third of the 21 under Sewerage Scheme: 8 Divisions - (SR-II, DR-XII, DR-XIV, DR-III, DR-VIII, DR-XI, DR-IX and SW-II).

the 21 Divisions which utilised GIA under the scheme of “Providing sewerage facilities in UACs” were selected.

Out of a total of 1,797 UACs in Delhi, all 374 UACs under the 18 selected Divisions where water supply works were taken up during 2013-18 and 378 UACs where works for providing sewerage facilities were taken up were covered in audit. Also, joint inspection of works in 13 UACs and six water emergencies<sup>3</sup> was conducted with officials of DJB. Details of UACs in which works of piped water supply and sewerage facilities were taken up by DJB during audit period 2013-18 and covered in this Performance Audit are given in **Table 2.1**.

**Table 2.1: Details of UACs where works taken up and covered in Audit**

Particulars	Piped Water Supply		Sewerage	
	Total	In sample	Total	In sample
UACs where facility was not available as of March 2013	920	530	1,699	902
UACs where works were taken up	546	374	526	378
UACs where works were completed and notified as of March 2018	353	198	126	46
UACs where works of laying water/sewer lines were completed but lines could not be made operational due to lack of allied infrastructure <sup>4</sup> and procedural delays	166	155	134	134
UACs where works are yet to be completed	27	21	266 <sup>5</sup>	198

Source: Information provided by DJB

After completion of audit, a draft audit report was issued to the UDD and DJB on 6 November 2018 followed by an exit conference held on 13 February 2019 with the officers of UDD and DJB. Replies received have been suitably incorporated in this report.

### **2.1.5 Audit Criteria**

Audit criteria were derived from the following:

- (i) Sewerage Master Plan for Delhi-2031;
- (ii) Guidelines and instructions issued by Ministry of Urban Development, GoI and of Urban Development Department, GNCTD;
- (iii) General Financial Rules 2005 and 2017;
- (iv) Central Public Works Department Works Manual 2012 and 2014;
- (v) General conditions of contract of Delhi Jal Board; and
- (vi) Instructions and orders issued by the Delhi Jal Board.

<sup>3</sup> Where water tankers are filled

<sup>4</sup> For water- Underground Reservoirs and peripheral line and for sewerage- trunk/interceptor sewers, sewage pumping stations and peripheral line.

<sup>5</sup> Out of these 266 UACs, work has been abandoned in 47 UACs

## Audit Findings

The audit observations regarding financial management, planning, execution and monitoring of the works carried out under the schemes of “Providing potable water supply in UACs” and “Providing sewerage facilities in UACs” are given in the subsequent paragraphs.

### 2.1.6 Financial Management

The details of funds received under both the schemes and expenditure incurred there against during the five years from 2013-14 to 2017-18 are given in **Table 2.2** and **Table 2.3**. GIA for “Providing potable water supply in UACs” scheme has two components, i.e.(i) ‘GIA-General’ for water supply through tankers and (ii) ‘GIA-Capital’ for capital works of laying of internal water lines. GIA for “Providing sewerage facilities in UACs” scheme has only one component viz. ‘GIA-Capital’ for laying of sewer lines.

**Table 2.2: Details of utilization of grants received for water supply scheme during 2013-18**

(₹ in crore)

Year	Opening Balance	GIA received			Total Funds	GIA utilised			Closing Balance
		General	Capital	Total		General	Capital	Total	
2013-14	0	90.00	40.00	130.00	130.00	93.82	34.11	127.93	2.07
2014-15	2.07	70.00	110.00	180.00	182.07	133.20	46.32	179.52	2.55
2015-16	2.55	134.00	140.00	274.00	276.55	216.02	47.03	263.05	13.50
2016-17	13.50	345.00	162.00	507.00	520.50	307.78	95.78	403.56	116.94
2017-18	116.94	150.00	150.00	300.00	416.94	280.27	70.15	350.42	66.52
<b>Total</b>		<b>789.00</b>	<b>602.00</b>	<b>1,391.00</b>		<b>1,031.09</b>	<b>293.39</b>	<b>1,324.48</b>	

Source: Information provided by DJB

Figures from Table 2.2 above indicate that utilisation in “GIA-General” (for supply of water through tankers) is consistently more than the funds received (except in 2016-17) and this excess expenditure was met from funds received under “GIA-Capital”. This meant that funds from ‘GIA-Capital’ for “Providing potable water supply in UACs” which were for capital works of laying of internal waterlines only, were irregularly diverted and utilised for supply of water through tankers.

Audit also observed during scrutiny of records of selected divisions that during 2013-18, scheme funds amounting to ₹ 5.33 crore for “Providing potable water supply in UACs” were irregularly diverted and utilised for other purposes such as providing imprest cash to divisional staff, miscellaneous repairs and maintenance etc. (**Appendix 2.1**).

The Government replied (February 2019) that audit observation is noted and due care shall be taken to avoid such diversion in future.

**Table 2.3: Details of utilisation of grants received for sewerage scheme during 2013-18**

(₹ in crore)

Year	Opening Balance	GIA received	Total Funds	GIA utilised	Closing Balance
2013-14	53.79	33.73	87.52	103.75	(16.23)
2014-15	0.00	125.00	125.00	125.18	(0.18)
2015-16	0.00	335.00	335.00	199.96	135.04
2016-17	135.04	200.00	335.04	273.24	61.80
2017-18	61.80	235.00	296.80	207.84	88.96
<b>Total</b>	<b>53.79</b>	<b>928.73</b>	<b>982.52</b>	<b>909.97</b>	<b>72.55</b>

Source: Information provided by DJB

Under the sewerage scheme, audit observed that during the years 2013-14 and 2014-15, there was excess expenditure of ₹ 16.23 crore and ₹ 0.18 crore respectively. DJB stated that it met the excess expenditure through its own resources. Audit also observed that DJB did not adjust this excess expenditure against funds received for subsequent years.

## Planning and execution of Water Supply and Sewerage works

### 2.1.7 Water Supply works

Audit observed that Delhi Jal Board has not prepared any long-term perspective plan or master plan for providing piped water supply in UACs till date. GNCTD had envisaged provision of piped water supply to all households in a time-bound manner by December 2018. Audit requisitioned the strategic action plan for covering all uncovered UACs by the target date. DJB, however, did not make available any such action plan. Hence, Audit could not ascertain whether there existed any strategic plan for providing water supply to all by December 2018. Audit observed that 567 out of 1,797 UACs were still dependent on tube wells and water supplied through water tankers by DJB for their potable water requirements as of March 2018.

The Government replied (February 2019) that there is a shortfall of water in Delhi and after completion of upstream dams on Yamuna River, it will be possible to cover all the UACs and other shortfall areas. However, the reply was silent regarding availability or otherwise of strategic action plan to cover all UACs in a planned manner by December 2018, as envisaged by GNCTD.

#### 2.1.7.1 Absence of integrated/comprehensive planning for laying of pipelines

The supply of potable water involves treatment of raw water at Water Treatment Plants (WTPs) and transmission of treated water through transmission lines into Underground Reservoirs (UGRs) located in command areas of the WTP. From these UGRs, the water for internal water lines laid in colonies is to be routed through peripheral lines, connected to UGRs and laid

at the outer periphery of these colonies. Before planning for laying of internal water lines, availability of water and allied infrastructure of WTP, UGR and peripheral lines need to be ensured.

In selected divisions, Audit observed that maintenance divisions of DJB proposed laying of internal water lines without any comprehensive /strategic master plan and without ensuring availability of water and allied infrastructure such as WTP, UGR and peripheral lines. Often, the proposals were framed in anticipation of water to be sourced from under construction or proposed Underground Reservoirs/peripheral lines. This resulted in internal lines laid remaining unutilised due to non-availability of allied infrastructure of UGRs and peripheral lines.

There were 1,122 UACs under the jurisdiction of the 11 selected divisions, of which 592 UACs were already notified<sup>6</sup> for piped water supply by March 2013. Out of the remaining 530 UACs, works for internal water lines in 374 UACs were planned during the period from 2013-14 to 2017-18. Of these 374 UACs, works of laying pipelines in 155 UACs were completed but lines could not be made operational. In 144 UACs<sup>7</sup> delay in commissioning was due to non-availability of allied infrastructure and in remaining 11 UACs water facilities were not made operational due to procedural delays in obtaining approval of the Chief Engineer. Works in these 144 UACs remained in operational for two to 30 months as of July 2018 and in 11 UACs, from four to 31 months.

Audit observed that in 144 UACs where works of laying internal water lines were completed but awaited commissioning as of July 2018, deficiency in ensuring availability of water source at the time of proposing laying of internal lines resulted in the completed internal lines remaining unutilised and rendering expenditure incurred thereon unfruitful as detailed below:

- Delay in commissioning of water lines laid between May 2016 and December 2017 in 17 UACs was due to delay in construction of Sonia Vihar UGR. The works of laying internal water lines were proposed in October 2015 and at the time of proposal, Board had only given in-principle approval for the work of construction of Sonia Vihar UGR. The work of construction of Sonia Vihar UGR was awarded in November 2017 only, stipulated to be completed in November 2019. As of November 2019, physical progress of work of construction of Sonia Vihar UGR was 79 per cent.

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<sup>6</sup> Notified to public that the facilities have been provided in the said locality and the residents can formally apply for water/sewer connections.

<sup>7</sup> Involving expenditure of ₹ 71.62 crore for 59 UACs. For remaining 85 UACs in case of PPP project (NWS, Nangloi), the cost involved is not ascertainable as the work of laying/rehabilitation of water lines was being carried out for 480 UACs and details of expenditure are not kept UAC-wise.

- Delay in commissioning of water lines in 23 UACs, which were laid between January 2016 and January 2018, was due to delay in construction of Karala UGR. The works of laying internal water lines were proposed between September 2015 and November 2016 though physical progress of Karala UGR up to March 2016 and December 2016 was only 68 *per cent* and 83 *per cent* respectively. By March 2018, the UGR construction had progressed up to 87 *per cent*. The construction of Karala UGR was delayed due to difficult site conditions as the site was water logged and soil had to be brought in from other places to make site workable.
- In case of 85 UACs, work of laying internal water lines was to be started after completion of Najafgarh and Mundka UGRs in September 2015. The works of construction of Najafgarh and Mundka UGRs were, however, started in December 2015 and January 2016 respectively. Construction of Najafgarh UGR was delayed due to the presence of Bakkarwala drain at its site which had to be shifted, delayed physical possession of land and slow progress of work by the contractor. Construction of Mundka UGR was delayed due to soil conditions, time consumed in soil strengthening, change of designs and slow progress of work by the contractor. As of March 2018, physical progress of Najafgarh and Munkda UGRs was 80 and 78 *per cent* respectively. Also, work of laying peripheral lines got delayed due to non-availability of road cutting permissions from the road owning agencies.

However, water lines were laid in these 85 UACs between January 2017 and May 2018 before construction of the UGRs and therefore could not be commissioned since no water was available due to absence of peripheral lines and UGRs.

- In the remaining 19 UACs, commissioning was delayed due to non-availability of water. In case of nine UACs under Okhla Assembly Constituency, works of internal water lines were planned with source of water from Okhla WTP. These works were completed between January 2016 and January 2018 and were awaiting commissioning as of July 2018 due to non-availability of water at source. Similarly, in 10 UACs falling under Narela Assembly Constituency, water was to be sourced from Palla Ranney well. Laying of internal lines in these UACs were completed between August 2016 and May 2018 but these could not be commissioned as of July 2018 due to non-availability of water at source.

During joint physical verification of Bhagya Vihar UAC where the internal water lines had been laid but were awaiting commissioning due to delay in construction of Karala UGR, it was observed that some residents had taken

unauthorised connections from the peripheral lines supplying water to neighbouring Rani Khera Village. Since these residents were already getting piped water supply through the unauthorised connections, there is a likelihood that they may not opt for authorised connections, for which they will have to pay, even after commissioning of piped water supply in the UAC.

Audit also observed during joint physical verification of Sangam Vihar UAC, that peripheral water lines existed since 2013 but internal water lines have not been planned by DJB in Ratia Marg, Mangal Bazar, Tigree and Devali Road colonies as of October 2019. Non-laying of internal water lines despite presence of fully functional peripheral lines in the areas has resulted in laying of unauthorised/illegal pipelines by some residents in these UACs.

**DJB did not ensure availability of water and construction of allied infrastructure of Underground Reservoirs and peripheral lines before laying of internal water lines. This led to expenditure incurred remaining unfruitful and intended benefits undelivered. On the other hand, DJB did not lay internal water lines in three colonies where peripheral lines were already available.**

#### **2.1.7.2 Works executed in violation of Government instructions**

The guidelines<sup>8</sup> for development works in UACs issued by UDD, GNCTD clearly prohibited carrying out of development works in unauthorised colonies situated on Forest/Archaeological Survey of India (ASI) lands. Further, the UDD circulated (October 2015) lists of 179 and 47 UACs which fell in lands belonging to the Forest Department, GNCTD, and ASI respectively, and instructed that developmental works in these areas were not to be carried out. Despite Government instructions, DJB executed works for water supply in 88 UACs on Forest land and 35 UACs on ASI land in violation of guidelines.

**Failure of DJB to observe restrictions on development works in UACs situated on Forest/ASI land showed systemic failure and absence of mechanism in DJB to identify before planning any development works in UACs whether the land belonged to ASI/Forest Department. Only in October 2015, the UDD circulated a list of 179 and 47 UACs which fell in lands belonging to the Forest Department, GNCTD, and Archaeological Survey of India respectively.**

#### **2.1.7.3 Lack of mechanism for scientific assessment of quantity of water supplied**

Potable water is initially pumped through transmission lines from Water Treatment Plants (WTPs) into UGRs located in command areas of the WTP. From these UGRs, it is further pumped into smaller UGRs and then

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<sup>8</sup> 2009, 2012 and 2015

distributed to households through distribution lines with the help of booster pumps.

DJB has installed about 302 flow meters at WTPs to measure the quantity of raw water available at WTPs and the quantity of treated/potable water supplied by treatment plants for distribution. Audit, however, observed that DJB has not installed flow-meters at any location downstream of WTPs i.e. at UGRs, booster pumping stations and water emergencies<sup>9</sup>, and relies on indirect methods<sup>10</sup> of calculation to arrive at the quantity of water supplied through distribution lines or water tankers. These methods were not scientific and accurate.

The year-wise details (**Table 2.4**) of quantity of water supplied through water tankers during the years 2013-14 to 2017-18 showed that the measurement system was not accurate as the quantity of water supplied through water tankers varied hugely from 72.91 lakh Kilo Litre (KL) in 2014-15 to 6.32 lakh KL in 2017-18, which is unlikely considering that the number of tankers and the extent of operations of DJB to cover fixed points and emergency cases remained the same during this period.

**Table 2.4: Details of water supplied through tankers**

Year	Number of tankers	Quantity in Kilo Litres (KL)
2013-14	972	59,13,294
2014-15	1,064	72,91,064
2015-16	1,017	27,92,549
2016-17	932	6,73,418
2017-18	982	6,32,127

*Source: Information provided by DJB*

Due to non-availability of flow-meters at UGRs, booster pumping stations and water emergencies, DJB was not in a position to accurately assess the quantity of water actually supplied or to detect leakages/theft etc.

As regards assessment of quantity of water supplied, the Government stated (February 2019) that the process of installation of flow meters (downstream of WTPs such as UGRs, booster pumping stations and water emergencies) has been initiated and will be completed by December 2019.

### **2.1.8 Sewerage works**

As of March 2013, out of 1,797 UACs 1,699 UACs did not have sewerage facilities. With an objective of providing sewerage facilities in all the UACs, the scheme of ‘Providing sewerage facilities in UACs’ was being

<sup>9</sup> Where water tankers are filled

<sup>10</sup> At UGRs, quantity of treated water supplied through distribution lines is measured on the basis of capacity of pumps and duration of pumping. Similarly, at water emergencies, quantity of water supplied through water tankers is measured on the basis of capacity of tankers and number of trips performed.

implemented as per the Sewerage Master Plan for Delhi - 2031 (SMP-2031) prepared (June 2014) by DJB to cover entire Delhi including all 1,797 UACs by 2031.

The SMP-2031 has been divided in four phases covering 93 works, out of which 34 works under Phase-I were to be completed by 2016 and 32 works under Phase-II are to be completed by 2021.

Audit, however, observed that out of 34 works of Phase-I planned to be completed by 2016, only 11 works were completed by July 2018, with 20 works being in progress and three still at pre-execution stage<sup>11</sup>. Overall, only 126 UACs were provided with sewerage facilities during 2013-18. The delay in laying of sewer lines deprived sewerage facilities to the residents of the remaining 1,573 UACs.

**As of March 2018, sewage from 1,573 out of 1,797 UACs flowed into storm water drains meant for carrying rain water and eventually into River Yamuna in its untreated form.**

The Government stated (February 2019) that work of providing sewerage system in Delhi is being taken up in a phased manner in accordance with Sewerage Master Plan - 2031 and it will take necessary steps to ensure time bound completion of sewerage works as envisaged in the SMP-2031.

Specific instances of deficiencies noticed in planning of sewerage works are discussed in the succeeding paragraphs.

#### **2.1.8.1 Non-synchronisation of works of laying sewer lines with other allied works resulting in idling of infrastructure created**

There are 961 UACs under the jurisdiction of the eight selected divisions, of which 59 UACs were already notified for sewerage facilities by March 2013. Out of the remaining 902 UACs, works of internal sewer lines in 378 UACs were planned during the years 2013-14 to 2017-18. Out of these, works of sewer lines in 180 UACs were completed and in 198, work was in progress. In the completed works, internal sewer lines laid in 46 UACs were commissioned and sewage lines laid in 134 UACs could not be made operational. In 108 out of these 134 UACs, delay in commissioning was due to non-availability of allied infrastructure and in remaining 26 UACs, sewerage facilities were not made operational due to procedural delays in obtaining approval of the Chief Engineer.

Audit observed that an expenditure of ₹ 260.29 crore has been incurred on laying of internal and peripheral sewer lines in these 108 UACs, but these

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<sup>11</sup> At the stage of Estimation/NIT/Tendering/Award etc.

lines were lying idle as Interceptor Sewer Project<sup>12</sup>, which was to act as outfall structure/trunk sewer for these sewer lines was delayed. The Interceptor Sewer project was to be implemented in six packages by June 2014. Out of six packages, one package is complete and remaining five packages are scheduled to be completed by March 2020. The reasons for delay in completion of the project are delay in permissions from various departments like IFCD, MCD, DDA, BSES, Railway and Forest Department and slow progress of work by the executing agencies.

Out of these 108 UACs, in 96 UACs under Mohan Garden Group of Colonies (GoC), the work of laying internal and peripheral sewer lines was planned in July 2012. As per plan, the sewage from the Mohan Garden GoC was to be conveyed into interceptor sewer at Nilothi Keshopur (Package 2) through new sewer lines. In the remaining 12 UACs under Samaipur Group of Colonies, the work of laying internal and peripheral sewer lines was planned in July 2013. As per plan, the sewage from the Samaipur GoC was to be conveyed into interceptor sewer at Sanjay Gandhi Transport Nagar through new sewer lines. The sewage from Samaipur Group of Colonies was to fall into Interceptor Sewer (Package 3), which covered stretches from Badli to Burari, Wazirabad to Burari and Inderlok to Bharat Nagar. As of July 2013, physical progress of Package 3 of Interceptor Sewer project was 32 *per cent*. The work of laying sewer lines in Samaipur GoC was awarded in August 2014 with stipulated completion by February 2016. The work was actually completed in March 2018. As of March 2018, physical progress of Package 3 of Interceptor Sewer project was 84 *per cent*.

Thus, DJB did not synchronize the works of laying of sewer lines built at a cost of ₹ 260.29 crore, with allied works of Interceptor Sewer/trunk sewer thereby resulting in non-commissioning and non-utilisation of the completed sewer lines.

### **Non-synchronisation of works of laying sewer lines with other allied works by DJB led to idling of infrastructure created.**

#### **2.1.8.2 Works executed in violation of Government instructions**

The guidelines<sup>13</sup> for development works in UACs issued by UDD, GNCTD clearly prohibited carrying out of development works in unauthorised colonies situated on Forest/ASI lands.

Audit noticed that despite Government instructions, DJB took up laying of sewer lines in 57 UACs on Forest land and 30 UACs on ASI land in violation

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<sup>12</sup> The interceptor sewer project to trap sewage from three major drains (Najafgarh, Supplementary and Shahdara) being implemented under JNNURM (now AMRUT) to convey sewage from diversion structures from the un-sewered areas as well as overflows from the existing sewers and direct it to the nearest existing STPs. The project, stipulated to be completed by June 2014, is now scheduled for completion by March 2020.

<sup>13</sup> 2009, 2012 and 2015

of guidelines. UDD stopped (July 2016) works of laying of sewer lines by DJB in 43 of these UACs as these were on Forest/ASI land and hence no development work was permitted in these areas rendering expenditure of ₹ 27.46 crore on these works unfruitful.

The Government replied (February 2019) that verification of forest/ASI land is a continuous process and as and when there is observation raised by the Department, work is re-evaluated and is restarted after getting clarification from the Departments concerned. However, the fact is that DJB failed to restart the works of sewer lines in 43 UACs.

**Failure of DJB to observe restrictions on development works in UACs situated on Forest/ASI land showed systemic failure as mentioned in respect of water supply works in Para 2.1.7.2.**

### **2.1.8.3 Planning and execution of works on sewer lines before laying of water lines**

DJB decided (January 2012) that sewerage systems are to be laid in those UACs, where water supply networks are already existing. Audit, however, observed that contrary to this decision, sewer lines were laid in 50 UACs (**Appendix 2.2**) though water lines were yet to be laid even though there were 622 UACs where water supply was notified but sewerage works were yet to be taken up. Thus, works were executed by DJB in violation of its own instructions.

During exit conference, DJB stated that amendment of the January 2012 resolution would be considered as they are striving to provide sewerage facilities to all.

**Laying of the sewer lines without supply of minimum water required resulted in ineffective usage of sewer lines.**

## **2.1.9 Deficiencies in execution of Water Supply and Sewerage works**

The audit observations regarding deficiencies in execution and maintenance of water supply and sewerage infrastructure created under these two schemes are discussed in the subsequent paragraphs.

### **2.1.9.1 Execution of works without technical sanction from competent authority**

As per amendment in delegation of powers in DJB dated 5 March 2013, the Superintending Engineer (SE) was empowered to accord technical sanction up to ₹ 25 lakh only which was enhanced to full powers vide amendment dated 16 June 2015.

Scrutiny of records of selected divisions of DJB revealed that 16 works (**Appendix 2.3**) of laying water and sewer lines were executed (Between

5 March 2013 and 16 June 2015) after technical sanction by SE, even though the estimates of these projects ranged from ₹ 31.11 lakh to ₹ 1,213.00 lakh. Thus, these works were executed without technical sanction by the competent authority.

The Government replied (February 2019) that works with estimates above ₹ 25 lakh were executed after technical sanction by SE due to oversight. Though accepted by the Government, the issue remains that neither responsibility for the irregularities have been fixed nor the sanction obtained from the competent authority subsequently.

### **2.1.9.2 Deficiencies in awarding of works**

#### **(i) Delay in award of works**

As per CPWD Works Manual, top priority should be given for expeditious finalisation of tenders and maximum time limit of 45 days for scrutiny and disposal of tenders has been specified. Audit, however, observed that over and above the maximum specified period of 45 days, out of 620 works<sup>14</sup>, there were delays in award of works ranging from 50 to 498 days in 72 works. The details are given in **Table 2.5**.

**Table 2.5: Delay in award of works**

Sl. No.	Duration of delay in days	Division-wise number of works awarded after delay									Amount (₹ in crore)
		SW II	North I	S-III	DR-IX	SR-II	E&M	NE-II	Dr-XIV	Total	
1.	50-100	12	15	10	01	01	02	07	01	49	240.23
2.	101-200	03	02	01	05	03	-	01	01	16	68.66
3.	201-300	-	01	02	-	-	-	-	01	04	32.72
4.	301-498	-	02	01	-	-	-	-	-	03	1.91
<b>Total</b>		<b>15</b>	<b>20</b>	<b>14</b>	<b>06</b>	<b>04</b>	<b>02</b>	<b>8</b>	<b>03</b>	<b>72</b>	<b>343.52</b>

Source: Records of DJB

Delays in award of works after opening of bids may result in the expiry of bid validity apart from delaying the projects and increase in project cost on account of cost escalation which is calculated based on the Wholesale Price Index/Consumer Price Index for industrial workers, as on the last date fixed for receipt of tenders.

The Government replied (February 2019) that compliance with laid down procedure of confirmation of Earnest Money Deposits and Bank Guarantee, verification of experience certificates of bidders, evaluation of technical bid, scrutiny by technical committee etc. took time, resulted in delays in award of works. Government further assured that the audit observation has been noted for future compliance.

<sup>14</sup> Relating to 18 selected divisions, where works of laying water and sewer lines were undertaken in unauthorised colonies during 2013-18.

(ii) **Unauthorised change in technical eligibility criteria**

(a) In terms of the CVC guidelines<sup>15</sup> and CPWD guidelines<sup>16</sup>, eligibility conditions for specialized works shall be specified in the NIT as “Experience of having successfully completed works during the last seven years. Three similar works, each of value not less than 40 *per cent* of the estimated cost put to tender *or* two similar works, each of value not less than 60 *per cent* of the estimated cost, *or* one similar work of value not less than 80 *per cent* of the estimated cost”.

Audit observed that in case of two works<sup>17</sup>, the technical eligibility criteria was arbitrarily lowered from 80 *per cent* of estimated cost of the work to just eight *per cent*, without approval of the competent authority. This resulted in award of works to contractors who would have been ineligible as per the CVC guidelines. It was also observed that there were delays in execution of works of 455 and 621 days attributable to the contractors in the two works which also indicate the inability of contractors to complete these works since they did not have adequate experience.

(b) DJB also empanels/enlists contractors for various works and classifies them under different classes by fixing the entitlement limit for participation in tenders floated by DJB. The classification is done by taking into consideration their competence based on various factors such as their experience in the field of work, turnover etc. Once a particular contractor is enlisted with DJB in a certain class, he is eligible for participation in tenders only for that category or lower.

Scrutiny of the records of the selected divisions, revealed that in 13 works (out of 620 works) (**Appendix 2.4**), the contractors/firms to whom the works were awarded, were not eligible to bid for these works as per their classification.

The Government submitted clarifications (February 2019) regarding five of these 13 works. It stated that in four of these five works, tenders were invited as open bid and any bidder, who meets the technical and financial criteria was eligible to bid irrespective of the category in which he/she is enlisted. Regarding one work, it was stated that after receiving poor response to tenders twice, tenders were also invited from one category lower than the appropriate category. The reply is however silent regarding the remaining eight works.

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<sup>15</sup> Regarding pre-qualification criteria issued vide CVC Circular No. 14/4/07 issued vide letter No.98-VGL-25 dated 26.4.2007

<sup>16</sup> Regarding eligibility conditions for specialized works issued vide office memorandum No. DGW/MAN/160 dated: 31.07.08

<sup>17</sup> 1. Providing and laying internal and peripheral sewer lines in Samaypur group of colonies; and 2. Providing and laying internal and peripheral sewer line in Kureni group of colonies

**(iii) Award of works without ensuring competitive rates**

As per Rule 154 of GFR, awarding of work on single tender should normally be avoided and may be approved where only a particular firm can do that type of job or in case of an emergency. CVC guidelines also reiterate that single tender should be avoided by all the government departments. Further, as per clause 17.7 of CPWD Works Manual, if the response to tenders from the contractors of the appropriate class is poor, measures like inviting open tenders from next lower class including contractors registered with other departments like Railways, MES, Telecommunication and state PWDs in the appropriate class and/or relaxing the eligibility criteria may be taken with the prior approval of the competent authority.

Scrutiny of records revealed that two<sup>18</sup> works were awarded for ₹ 4.91 crore on the basis of single tender in the first call of tenders itself on the ground of urgency. In these two works, the DJB neither relaxed the eligibility criteria nor approached contractors registered with other departments through open tenders.

In the first work of making interconnection with peripheral line, the ground of urgency was not justified as the work of laying of peripheral line was not even complete at the time of award of work. Besides this, against stipulated period of completion of 60 days, the work was started with a delay of 98 days as DJB failed to obtain requisite approval for road cutting before award of work. Further, the work was completed with delay of 142 days and commissioning is still awaited as of December 2018 due to delay in commissioning of Karala UGR. Similarly, in the second work of providing and laying internal and peripheral sewer lines, Audit observed that in the administrative approval proforma, the work was proposed as a routine/regular work. Later on, for award of work to single bidder in September 2013, reasons like poor response to call for tenders for other similar works, urgency in view of vigorous pursuance for work by area Member of Legislative Assembly and finally, urgency in view of commissioning of Yamuna Vihar STP (Phase-III) in December 2013 were cited. It is pertinent to mention here that the STP was commissioned only in September 2015 and though the work of providing and laying internal and peripheral sewer lines in Kardam Puri, Kardam Puri Extn., and Harijan Basti, West Jyoti Nagar was completed in September 2014, the line was commissioned only in May 2015 i.e. after eight months of completion.

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<sup>18</sup> 1. Work of making interconnection with peripheral line (West-III) with awarded cost of ₹ 0.27 crore.  
2. Work of providing and laying internal and peripheral sewer lines in Kardam Puri, Kardam Puri Extn., and Harijan Basti, West Jyoti Nagar with awarded cost of ₹ 4.64 crore.

Thus, awarding these works worth ₹ 4.91 crore on single tender basis without adequate competition was not justified.

The Government stated (February 2019) that secrecy of prospective bidders is maintained in the e-tendering process and no bidder can take advantage of being a single bidder as the bidder would not have been aware of that. Further, GFR does not prohibit awarding of work on single tender and DJB has followed circulars issued by the CEO in this regard. However, the justification for awarding the works on single tender was not acceptable in view of the fact that the urgency shown at the time of awarding the work on single tender basis was not apparent in execution and commissioning of these works as explained above.

### **2.1.10 Deficiencies in Execution of Works**

#### **2.1.10.1 Inordinate delays in completion of works**

Audit observed inordinate delay of 6 to 55 months in completion of 59 works (**Appendix 2.5**) of laying water and sewer lines. Out of these, 23 works have been completed and the remaining 36 works were still in progress (July 2018).

In most of the cases, delay was due to non-availability or delay in getting permission from road owning agencies (PWD, MCD and DDA), traffic police, Forest Department, Irrigation and Flood Control Department and Railways etc. This indicates lack of coordination with other departments for execution of works. As per CPWD Works Manual, all requisite clearances/approvals should be obtained before award of work. However, instead of obtaining permissions before awarding of works, the DJB placed the onus of obtaining permissions from various Government agencies on the contractor, by including a clause to this effect in the agreement, thereby absolving itself of any responsibility in this regard although it would have been in a better position to pursue permissions with the government departments concerned. Thus, the practice of making the contractor responsible for obtaining permission in contravention of CPWD Works Manual provisions resulted in avoidable delay in execution of works and the intended objectives of the schemes remained unachieved as the works were not completed in time.

In its reply, the Government stated (February 2019) that road owning agencies grant permission for specific time and permissions are not obtained prior to award of works considering uncertainties in the expected time in departmental procedures and process for selection of successful bidders for award of work. DJB provides necessary assistance to contractors by contacting road owning agency concerned, as and when required. Also, co-ordination meetings of various stakeholders are periodically held to aid speedy clearances. However, the reply is to be viewed in the light of the fact that if DJB initiated the process of obtaining requisite clearances/approvals/permissions, it would save precious time, which is otherwise wasted when clearances are delayed and

also, cost escalation has to be paid to the contractor for delays in obtaining the clearances.

### **2.1.10.2 Approval of competent authority not obtained**

In terms of the provisions of CPWD Works Manual, expenditure can exceed the sanction up to 10 *per cent*, beyond which revised Expenditure Sanction shall be necessary. The revised sanction should be applied for, as soon as such excess expenditure is foreseen. Also, as per the General Financial Rules, any material variations in terms of a contract should be approved by the competent authority.

Audit noted that in 19 works (out of 620) awarded at a cost of ₹ 56.13 crore (**Appendix 2.6**) of laying water and sewer lines in unauthorised colonies, the expenditure exceeded the initial expenditure sanction obtained from the competent authority by more than 10 *per cent*. However, revised Expenditure Sanction was not obtained from the competent authority, which was in violation of the provisions of the CPWD Works Manual.

Also, in one work of laying 1,080 metres sewer line up to Arvind Enclave crossing on Rohtak Road (awarded in January 2012 at ₹ 2.18 crore), trunk sewer line of 86 metres had to be laid by trenchless technology instead of open-cut method as initially envisaged. Since the anticipated excess expenditure was 33 *per cent* in excess of the original sanction, approval from Board was required. However, in order to avoid obtaining approval of the Board, it was decided to foreclose the work and invite separate tenders for laying of remaining pipeline through trenchless method. It was also noticed that the work was foreclosed with the approval of Member (Drainage) instead of the CEO who was the competent authority in this case.

In case of hiring of Stainless Steel (SS) water tankers, DJB awarded (August 2012) the work of hiring 130 and 255 SS water tankers of three Kilo Litres (KL) capacity (₹ 98,001 per tanker per month) and nine KL capacity (₹ 1,23,003 per tanker per month) respectively after approval of the Board. The number of three KL and nine KL capacity water tankers were subsequently revised (March 2013 and December 2013) by Member (Water) increasing the number of three KL tankers from 130 to 299 and decreasing number of nine KL tankers from 255 to 108, on the basis of feedback from divisions that it was difficult for nine KL tankers to enter into the narrow lanes of UACs. Audit observed that though this revision resulted in material deviations in project capacity and increase in cost of transportation from ₹ 13.69 per KL per Kilometer to ₹ 18.99 per KL per Kilometer, approval of the competent authority i.e. the Board, was not sought.

In its reply, DJB stated (February 2019) that in the delegation of powers in DJB there is no provision to obtain revised expenditure approval. Approval of the competent authority is taken at the time of award of work and on

execution of work, hence revised expenditure sanction is deemed to be approved by competent authority. The reply is not proper since expenditure sanction is to be obtained from competent authority as per delegated powers, whether original or revised and separate delegation of powers is not needed for revised sanction. In case of hiring of water tankers, DJB stated that after revision, the total cost was more than six *per cent* below the awarded cost and therefore, approval of the Board was not required. However, audit is of the view that revised approval was necessary since the revision resulted in considerable reduction in the overall carrying capacity of tankers, i.e. from 2,685 KL to 1,869 KL while the total cost reduced only marginally.

### 2.1.10.3 Undue benefits to contractors

Audit observed a number of cases where undue benefits were extended to the contractors which are discussed in the succeeding paragraphs.

- **Non-levy or short levy/withholding of penalty amounting to ₹ 31.70 crore for delays:** As per DJB General Conditions<sup>19</sup> of Contract, compensation for delay of works shall be at the rate of 1.5 *per cent* of the contract price, for each month of delay to be computed on per day basis, subject to a maximum of 10 *per cent* of the contract price. Audit observed that in eight works, there was short levy/withholding or non-levy of penalty to the tune of ₹ 31.70 crore (**Appendix 2.7**) on the contractors for the delays attributable to them.

In its reply, the Government stated (February 2019) that as per practice 10 *per cent* of the cost of work done beyond the stipulated period of completion is kept on hold till a final decision is taken in the case depending upon the merit of the case. Out of total eight cases included in the audit observation, in five cases Government has attributed delays in completion of works to the Department or reasons beyond control of the contractor. The reply is not acceptable as attributing periods of delays not recorded in hindrance registers to the department or treating them as reasons beyond control of contractor is not justified. The practice of withholding 10 *per cent* of cost of work done is not in consonance with the provisions of General Conditions of Contract.

- **Payments released without adhering to contract conditions:** As per contract conditions, 20 *per cent* cost of the laying of water/sewer line work done should be withheld till such time hydraulic testing is done to the full satisfaction of the Engineer-in-charge. Audit observed that in three selected divisions, pipe lines were laid by the contractors but the same could not be commissioned as UGRs from which water was to be sourced for these pipelines were still under construction.

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<sup>19</sup> As per clause 10.3.1 of GCC

Audit observed that two divisions made final payments to the contractors without hydraulic testing of pipelines and also without withholding 20 per cent of the cost amounting to ₹ 2.51 crore in case of 21 works (**Appendix 2.8**).

- **Pre-mature release of security deposits:** As per General Conditions of Contract (GCC) of DJB, security deposits withheld from Running Account bills of contractors shall be returned to the contractor on certification after the Engineer-in-Charge has satisfied himself that all the terms of the contract have been duly and faithfully carried out by the contractor or 60 days after successful completion of Defect Liability Period (DLP).

Audit observed that no certificate had been issued by the Engineer-in-Charge and nor were the DLP over in 13 works (**Appendix 2.9**), as none of these works had yet been commissioned (July 2018). However, DJB released security deposits amounting to ₹ 25 lakh to the contractors, resulting in grant of undue benefit to the contractors.

#### 2.1.11 Deficiency in management of water tankers

During the period from 2013-14 to 2017-18, DJB incurred an expenditure of ₹ 1,031.09 crore on water supply through tankers, out of the GIA received under the scheme of 'Providing water supply facilities in UACs'.

With the objective of improving management of the entire water tanker transport system in Delhi through more efficiency and transparency, DJB implemented two projects (i) 'Water Tanker Distribution Management System' (WTDMS) for GPS monitoring of water tankers along with other features such as water level sensors, flow meters, chlorine meters and access control through smart cards and (ii) 'Water Tanker Supply Service' (WTSS) for hiring of stainless steel water tankers for a period of 10 years. DJB selected (June 2011) Delhi Integrated Multi Modal Transit System Ltd. (DIMTS) for implementing the WTDMS project. The WTDMS project was planned to cover monitoring of 800 water tankers and the payment was to be made for a minimum of 700 water tankers. Under WTSS, DJB hired (August 2012) 407 tankers.

Audit observed that contrary to the agreement with DIMTS, against a minimum provision of 700 tankers, DJB provided only 407 tankers hired under WTSS to DIMTS for installation of equipment under WTDMS. DJB did not provide 250 departmental tankers to DIMTS on the grounds that these were old and would be obsolete by 2013. Even the 250 Stainless Steel water tankers procured in June 2016 as replacement of old tankers, were not provided to DIMTS for WTDMS. DJB also hired 325 tankers on short term basis which were also running without GPS monitoring.

As payment modalities did not work out between DJB and DIMTS as only 407 tankers were being monitored against the minimum assured number of 700 tankers under WTDMS, DJB terminated the contract agreement with DIMTS with effect from 15 January 2018 and requested DIMTS to continue to provide GPS services only till engagement of some other vendor. As of October 2019, DIMTS was providing GPS services to DJB.

Out of a total 657<sup>20</sup> water tankers used for water supply by DJB, 250 tankers (38 per cent) operated without monitoring equipment such as GPS, water level meters/flow meters/chlorine meters etc. Thus, not only has DJB failed to get the intended benefits of monitoring the water tankers through WTDMS for reduction in wastage of water at filling points, improvement in measurement of quantity and quality of water supplied through tankers and reduction in non-revenue water, it has also not complied with guidelines of the Environment Department according to which all water tankers should be fitted with GPS devices.

In the absence of water level sensors and flow meters in all the water tankers and absence of GPS monitoring in tankers hired on short term basis, the risk of theft, pilferage, wrong billing and excessive claims is high.

DJB stated (February 2019) that 325 tankers were hired for short periods from different owners and therefore, WTDMS equipment were not installed in these tankers. It was further stated that the performance of monitoring equipment under WTDMS except GPS was not satisfactory and presently only 407 tankers hired on long term basis are equipped with GPS. The reply is not acceptable as the WTDMS project, initiated for effective monitoring, accountability and transparency of water supply through tankers, did not provide the intended results as 250 out of 657 water tankers remained outside the monitoring system.

**Proper functioning of WTDMS was essential for effective management, accountability and transparency in the entire water tanker transport system in Delhi, but limited coverage of water tankers under the system rendered the project ineffective.**

#### **2.1.12 Oversight and monitoring mechanisms**

##### **2.1.12.1 Absence of monitoring of physical progress of work**

As per the sanction letters issued by UDD, GNCTD for releasing GIA to DJB for the schemes, it was mandatory for the grants releasing authority to monitor the physical and financial progress of the works done by executing agencies for which the grants were released. The UDD, before issuing instalments of GIA to DJB, monitored financial progress. However, there was no monitoring of physical progress of development works at the Department level. Lack of monitoring at the UDD level resulted in lack of co-ordination/synchronisation

<sup>20</sup> 407 SS tankers hired under WTSS + 250 SS departmental tankers = 657 tankers

among different executing agencies and laying of water and sewer lines in many UACs on Forest and ASI land.

In DJB, divisions concerned send monthly physical and financial progress reports to Headquarters which contain progress reports on percentage of works completed. Audit observed that no efforts were made at Headquarters level to examine and analyse these reports to take appropriate action for ensuring progress of works as planned. In view of inadequate scrutiny at Headquarters and lack of follow up, the very purpose of these progress reports was defeated.

In its reply, the Government stated (February 2019) that the physical and financial progress of major projects are monitored by senior management of the Board. However, in view of the audit observation, further action will be taken in this regard.

#### **2.1.12.2 Inspection of projects**

General conditions of contract provided for inspection of executed work by the Superintending Engineer (SE)/Chief Engineer (CE). Also, audit requested eight divisions to furnish the inspection registers at the site, which were to record comments of officers visiting the site. The same, however, was not produced to audit in three divisions<sup>21</sup>. Further, audit scrutiny of records of the divisions which furnished records relating to inspection of site by senior officers revealed that in 41 civil works (**Appendix 2.10**), no inspections were conducted by the SE or CE during execution of the works.

Inspection registers maintained at project sites for recording the comments of officers visiting the sites were not produced to audit by three divisions. In 41 works pertaining to five divisions, no inspections of the works had been conducted by the SE or CE during execution of the works.

As per the DJB circular of April 2007, works costing more than Rupees one crore and works where rates are abnormally low are to be checked by third parties. The estimates prepared by the Division also include the provision for third party inspection. In all 75 works costing more than Rupees one crore examined in audit, third party inspection was carried out. However, in the records made available regarding 40 works awarded at abnormally low rates (**Appendix 2.11**), no third party inspection reports were available.

The Government stated (February 2019) that sites of different works were inspected by senior officers i.e. EE/SE/CE and verbal and written instructions were issued time and again to expedite the physical progress of the work. Observations of senior officers were uploaded in project monitoring system of DJB time to time when the system was functional. The reply is not acceptable, as in the specific cases pointed out by audit, inspections of senior officers and third-party inspections were not found conducted and observations were not found recorded.

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<sup>21</sup> DR-III, DR-VIII, DR-XI

### 2.1.12.3 Non-submission of Work Programme Schedule

In terms of Section 3.9 of General Conditions of Contract, the contractors have to submit a Work Programme Schedule in the form of Bar Chart for works costing between Rupees one crore and three crore and Bar Chart and PERT chart for all works above Rupees three crore within 10 days of issue of work order. Failure in this regard would invite a penalty @ ₹ 1,000 per day. Also, contractor should enter online progress reports in the format provided in the project management system (for quality monitoring and physical and financial progress monitoring) on 1<sup>st</sup> and 15<sup>th</sup> of every month during the contract period. Further, contractors have to upload DPR/other report/Bar or PERT chart/Site photograph, amongst others, with date of submission by 8<sup>th</sup> and 23<sup>rd</sup> of every month and engineer should verify the entries made. No payments should be released if the progress has not been entered at the prescribed frequency and in the prescribed format.

Scrutiny of records of the selected divisions of DJB revealed that DJB had awarded 36 works of laying of water and sewer lines amounting to ₹ 729.46 crore during the period 2013-14 to 2017-18 (**Appendix 2.12**). However, the contractors had not submitted the program schedule (Bar Chart) in prescribed format and it was not clear as to how DJB ensured achievement of milestones and progress of work in absence of the work program schedule. Also, DJB had not deducted penalty for non-submission of work programme schedule at the prescribed rate amounting to ₹ 2.61 crore, from payments made to the contractors. Audit further observed that ten out of these 36 works were completed with delays of more than one year.

In its reply, the Government provided (February 2019) copies of bar charts of only four works out of the 36 works and was silent about the remaining 32 works. In these four works as well, bar charts were submitted without progress reports and the timeframe of receipt of the same.

The cases of deficiencies in oversight and monitoring mechanism pointed out are based on test check conducted by Audit. The Department/Government may also check the remaining cases not covered in audit for similar deficiencies.

### 2.1.13 Conclusion

Audit noticed irregular diversion of grants-in-aid received for creation of capital assets for other purposes. DJB did not provide any master plan or perspective plan for piped water supply to all UACs to audit, in the absence of which, audit could not ensure that the projects are implemented in a planned manner. Several instances were observed where internal water lines have been laid but, UGR or peripheral water lines are yet to be completed or vice versa. Such instances of non-synchronisation of works by DJB render the expenditure incurred unfruitful and objectives of the scheme to provide piped potable water supply to all UACs unachieved. Audit also observed cases

where peripheral water lines had been functional for more than five years and yet internal water lines had not been planned. In these cases, residents of UACs had laid unauthorised pipelines, which may further complicate the DJB's work of laying of internal water lines.

Sewer line works were lagging behind the time schedule stipulated in the Sewerage Master Plan for Delhi - 2031. As of March 2018, out of 1,797 UACs, 567 UACs were still dependent on tube wells/hand pumps and water supplied through water tankers by DJB for their potable water requirements. In case of sewerage sector, residents of 1,573 UACs were deprived of sewerage facilities and the untreated sewage from these UACs were flowing into River Yamuna through storm water drains. Audit also observed that in violation of Government instructions, DJB executed water and sewer lines works in UACs falling under Forest/ASI land, and as a result, works in 43 UACs were stopped midway rendering expenditure incurred on these unfruitful.

Audit observed deficiencies in preparation and approval of estimates and cases of delay in award and execution of works, selection of ineligible bidders and extension of undue benefits to contractors. Water Tanker Distribution Management System, introduced to improve capability of DJB in managing the water tanker transport system in Delhi, never functioned to its full potential and was limited to only GPS monitoring of tankers, that too only in 62 per cent of water tankers. Inspection of works by higher officers so as to identify and mitigate bottlenecks in execution of works were not conducted as prescribed. DJB, therefore, needs to thoroughly review the planning and execution of the works under the schemes for providing potable water supply and sewerage facilities in UACs to ensure adequate provision of potable water supply and sewerage facilities as envisaged.

#### **2.1.14 Recommendations**

DJB may:

- (i) *ensure synchronisation of works of laying of water and sewer lines with the works of construction of UGRs and peripheral lines and trunk/Interceptor Sewer respectively so that works are executed and commissioned in time for providing water supply and sewerage facilities to the residents of UACs;*
- (ii) *ensure adherence to Government instructions prohibiting carrying out of development works in unauthorised colonies situated on Forest/ASI lands;*
- (iii) *ensure effective monitoring, accountability and transparency in water supply through tankers; and*
- (iv) *strengthen monitoring of works at Headquarters so as to identify and mitigate bottlenecks in execution of works in co-ordination with other departments and agencies.*